

A NEED ANALYSIS OF INTERACTIVE POWERPOINT-BASED ENGLISH LEARNING MEDIA FOR VOCATIONAL ACCOUNTING STUDENTS

Nurul Isma Amalia Diko^{1*}, Harni Jusuf², Nur Wahidah Thayib Pido³, Jhems Richard Hasan⁴,
Andi Nurwati⁵

^{1,2,3,4,5}IAIN Sultan Amai Gorontalo, Gorontalo, Indonesia

amaliadiko@gmail.com

ABSTRACT

This study aimed to analyze students' needs for interactive PowerPoint-based English learning media in the accounting expertise program at SMK Negeri 1 Limboto. The research employed a descriptive design within the Analysis stage of the ADDIE-based Research and Development (R&D) model, focusing on needs analysis grounded in English for Specific Purposes (ESP). The participants consisted of 15 tenth-grade students and one English teacher. Data were collected through questionnaires and semi-structured interviews and analyzed using descriptive statistics and qualitative thematic analysis. The results indicated that students showed a strong preference for interactive and multimedia-based learning media. Approximately 80% of students agreed that interactive media supports independent learning and time efficiency, while 73.3% reported increased activeness when using features such as videos, quizzes, and animations. In addition, 85% of students preferred visual and audiovisual media over text-based materials. The findings also revealed that most students experienced difficulties in speaking and writing and required learning media that integrates four language skills. These findings suggest that the development of interactive, contextual, and technology-based learning media is essential to enhance student engagement and support vocational English learning.

Keywords: ESP, Interactive PowerPoint, Need Analysis, Vocational Education

INTRODUCTION

The development of digital technology has significantly transformed education by enabling more varied, interactive, and contextual learning processes. In English language learning, technology functions not only as a tool for delivering material but also as a means to create engaging learning experiences that promote active student participation. The integration of multimedia elements such as text, images, audio, video, and animation supports students' understanding and facilitates more effective learning (Bonani & Khushboo, 2014; Iberahim et al., 2023; Zhao & Tsao, 2025). Moreover, technology-based learning shifts instruction from teacher-centered approaches to more flexible and student-centered practices, fostering dynamic and participatory classroom environments.

Student engagement is a crucial factor influencing learning success, encompassing cognitive, emotional, and behavioral involvement. In technology-enhanced learning environments, engagement becomes even more important, as the mere use of digital tools does not guarantee active participation. Therefore, understanding how engagement can be fostered and measured remains a key concern in educational research (Henrie et al., 2015). Previous studies indicate that digital technologies—such as online platforms, interactive media, and communication tools—can enhance collaboration, participation, and deeper learning when effectively integrated into instructional design (Nkomo et al., 2021; Schindler et al., 2017). However, their effectiveness is influenced by factors such as students' digital literacy, attitudes toward technology, and readiness for online learning (Getenet et al., 2024; Kim et al., 2019).

The use of technology in language learning is closely linked to multimedia-based learning principles. The Cognitive Theory of Multimedia Learning suggests that combining verbal and visual information enhances comprehension, as learners process information through dual channels with limited cognitive capacity (Mayer, 2024). Thus, well-designed multimedia learning can improve students' ability to organize and understand information more effectively.

In vocational education, English learning has specific characteristics, as it must support students' professional communication needs. This aligns with the English for Specific Purposes (ESP) approach, which emphasizes tailoring instruction to learners' academic and occupational contexts (Alan, 2016). A key component of ESP is needs analysis, which identifies students' language requirements, learning difficulties, and relevant instructional strategies, thereby enabling the development of more contextualized and effective learning materials (Pang et al., 2025). However, studies show that English instruction in vocational schools often remains too general and insufficiently aligned with students' fields of expertise, reducing its relevance and effectiveness (Fadlia et al., 2022).

Learning media also play a vital role in enhancing student engagement and motivation. Interactive and visually appealing media can increase students' attention, participation, and positive attitudes toward learning, whereas conventional media tend to limit interaction (Gunawan et al., 2025; Rizqa et al., 2023; Saputri et al., 2022). Technology-based media, including learning management systems, digital communication tools, and multimedia applications, have been shown to improve engagement, motivation, and interaction in English learning (Kieu et al., 2021; Nguyen, 2021; Teng & Wang, 2021). Effective engagement strategies—such as interaction between students, teachers, and learning materials—are also essential in maximizing the benefits of digital learning (Martin & Bolliger, 2018).

One widely used medium is PowerPoint, which has evolved from a simple presentation tool into an interactive multimedia platform incorporating audio, video, animation, and navigation features. Interactive PowerPoint can enhance systematic material delivery and increase student participation (Ningsih et al., 2024). Research also highlights that multimedia and game-based learning approaches can improve students' motivation, interest, and engagement, particularly in language skills such as speaking (Baharuddin, 2018; Christy et al., 2024; Ochoa-cueva et al., 2023).

Despite these potentials, the use of learning media in many schools remains limited to conventional formats, resulting in low student engagement. At SMK Negeri 1 Limboto, for example, English learning still relies on traditional media that do not fully utilize digital technology, leading to difficulties in understanding and limited student participation. This occurs despite students having access to technological devices such as smartphones, which could support more interactive learning.

Although many studies have explored technology-based learning media, research focusing specifically on vocational students' needs for interactive PowerPoint-based English learning remains limited. Most studies emphasize product development or effectiveness rather than needs analysis. In vocational contexts, where learning must be practical and relevant to students' fields, understanding learners' needs is essential for designing appropriate media (Elguanda Suci et al., 2023; Sriadhi et al., 2018).

Based on this background, this study aims to analyze students' needs for interactive PowerPoint-based English learning media among grade X accounting students at SMK Negeri 1 Limboto. The findings are expected to provide insights into students' learning needs and inform the development of more relevant, interactive, and effective English learning media in vocational education.

METHODS

This study uses a descriptive design that is in the Analysis stage on the ADDIE-based Research and Development (R&D) model proposed by Robert Marib Branch. Overall, the R&D research aims to develop interactive PowerPoint-based learning media for students of the accounting expertise program. However, this article specifically focuses on the discussion at the Analysis stage in the form of needs analysis as a conceptual foundation in media development.

The analysis stage was carried out to identify the target needs and learning needs of students in accordance with the principles of English for Specific Purposes (ESP) as stated by Tom Hutchinson and Alan Waters.

The participants of this study consisted of 15 students of class X of the Accounting expertise program at SMK Negeri 1 Limboto who voluntarily filled out a needs analysis questionnaire. Participation is voluntary and is based on the availability of students during the data collection process.

In addition to the students, one English teacher was also involved as an informant in the interview to obtain supporting information related to learning conditions, obstacles faced by students, and the need for learning media in the classroom.

The research instrument consisted of semi-structured interview guidelines and needs analysis questionnaires. The questionnaire was compiled based on the ESP needs analysis framework from Hutchinson and Waters which includes two main components, namely target needs (necessities, lacks, wants) and learning needs. The questionnaire grid consists of 21 statements that cover aspects of students' backgrounds, learning preferences, communication needs, and access and expectations to learning media.

The questionnaire used a 4-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree) to avoid neutral choices and to obtain a more emphatic tendency. To ensure

content validity, the instrument is consulted with English education experts and revised based on the input provided regarding the clarity of the statements, the suitability of indicators, and the relevance to the context of the accounting expertise program.

Data were collected using two complementary techniques. First, interviews were conducted with English teachers to obtain an in-depth understanding of learning needs and existing constraints. Second, a needs analysis questionnaire was distributed to students to quantitatively identify both learning needs and target needs. The data collection process is carried out in two stages. The first stage is the distribution of a needs analysis questionnaire to students in class X of the Accounting expertise program. Questionnaires are given directly to students during learning activities with the approval of the subject teacher. Before the questionnaire begins, the researcher provides a brief explanation of the purpose of the research and how to fill out the questionnaire to ensure that each respondent understands the statement given. All students fill out the questionnaire independently within the predetermined time.

The second stage is the implementation of interviews with English teachers. The interviews were conducted in a semi-structured manner to obtain more in-depth information about the conditions of English learning in the classroom, the difficulties faced by students, and the need for learning media that are considered important by teachers. The interview process also allows researchers to explore additional information related to the use of learning media in teaching and learning activities. The data from the interviews were analyzed qualitatively through the stages of data reduction, data presentation, and conclusion drawing to identify the main themes related to learning needs.

The questionnaire data were analyzed using descriptive statistics to determine the distribution and tendencies of students' responses across each indicator of learning needs. The results were interpreted to map students' needs in terms of materials, language skills, and preferred learning media, as well as to identify the level of need for interactive English learning media. Meanwhile, the interview data were analyzed qualitatively by identifying and categorizing the main themes emerging from participants' responses. This qualitative analysis aimed to provide a deeper understanding of the current conditions of English learning and the relevance of learning media within the context of vocational students.

This research has obtained permission from the school before the implementation of data collection. Student participation is voluntary, and all data obtained is kept confidential. The identity of the participants was not included in the reporting of the results of the study to maintain the privacy of the respondents.

RESULTS

Students' Needs Analysis

Needs analysis was carried out on 15 students in class X of the Accounting expertise program at SMK Negeri 1 Limboto. This analysis includes two main aspects, namely learning needs and target needs based on the ESP framework.

Learning Needs

The results of the analysis of student learning needs are summarized in Table 1 below.

Table 1. Summary of Students' Needs Analysis

Aspect	Indicators	Percentage Agree & Strongly Agree
Learning independence	Interactive media helps independent learning	80%
Activeness of learning	Interactive features (quizzes, videos, animations) enhance activities	73,3%
Time efficiency	Practical media helps manage learning time	80%
Media preferences	Prefer visual, audio, animation media	85%
Access technology	Have a device (cellphone/laptop), partially limited internet	The majority own a device

Based on the results of the analysis, it can be concluded that students have a high awareness of the importance of English skills in supporting academic activities and career preparation in the future. As a vocational school student with an accounting expertise program, they need not only basic skills in understanding English texts, but also the ability to understand terms related to their area of expertise. This shows that English learning in vocational schools needs to be designed contextually so that the materials provided can support students' academic needs and professional competence.

Based on Table 1, most students show a positive tendency towards the use of interactive learning media. As many as 80% of students stated that interactive media supports independent learning and helps manage time more effectively. In addition, 73.3% of students feel more active when learning is equipped with interactive features such as quizzes, videos, and animations.

Preference for visual and audiovisual media is also relatively high (85%), which shows that students tend to avoid text-based learning alone. Although the majority of students have access to digital devices, limited access to stable internet is still found in some students.

These findings suggest that students need learning media that is not only informative, but also interactive, visual, and easily accessible through personal devices.

Target Needs

Target needs analysis includes three components: necessities, lacks, and wants. A summary of the results is shown in Table 2.

Table 2. Summary of Target Needs of Students

Components	Findings	Percentage Agree & Strongly Agree
Necessities	Requires integration of four language skills	85%
Lacks	Difficulties in speaking and writing	The majority of students
Wants	Want interactive media with animations, videos, quizzes	Almost all students

In addition, the results of the analysis also show that students tend to be more interested in learning that involves interesting and interactive media. Learning media that contains visuals, images, and activities that allow students to actively participate are considered to help them understand the material more easily. This condition shows that the use of innovative learning media is needed to increase student involvement during the learning process.

Most students (85%) expressed the need for learning media that integrates the four language skills (listening, speaking, reading, and writing). However, students admit that they still experience difficulties, especially in speaking and writing skills, which have not been optimally supported by the available learning media.

In addition, almost all students expressed a desire to use more interactive learning media, equipped with animations, videos, and quizzes that allow active involvement during the learning process.

Teacher Interview Results

The results of interviews with English teachers show that students' language skills in one class vary greatly. The teacher stated that all language skills are still a challenge for students and require media support that is able to explain the material in a more structured and interesting way.

The teacher also said that the use of varied learning media can help increase students' motivation to learn. In the daily learning process, students tend to be more active when material is delivered with the help of interesting media compared to learning methods that rely only on textbooks. Therefore, teachers view that the development of learning media that is in accordance with the characteristics of vocational school students is very important to support a more effective English learning process.

The teacher also emphasized that the use of digital media is very possible because most students have access to mobile devices. However, the media used so far is still conventional and not fully interactive. Therefore, the development of media that is responsive and able to actively involve all students is considered an urgent need in the context of learning English in the Accounting expertise program.

Overall, the results of the needs analysis show that students need English learning media that not only presents the material in an informative manner, but is also able to create a more interesting and interactive learning experience. Learning media designed with the characteristics of vocational school students in mind are expected to help improve students' understanding of English materials as well as support the development of language skills relevant to their areas of expertise.

DISCUSSION

The results of the study show that students of the accounting expertise program have a strong need for English learning media that is interactive, visual, and integrated with four language skills. These findings indicate that learning, which is still dominated by conventional media, has not fully answered the learning needs of vocational students who are oriented towards professional practice and communication.

From the perspective of English for Specific Purposes (ESP), student needs that emphasize the integration of skills and the relevance of vocational contexts are in line with the concept of target needs and learning needs as stated by Tom Hutchinson and Alan Waters. Students not only need a mastery of the structure of the language in general, but also media support that allows contextual communication practices according to the field of accounting. The findings that students have difficulty with speaking and writing skills indicate the existence of a gap between the available materials and the demands of professional communication in the work environment.

The findings of this study show that students need more interactive learning media to support the English learning process. Engaging learning media can help increase students' motivation to learn as well as encourage their involvement during the learning process. In the context of vocational education, the use of learning media that is relevant to the needs of students is very important because it can help students understand the material more easily and contextually. Thus, the development of learning media that is in accordance with the characteristics of vocational school students can make a positive contribution to the effectiveness of English learning.

The results of this study are also strengthened by a study conducted by (Baharudin & Mohamad, 2025) which shows that the development of multimedia-based learning media is needed to increase students' motivation in using English for communication. The study emphasizes that vocational students tend to need a variety of learning media that is not only text-based, but also integrates visual, audio, and interactive elements both online and offline. This is in line with the findings in this study which show that students need more interesting and interactive learning media. Thus, it can be understood that the use of multimedia is not only a complement, but as a key component in creating learning that is able to increase student motivation and involvement optimally.

According to research conducted by (Santika et al., 2022), needs analysis is an important stage in the development of learning media because it can help researchers understand the real needs of students in the learning process. The results of his research show that students tend to need more interesting, visual, and interactive learning media to improve their understanding of English language materials. Therefore, the development of technology-based learning media such as interactive PowerPoint can be one of the relevant solutions to support the English learning process in the classroom.

The findings of the teacher's interviews also show that the variation in students' abilities in one class is a challenge in English learning. In this context, interactive learning media has the potential to function as a differentiation tool that allows students to learn at their own pace. This shows that the development of needs-based media is not only a matter of technological innovation, but a pedagogical strategy to accommodate the heterogeneity of vocational students' abilities.

In addition, the use of communication technology such as instant messaging in learning can also be an alternative to increase student involvement. Research conducted by (Cheong Li et al., 2015) shows that the use of digital communication technology can support more flexible interactions between students and teachers and increase student engagement in the learning process. In the context of English language learning in vocational schools, this

approach can help students to participate more actively, especially for those with low levels of confidence in direct communication. Therefore, the integration of communication technology in learning media can be an additional strategy to accommodate the diverse learning needs of students.

The difficulties experienced by students in learning English also show that the learning process needs to be supported by more varied strategies and media. Learning that focuses only on textbooks often makes students feel less interested in participating in classroom learning activities. Therefore, the use of more innovative learning media can be one of the solutions to help students understand the material better and create a more interesting learning atmosphere.

The development of PowerPoint-based interactive learning media has also been proven to be effective in improving students' language skills. Research conducted by (Suryani et al., 2022) shows that PowerPoint animation-based learning media has a high level of feasibility and is able to significantly improve student learning outcomes. This shows that the use of systematically designed media through development models such as Borg & Gall can produce learning products that are not only visually appealing, but also effective in supporting student comprehension. Thus, the development of interactive media in this study has a strong and relevant empirical basis to be applied in the context of English learning in vocational schools.

Theoretically, this research strengthens the importance of making needs analysis as a foundation in the development of technology-based learning media in vocational education. The integration between ESP principles and multimedia learning theory provides a more comprehensive conceptual framework for designing media that is not only visually appealing, but also functionally relevant.

In line with this, research by (Fajrina et al., 2018) also shows that computer-based learning media such as Lector Inspire has a very high level of feasibility and is able to significantly improve students' conceptual skills. The results of this study confirm that interactive learning media developed with the right approach can have a positive impact on student learning outcomes. In the context of this study, the use of technology-based media not only supports the cognitive aspect, but also contributes to increasing students' engagement and understanding of English learning materials.

The use of technology in learning is also increasingly important in the modern era of education. Research published in the journal Sustainability shows that the integration of digital technology in learning can increase student engagement and support a more effective and flexible learning process. Technology-based learning media allows students to access material in a more engaging way through a combination of text, images, audio, and animations so that it can increase their motivation to learn.

Student involvement in the learning process is also an important factor in the success of English language learning. Research on students' behavioral engagement shows that the use of interesting and interactive learning media can increase student participation during learning activities. When students feel interested in the media used by teachers, they tend to be more active in learning and easier to understand the material presented.

Furthermore, although this research was conducted in the context of SMK Negeri 1 Limboto, the implications are not limited to the local context. The need for contextual and vocational competency-based interactive media is an issue that many vocational schools in Indonesia and other developing countries also face. Therefore, the results of this study contribute to expanding the discourse on the importance of integrating needs analysis, ESP approach, and multimedia design in the development of English learning in vocational education.

Another study conducted by (Laiyusa et al., 2020) also showed that the development of multimedia-based learning media in English learning in vocational schools received a very positive response from various parties, both experts and users. Media that integrates text, audio, visual, and animation has been proven to be able to create a more engaging learning experience and encourage student involvement in the learning process. This reinforces the findings in this study that learning media designed according to the characteristics of vocational students can be an effective strategy to improve the overall quality of English language learning.

Based on the results of the needs analysis that has been carried out, it can be concluded that students need English learning media that is not only informative but also interactive and contextual. Learning media designed with the needs and characteristics of vocational school students in mind is expected to increase students' motivation to learn and help them develop English skills that are relevant to their areas of expertise.

CONCLUSION

Based on the results of the needs analysis that has been carried out, this study shows that students of the accounting expertise program at SMK Negeri 1 Limboto have a high need for the use of English learning media that is more interactive, visual, and easily accessible through digital devices. The results of the questionnaire showed that most students felt that learning media equipped with visuals, animations, videos, and interactive activities could help them understand the material more easily compared to learning that only relied on textbooks or conventional presentations. In addition, students also show a preference for learning media that can support independent learning and allow them to learn more flexibly according to their individual needs.

The results of this study also show that students still experience difficulties in several language skills, especially speaking and writing skills. This condition shows that the learning media used in the previous learning process has not been fully able to support the development of language skills as a whole. Therefore, learning media is needed that not only presents material in an informative manner, but is also able to provide learning activities that allow students to practice using language actively. In the context of vocational education, the learning media developed also needs to consider the relevance of the material to the student's field of expertise so that English learning can better support their academic and professional needs.

The findings of this study confirm the importance of needs analysis as the first step in the process of developing learning media. Through needs analysis, educators can get a clearer picture of students' characteristics, learning difficulties they face, and the most

appropriate type of learning media to support the learning process. Thus, the results of this research can be the basis for the development of interactive PowerPoint-based English learning media that is designed in a more contextual way and in accordance with the needs of vocational high school students.

Based on the results of this study, several recommendations can be proposed. First, English teachers in vocational schools are advised to start utilizing more varied and interactive learning media to increase student motivation and involvement in the learning process. The use of technology-based media such as interactive PowerPoint can be one of the alternatives that are easy to develop and adapt to the needs of students in the classroom. Second, learning media developers are expected to be able to design media that is not only visually appealing but also able to integrate various language skills and learning activities that encourage active student participation. Third, further research is recommended to continue the development and implementation stage of interactive PowerPoint-based learning media and test its effectiveness in improving students' English skills in vocational high schools. Thus, future research can make a broader contribution to the development of technology-based English language learning in vocational education.

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