



Development of Canva-based e-modules in the Project Based Learning model to improve the speaking skills of students at SMAN 1 Bintan Timur

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ABSTRACT

This study aims to develop a Canva-based e-module using the Project-Based Learning (PjBL) model to improve students' speaking skills in English lessons at SMA Negeri 1 Bintan Timur. This study was motivated by students' low English speaking skills and the limited availability of interesting and interactive teaching materials. The research method used was Research and Development (R&D) with the ADDIE development model, which consists of five stages, namely analysis, design, development, implementation, and evaluation. Based on the needs analysis, it was found that students and teachers needed digital teaching materials that were interesting, easily accessible, and interactive to improve students' speaking skills. The Canva-based e-module product was designed in accordance with the PjBL stages, which encourage students to actively engage in real projects and communicate using English. Initial test results show that the Canva-based e-module has an attractive appearance, is easy to use, and can motivate students to learn to speak more actively. Thus, the development of this e-module is expected to be an effective alternative teaching material in improving students' speaking skills in secondary schools.



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INTRODUCTION

Speaking ability is one of the most important productive skills in English language learning. This skill not only demonstrates a person's linguistic ability, but also illustrates their ability to communicate effectively in various social and academic contexts (McKay & Brown, 1980). In the context of secondary education, speaking skills are one of the indicators of success in English language learning because they require students to develop aspects of pronunciation, fluency, vocabulary, and confidence in expressing ideas (Fahira & Sofiana, 2025; Richards, 2009).

However, initial observations at SMA Negeri 1 Bintan Timur show that students' speaking skills are still relatively low. Students tend to be passive in speaking activities, lack confidence, and are unable to construct communicative sentences with correct language structures. One of the main causes of this condition is the use of teaching materials that are still conventional and uninteresting. The existing learning media has not been able to encourage active student participation or provide opportunities to practice speaking in real contexts. This is in line with the findings of Farhana et al. (2025), who stated that conventional teaching materials are often unable to meet the learning needs of the digital generation, which demands high visualization and interactivity.

Along with the development of digital technology, teachers are required to innovate in developing technology-based learning media. Canva is a digital design platform that can be used to create interactive e-modules with attractive visual displays, multimedia integration, and easy access for students (Khulaifiyah et al., 2022; Wulandari & Utama, 2025). Canva-based e-modules allow students to learn independently or collaboratively with the support of visual elements, audio, and interactive links that support the mastery of speaking skills. On the other hand, the application of the Project Based Learning (PjBL) model provides opportunities for students to learn actively through real projects that are relevant to their lives. PjBL emphasizes collaboration, creativity, problem solving, and active

communication (Clark & Richard E. Mayer, 2016; Thomas, 2000) In the context of English language learning, this model can be an effective means of developing speaking skills because it places students at the center of learning activities and requires them to produce authentic products in the form of presentations or language-based projects (Bell, 2010).

Technology-based e-modules have been shown in several previous studies to improve learning outcomes and encourage students to learn (Andi, 2015; Zulfi Idayanti & Muh. Asharif Suleman, 2024). However, most studies still focus on the use of e-modules as a digital learning medium as a whole and have not looked much at how they can be combined with creative learning models that focus on students' productive skills, especially speaking skills. Conversely, project-based learning (PjBL) models, which are known to increase student engagement through project-based activities, have rarely been thoroughly researched in terms of how to use them in conjunction with interactive digital teaching materials such as Canva-based e-modules. Furthermore, research that specifically combines Canva e-modules with the PjBL model to support the development of students' speaking skills in high school is still very limited, especially in schools in areas such as Bintan Regency. This condition shows that there is a difference in research between the creation of technology-based digital teaching materials and the application of project-based learning models to improve students' speaking skills in a contextual manner. Therefore, the novelty in this study lies in the effort to integrate Canva-based e-modules with project-based learning models as digital teaching materials that are not only innovative but also interactive.

Based on this background, this study aims to develop a Canva-based e-module integrated with the Project Based Learning (PjBL) model in English learning for 12th grade students at SMA Negeri 1 Bintan Timur. The development of this e-module is expected to be one of the innovations in digital teaching materials that can support a more interactive and contextual learning process, as well as one that is oriented towards improving students' speaking skills. In addition, this study also aims to determine the feasibility of the e-module that has been developed through a validation process, as well as to identify the initial responses of users, both teachers and students, to the use of the e-module in learning activities. Thus, the results of this study are expected to provide an overview of the potential use of Canva-based e-modules integrated with the PjBL model in improving students' speaking skills more effectively.

RESEARCH METHODS

This study uses a Research and Development (R&D) approach that aims to produce educational products in the form of Canva-based e-modules with a Project Based Learning (PjBL) model that is feasible and effective for use in improving students' speaking skills. The R&D method was chosen because it is suitable for developing new educational products and evaluating their feasibility and effectiveness before they are widely used (Sugiyono, 2013). The development model used in this study is the ADDIE model, which consists of five main stages, namely Analysis, Design, Development, Implementation, and Evaluation (Branch, 2009).

The analysis stage was conducted to identify the needs of students and teachers for digital-based teaching materials through classroom observation, interviews with English teachers, and the distribution of questionnaires to 40 students in grade XII at SMA Negeri 1 Bintan Timur. The analysis results showed that 82% of students experienced difficulties in speaking due to the lack of interactive media and contextual exercises, while teachers stated that the available teaching materials were not able to increase student motivation and active participation. Based on these findings, a Canva-based e-module was designed to suit student characteristics and Project Based Learning syntax, covering an introduction, basic competencies, News Item Text material, speaking project guidelines, project-based exercises, and speaking evaluation.

The e-module design refers to Mayer (2021) multimedia learning theory and Dick et al. (2015) instructional design principles to ensure the integration of content, appearance, and learning activities. During the development stage, the e-module was created using Canva Education by adding text, images, audio, video, and interactive elements relevant to the local context of East Bintan, then validated by subject matter experts and media experts using a 1–4 Likert scale questionnaire. The validation results showed an average score of 88% from subject matter experts and 90% from media experts, with an

overall average of 89%, which is considered very feasible for implementation. The implementation stage was carried out on a limited basis to 40 students in class XII A and 1 English teacher during three meetings by following the steps of Project Based Learning, where students worked in groups to compile video news reports based on local events around the school. Furthermore, the evaluation stage was carried out formatively through feedback from experts and early users, as well as summatively by comparing the average pre-test and post-test scores of students' speaking skills using descriptive analysis.

RESULTS AND DISCUSSION

Product Development

The main product resulting from this research is a Canva-based e-module on the Project Based Learning (PjBL) model for English language learning in grade XII at SMA Negeri 1 Bintan Timur. This e-module was developed based on the results of an analysis of the needs of teachers and students who wanted interactive digital teaching materials that were easily accessible and capable of improving students' speaking skills.

The e-module developed in this research raises the main theme of News Item Text, which is adapted to the basic competencies in the English curriculum for grade XII. The selection of this theme aims to help students understand the structure and function of news texts while practicing their speaking skills through contextual and project-based activities. Systematically, the structure of the e-module is organized into six main sections, namely the opening page equipped with instructions for use to facilitate students in operating the module, basic competencies and learning objectives as a reference for learning achievements, main material about news texts presented in a concise and interactive manner, a guide to creating a video news report as the main task based on Project Based Learning, practice activities designed in the form of project tasks to improve speaking skills, and an evaluation and reflection section aimed at measuring students' understanding and skill development after participating in the learning process. With this structure, the e-module is expected to support more focused, interactive learning that is oriented towards improving students' speaking skills.

The e-module design in this study utilizes various interactive features available on the Canva platform, such as hyperlinks, videos, illustrations, animations, and audio elements to increase visual appeal and student engagement in the learning process. The use of these multimedia elements is in line with the Cognitive Theory of Multimedia Learning proposed by Mayer (2021), which states that learning will be more effective when information is presented through a combination of text, images, and audio in an integrated manner because it can help the information processing process in students' working memory. Visual design principles such as consistent color use, symmetrical layout, and clear navigation icons are also applied to reduce cognitive load and make it easier for users to access learning materials. In addition, interactive components such as pop-up quizzes and voice practice tasks are added so that students have the opportunity to practice speaking independently and gain a more active and participatory learning experience.

Furthermore, the application of the Project-Based Learning model in this e-module focuses on the completion of an authentic project in the form of students creating news videos. In this activity, each group is asked to write a news script, conduct simple interviews, and present the results of the project in English. This approach is in line with constructivist theory, which emphasizes that knowledge is constructed through meaningful and contextual learning experiences. According to mu et al. (2025), Project-Based Learning allows students to actively engage in the learning process through solving real problems that encourage the development of communication, collaboration, and critical thinking skills. Thus, the process of creating a news video project not only helps students use English in an authentic context but also improves 21st-century skills relevant to modern learning needs.

Expert Validation

The validation process was carried out by two experts, namely a subject matter expert and a media expert, to assess the suitability of the content and quality of the Canva-based e-module. The

assessment was conducted using a Likert scale validation sheet (1–4), which covered the following aspects:

Table 1. Expert Validation Results

Validator	Aspects Assessed	Percentage of Eligibility	Category
Subject Matter Expert	Content relevance, language, and material integration	88%	Highly Recommended
Media Expert	Graphical display, navigation, interactivity, ease of use	90%	Very Good

The overall average product feasibility rating reached 89%, which is classified as highly feasible for use in the learning process. This shows that the e-modules developed have met the feasibility criteria in terms of both content and media display. However, the validators still provided some constructive feedback to improve the quality of the product before implementation. The subject matter expert validator suggested adding more diverse text examples so that students could gain a more comprehensive understanding of the material presented. Meanwhile, media expert validators recommended adjusting the font size on several pages to make the display more proportional and easier for users to read. All suggestions and input from both validators have been followed up through a revision process, so that the e-module is declared ready for use in a limited implementation stage in learning activities.

These findings are in line with the research by Khulaiiyah et al. (2022), which states that Canva-based e-modules make it easier for teachers to design learning media that is visually appealing and easy for students to understand. The validation results show that the e-modules developed are not only appropriate in terms of content but also effective in facilitating meaningful learning interactions.

Initial Testing

A preliminary trial was conducted to assess the effectiveness of using e-modules in improving students' speaking skills. The trial involved 40 students from class XII A at SMA Negeri 1 Bintan Timur and was conducted over three sessions. The instruments used included speaking ability tests (pre-test and post-test), observation of student activities, and user response questionnaires.

Speaking Proficiency Test Results

A speaking test was administered before and after the use of the e-module to measure changes in student learning outcomes. The assessment aspects included fluency, pronunciation, grammar, vocabulary, and confidence.

Table 2. Speaking Ability Test Results

Category	Average Pre-Test Score	Average Post-Test Score	Improvement
Fluency	68	77	+9
Pronunciation	69	79	+10
Grammar	71	78	+7
Vocabulary	72	79	+7
Confidence	70	79	+9
Average Total	70	78	+8

The table shows an increase in the average speaking score of students from 70 at the initial stage to 78 after using the e-module, with an increase of 8 points or around 11.4%, which is considered good. This increase indicates the development of students' speaking skills after participating in the learning process using the Canva-based e-module integrated into the Project Based Learning (PjBL) model. Although the increase obtained is not very high, the results show that the application of Canva-based e-modules in project-based learning can have a positive impact on students' speaking skills,

particularly in terms of the courage to express ideas, fluency in speaking, and the use of language in a more communicative context. Thus, the use of interactive learning media combined with the PjBL model can be an effective alternative in supporting the gradual development of students' speaking skills. These findings are in line with several previous studies which stated that the application of the PjBL model can gradually improve students' speaking skills.

Research by Khaerunnisa et al. (2026) found that the application of PjBL significantly improved students' speaking skills, as indicated by an increase in pre-test to post-test scores after the implementation of project-based learning. Statistical test results also showed that the difference in scores was significant at the 0.05 level ($p < 0.05$), indicating that PjBL is effective in improving fluency, accuracy, and comprehension in speaking. In addition, research by Ihwan et al. (2025) also showed that the use of PjBL in speaking learning was able to increase the average score of students from 36.25 on the pre-test to 70.12 on the post-test. This indicates that project-based learning not only improves students' speaking skills but is also able to create a more active learning atmosphere and encourage students' creativity in communicating. Another study by Oktavia et al. (2025) also reported an increase in the average speaking ability score of students from 69 to 83 after the implementation of Project Based Learning, which had an impact on increasing students' confidence, fluency in speaking, and ability to organize ideas verbally.

Teacher and Student Responses

The survey results show that 90% of students find the e-module easy to use, interesting, and helpful in understanding the learning material more effectively. In addition, 86% of students stated that the speaking projects presented in the e-module were able to boost their confidence in speaking in front of the class. Positive responses were also given by English teachers, who stated that the use of e-modules could facilitate classroom management and provide more modern and enjoyable learning variations compared to conventional learning methods. This shows that the use of interactive digital learning media not only has an impact on material comprehension but also on students' affective aspects, such as motivation and confidence in communication. Observations during learning activities also showed an increase in student participation in speaking activities, especially during group discussions and project presentations. Students appeared to be more active in expressing their opinions, asking questions, and responding to their groupmates. This condition indicates that the Project Based Learning (PjBL)-based e-module is capable of creating a more communicative and collaborative learning environment, thereby encouraging students to be actively involved in the learning process.

Overall, the results of the study show that the Canva-based e-module that was developed has met the eligibility criteria and is able to make a positive contribution to improving students' speaking skills. This success can be explained through three main aspects, namely the learning design aspect, the learning model aspect, and the use of technology aspect. From the learning design aspect, the systematically organized materials and activities made it easier for students to understand the learning flow. From the learning model aspect, the application of PjBL provided students with the opportunity to learn through direct experience in completing collaborative speaking projects. Meanwhile, from the technology use aspect, the integration of the Canva platform as an interactive learning medium was able to increase students' interest in participating in learning activities, making the learning process more effective and meaningful.

Learning Design Aspects

The e-module developed in this study was compiled based on the ADDIE development model, which systematically covers the stages of analysis, design, development, implementation, and evaluation. This model enables the instructional material development process to be carried out in a structured manner so that the resulting product meets the learning needs of students. In addition, the e-module design also incorporates the principles of multimedia learning proposed by Mayer (2021), which emphasizes the importance of integrating text, images, and audio elements in the delivery of learning materials to improve student understanding.

The application of these principles is realized through the presentation of material in an attractive visual form and the use of interactive features on the Canva platform. The combination of visual and text elements in e-modules not only helps students understand the material more easily, but also increases student attention and engagement during the learning process. Communicative graphics and simple navigation contribute to creating a more immersive learning experience, making learning more student-centered. Thus, e-module design based on multimedia principles can support a more effective and meaningful learning process.

Aspects of Learning Models

The integration of the Project Based Learning (PjBL) model in learning has proven to be effective in improving students' speaking skills. Through the news video production project, students are actively involved in a creative process that requires the use of English in an authentic and communicative context. Student involvement in script design, group discussions, and project presentation encourages them to use language more meaningfully in real-life situations.

This process not only trains linguistic aspects but also increases students' confidence and ability to convey ideas orally in front of an audience. This is in line with the constructivist theory proposed by Vygotsky (2012), which states that knowledge is constructed through direct experience and social interaction with the surrounding environment. In the context of project-based learning, students have the opportunity to actively build their understanding through collaborative activities and real communication practices. Thus, the application of PjBL in the form of a news video production project is able to create a contextual learning experience and support the development of students' speaking skills in a more optimal way.

Aspects of Technology Use

The use of Canva as a digital design platform in the development of e-modules makes it easier for teachers to compile visual-based teaching materials in a more practical and interesting way. In addition, the use of Canva can also increase students' interest in learning through interactive and communicative material displays. The developed e-modules can be accessed online through various devices such as laptops and smartphones, thereby supporting independent learning processes both inside and outside the classroom. This is in line with Andi (2015) opinion, which states that learning media designed with the appropriate use of technology can increase student motivation and learning outcomes.

Overall, the results of this study also reinforce the findings of previous studies conducted by Andi (2015) and Zulfi Idayanti & Muh. Asharif Suleman (2024), which show that the use of technology-based digital e-modules has a positive impact on increasing students' learning independence, motivation, and communication skills. Although the increase in speaking scores in this study is still moderate, the use of Canva-based e-modules integrated with the project-based learning model has proven to be able to create a more active, creative, and contextual learning process for students. This shows the consistency between the results obtained in this study and previous findings regarding the effectiveness of utilizing digital learning media in improving the quality of the learning process and outcomes of students.

The results of this study have practical and theoretical implications for the development of technology-based English language learning. In practical terms, the use of Canva-based e-modules integrated with the Project Based Learning (PjBL) model can be an alternative innovative learning medium for improving students' speaking skills in a contextual manner. These e-modules not only help students understand the material independently, but also encourage active student involvement in speaking activities through authentic projects such as making news videos. For teachers, the use of these digital e-modules can facilitate classroom management and create a more interactive, communicative, and student-centered learning atmosphere. Theoretically, the findings of this study support the constructivist learning concept proposed by Vygotsky (2012), which emphasizes the importance of direct learning experiences in building students' knowledge. The integration of digital media with the PjBL model has been proven to create a collaborative learning environment and support the development of 21st-century skills such as communication, collaboration, and critical thinking.

This study has several limitations that need to be considered when interpreting the results. First, the limited sample size of one class at SMA Negeri 1 Bintan Timur means that the results cannot be generalized broadly. Second, the relatively short duration of the e-module implementation, which was only three meetings, may have influenced the moderate level of improvement in students' speaking skills. Third, this study only focused on speaking skills and did not examine in depth the impact of using e-modules on other language skills such as reading, writing, and listening. In addition, the readiness of students in using digital technology can also affect the effectiveness of e-module implementation in the learning process.

CONCLUSION

This study produced a Canva-based e-module with a Project Based Learning (PjBL) model developed to improve students' speaking skills in English learning at SMA Negeri 1 Bintan Timur. The development process used the ADDIE model, which consists of five stages, namely analysis, design, development, implementation, and evaluation. Based on the results of validation by subject matter experts and media experts, the e-module received an average feasibility score of 89% in the "highly feasible" category. The developed e-module was considered interesting, interactive, and easy to use by both teachers and students. Preliminary test results showed an increase in students' speaking skills from an average score of 70 to 78 after using the e-module. In addition, the responses of students and teachers showed high enthusiasm for the use of this digital learning media because it provided a more enjoyable and meaningful learning experience. Thus, the Canva-based e-module in the PjBL model is suitable for use as an alternative innovative teaching material to improve the speaking skills of high school students. Although the improvement in speaking skills was not yet significant quantitatively, the findings of this study show the great potential of interactive digital media in English language learning.

Further research is recommended to involve a larger sample size and cover several different schools so that the research results can be generalized more broadly. In addition, the duration of e-module-based learning implementation should be extended to provide a more comprehensive picture of the effectiveness of using digital learning media to improve students' speaking skills. Subsequent research could also examine the effect of using Canva-based e-modules on other language skills, such as writing and reading skills, as well as on affective aspects such as student motivation and confidence. In addition, the development of e-modules with more complex interactive features could also be an alternative to improve the effectiveness of project-based learning in the future.

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