

Development of Website-Based Instructional Media on Complex English Grammar for Tenth-Grade Students at SMAN 1 Batukliang Utara, Central Lombok

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ABSTRACT

The integration of technology into education has become increasingly essential, especially in enhancing students' mastery of abstract language concepts such as complex grammar. Despite numerous digital tools available, many high school classrooms still rely on conventional methods, resulting in low student motivation and poor grammar comprehension. This study aims to develop and evaluate a website-based instructional media using Canva to improve students' understanding of complex English grammar. Employing a Research and Development (R&D) design with the ADDIE model, the study involved media validation by experts and a quasi-experimental test with a pretest-posttest control group design. The developed media was assessed for feasibility by media, material, and language experts and scored an average of 82.6%, categorized as highly feasible. Additionally, the experimental group that used the Canva-based media achieved a significant improvement in their grammar scores, with an N-Gain score of 0.64 (moderate-high category), compared to the control group's 0.26 (low category). The findings indicate that website-based media is effective in improving grammar achievement, enhancing student motivation, and fostering autonomous learning. The study concludes that Canva is a practical and scalable tool for supporting complex grammar instruction in high school settings, and its implementation should be encouraged for broader adoption in digital learning environments.



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INTRODUCTIONS

Achieving educational goals is highly dependent on the effectiveness of the teaching and learning process. One crucial component of this process is the use of appropriate instructional media. Instructional media serve as a bridge between teachers and students, enabling the effective delivery of content and enhancing comprehension. Deviyanti (2024) emphasizes that the formulation of specific learning objectives must be supported by relevant methods, resources, and media to optimize learning outcomes.

In the 21st century, the rapid development of digital technology has significantly influenced the field of education. The integration of technology into teaching has become a

necessity rather than an option. Husna (2024) argues that technology-enhanced learning can create an engaging learning environment, stimulate students' interest, and support independent learning. Among the various digital innovations in education, web-based instructional media have emerged as a powerful tool for supporting both synchronous and asynchronous learning.

Web-based media offer flexibility, accessibility, and the opportunity for interactive learning experiences. These features allow students to learn anytime and anywhere, in ways that cater to their individual learning styles. Permana, Hazizah, and Herlambat (2024) suggest that web-based platforms enable personalized instruction and facilitate deeper engagement with learning materials, particularly in subjects that require conceptual understanding such as English grammar.

Despite these advancements, many high schools, including SMAN 1 Batukliang Utara, have not fully utilized digital media in their English classrooms. Observations and interviews conducted by the researchers revealed that English teachers still rely heavily on conventional methods such as lectures and written exercises. This lack of media diversity has negatively impacted student motivation and achievement, especially in mastering complex grammar structures. Wahyuni, Prabowo, and Fatimah (2024) noted that the absence of varied instructional media contributes to low student interest and suboptimal learning outcomes.

Teaching complex English grammar poses a particular challenge. This area of language learning involves understanding intricate sentence structures, such as noun clauses, adjective clauses, and adverbial clauses. These grammatical forms are essential for developing academic writing and comprehension skills, but they often seem abstract and difficult for high school students. Therefore, there is a pressing need for instructional strategies that present grammar in a more accessible and engaging way.

To address this issue, this study proposes the development of a web-based instructional medium using Canva, a user-friendly design platform that enables teachers to create free, interactive websites. Canva offers a wide range of visual templates, multimedia integration, and interactive features such as embedded quizzes and videos. According to Wahyuni et al. (2024), visually appealing media can significantly improve learners' attention and retention, especially when dealing with abstract topics like grammar.

Moreover, Canva's simplicity makes it an ideal tool for teachers who may not have advanced technical skills. It empowers educators to become instructional designers and to create customized learning content suited to their students' needs. Safitri et al. (2023) highlighted the potential of Canva to enhance classroom instruction by making content more visually organized and stimulating. In addition to student benefits, the integration of digital media fosters professional growth among teachers. Kinasih and Wijayanti (2024) emphasize that digital competency is essential for modern educators to deliver effective instruction and stay relevant in a rapidly evolving educational landscape. Teachers equipped with digital tools are better prepared to manage classroom challenges and to engage digitally native students.

Furthermore, the use of web-based media opens new avenues for implementing blended learning approaches. Students can access instructional websites outside the classroom, promoting autonomous learning. Maritsa et al. (2021) found that digital learning environments not only improve student autonomy but also enhance collaboration and engagement, leading to better overall performance.

Given the challenges and opportunities described above, this research seeks to develop, validate, and evaluate a website-based instructional medium using Canva, specifically designed for teaching complex English grammar to tenth-grade students at SMAN 1 Batukliang Utara. The main objective is to produce a media product that is both pedagogically sound and practically effective in improving grammar achievement. This study is expected to contribute to the ongoing transformation of instructional practices in high schools by offering an innovative and accessible solution to common learning difficulties. Through the development of this website-based grammar module, the study aims to demonstrate that digital media can support the teaching of complex grammar in ways that are engaging, flexible, and student-centered.

Ultimately, this research supports a broader shift toward more inclusive and adaptive teaching strategies that align with the demands of 21st-century education. The integration of platforms like Canva is not only a technical enhancement but also a strategic response to the evolving roles of teachers and learners in digital learning ecosystems. By leveraging these tools, educators can create dynamic learning experiences that empower students to take ownership of their language development and succeed in academic communication.

RESEARCH METHOD

This study employed a Research and Development (R&D) approach using the ADDIE model as its core design framework. The ADDIE model, which stands for Analyze, Design, Development, Implementation, and Evaluation, is widely used in the development of educational products due to its systematic and iterative nature. According to Sugiyono (2016), the ADDIE model enables researchers to design learning media effectively by aligning objectives, materials, delivery methods, and evaluations in a structured and dynamic process.

The research aimed to develop and validate a website-based instructional media using Canva for teaching complex English grammar. The developed media was expected to improve student learning outcomes and motivation in mastering complex sentence structures. The method section elaborates on each phase of the ADDIE model, the participants involved, instruments used, and the procedures for data analysis.

Research Design

The design of this research followed a quasi-experimental approach within the broader context of research and development. The study involved both the development of a product (instructional media) and its testing in a real educational setting. Specifically, the pretest-posttest control group design was applied to evaluate the effectiveness of the developed media.

Two groups were involved in this stage: an experimental group that used the developed website-based media, and a control group that received conventional instruction using traditional methods. The comparison between these groups helped determine the media's impact on student learning outcomes.

This research design is appropriate for educational interventions where random assignment is not always feasible, but comparative effectiveness is still sought (Sugiyono, 2016).

Population and Sample

The population of this study consisted of all tenth-grade students at SMAN 1 Batukliang Utara, Central Lombok. A purposive sampling technique was used to select two comparable classes based on their academic performance and teacher recommendations. Each group comprised approximately **30 students**. The selection criteria ensured that both groups had relatively similar baseline abilities in English grammar to maintain internal validity and make meaningful comparisons post-intervention.

Instruments

Three types of instruments were utilized in this research:

1. **Validation Sheets:** These were used to assess the media feasibility in terms of content, design, and language. The validation was conducted by three expert evaluators: a media expert, a subject matter expert, and a language expert. The validators provided scores and suggestions for improvement using a Likert-type scale, ranging from 1 (very poor) to 5 (excellent). The results were interpreted using percentage thresholds to determine the feasibility level (Sugiyono, 2016).
2. **Grammar Tests (Pretest and Posttest):** These were designed to measure students' mastery of complex English grammar before and after the implementation. The tests covered the following elements; 1) Identification of main and subordinate clauses. 2) Use of relative pronouns in adjective clauses. 3) Construction of complex sentence patterns. The tests were content-validated by subject experts to ensure alignment with the learning objectives.
3. **Student Response Questionnaire:** After the learning session, students in the experimental group completed a brief questionnaire to evaluate their experience with the media in terms of ease of use, attractiveness, and content comprehension. This instrument provided qualitative insights into user satisfaction and media usability.

Procedure

The study followed the ADDIE stages as described below:

1. **Analysis:** The researchers conducted a **needs analysis** through classroom observations and teacher interviews. The findings revealed a lack of engaging and technology-based media in the teaching of English grammar, leading to low student motivation and achievement. The analysis also identified key grammar topics that students struggled with.
2. **Design:** Based on the needs analysis, the researchers designed the website layout and content using **Canva Pro**. The design included grammar explanations, example sentences, embedded quizzes, and interactive visual elements. The instructional design principles applied in this stage emphasized user-friendliness, visual clarity, and interactivity.
3. **Development:** The media was created using Canva's website creation feature. The development process involved creating slides that simulate webpages, organizing content into modules, and embedding multimedia elements. Once completed, the product was reviewed and validated by experts. According to Permana et al. (2024), user-centered design and expert validation are critical for ensuring the success of educational technology innovations.

4. **Implementation:** The validated media was implemented in the experimental class for a period of **2–3 instructional sessions**. Teachers used the media in a blended learning mode, guiding students to explore the materials independently while facilitating discussions in class.
5. **Evaluation:** Post-intervention, both groups took the posttest, and the results were analyzed to determine the effectiveness of the media. In addition, feedback from students and experts was used to refine the product for future use.

Data Analysis

The data collected from the validation sheets were converted into percentages using the formula below:

$$P = (\text{Total Score Obtained} / \text{Maximum Possible Score}) \times 100\%$$

The feasibility categories used were:

- 0%–20%: Not feasible
- 21%–40%: Less feasible
- 41%–60%: Moderately feasible
- 61%–80%: Feasible
- 81%–100%: Highly feasible

To assess the effectiveness of the media, the **N-Gain Score** was calculated using the formula:

$$\text{N-Gain} = (\text{Posttest Score} - \text{Pretest Score}) / (100 - \text{Pretest Score})$$

The results were interpreted as follows:

- $\text{N-Gain} < 0.3$ = Low
- $0.3 \leq \text{N-Gain} < 0.7$ = Moderate
- $\text{N-Gain} \geq 0.7$ = High

The N-Gain analysis provided quantitative evidence of learning improvement due to the intervention. Student responses were analyzed descriptively to understand the strengths and weaknesses of the media from the learners' perspective.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

This study aimed to develop and evaluate a website-based instructional medium using Canva to improve students' mastery of complex English grammar. The research followed the ADDIE model and was validated through expert judgment and pretest-posttest analysis. The results are discussed below.

Media Validation Results

Three expert validators were involved in reviewing the website-based media: a media expert, a subject matter expert, and a language expert. Their evaluations focused on layout,

functionality, content appropriateness, language accuracy, and alignment with learning objectives.

The average percentage score from the three experts was 82.6%, placing the product in the “Highly Feasible” category (Sugiyono, 2016). This rating suggests the media is ready for classroom use with only minor revisions. Detailed results are presented in the table below:

Table 1. Media Validation Results

VALIDATOR	SCORE (%)	CATEGORY
MEDIA EXPERT	86	Highly Feasible
MATERIAL EXPERT	82	Highly Feasible
LANGUAGE EXPERT	80	Feasible
AVERAGE	82.6	Highly Feasible

The experts suggested improving visual consistency and increasing the variety of grammar examples in the modules. These revisions were incorporated into the final version of the media.

Learning Outcome Results

To determine the effectiveness of the media, a pretest and posttest were administered to both the experimental and control groups. The N-Gain score was calculated to analyze the improvement.

Table. 2 Learning Outcome Results

GROUP	PRETEST MEAN	POSTTEST MEAN	N-GAIN SCORE	CATEGORY
EXPERIMENTAL	58.5	85.3	0.64	Moderate– High
CONTROL	57.8	68.9	0.26	Low

The results show a significant learning gain in the experimental group, demonstrating the effectiveness of Canva-based web media in enhancing grammar comprehension.

DISCUSSION

The findings of this study confirm that website-based media created with Canva can significantly improve student learning outcomes in English grammar. Several aspects support this conclusion:

Media Effectiveness and Learner Improvement

The 0.64 N-Gain score obtained by the experimental group is categorized as moderate to high (Hake, 1999), showing substantial progress. The students demonstrated improved ability to identify and construct complex sentences, including adjective clauses,

noun clauses, and adverbial clauses. This supports Wahyuni et al. (2024), who observed that digital tools can improve student performance when designed appropriately.

Visual and Interactive Features of Canva

The Canva platform allowed the creation of interactive slides and embedded media such as videos, quizzes, and infographics. These elements supported learners with different styles and enabled a more personalized experience. According to Safitri et al. (2023), visual aids are particularly helpful in making grammar content more approachable and less abstract.

Student Engagement and Motivation

Students in the experimental group reported higher motivation and enjoyment during the learning process. Feedback indicated that the media made grammar learning more engaging. Permana et al. (2024) assert that motivation is one of the strongest predictors of academic success, and media that integrates interactive elements significantly boosts learners' drive.

Role of Autonomy and Accessibility

One of the strengths of the media was its accessibility. Students could access materials anytime, allowing for flexible learning beyond the classroom. This reflects the principles of **blended learning**, where technology complements face-to-face instruction (Suriatno, 2025). Students became more autonomous and responsible in managing their learning pace.

Teacher's Role in the New Learning Ecosystem

The use of Canva transformed the teacher's role into that of a facilitator and learning partner. Instead of being the sole provider of knowledge, teachers guided students in exploring and using the media effectively. This shift aligns with constructivist pedagogy, as noted by Hasanah et al. (2024), where learners construct knowledge through interaction with digital tools and guidance from facilitators.

Limitations and Practical Challenges

While effective, the media implementation encountered several challenges. These included:

- Limited internet connectivity for some students.
- Initial unfamiliarity with the Canva interface.
- Time constraints in classroom settings.

However, after brief orientation and training, students adapted well to the digital format. The practicality of Canva as a free, accessible, and user-friendly platform outweighed the minor technical issues encountered.

Contribution to Educational Innovation

This study demonstrates the potential of low-cost, open-access platforms in transforming English instruction in Indonesian schools. It provides an alternative model for grammar instruction that moves beyond rote memorization to active learning supported by visual, interactive, and exploratory elements.

The developed media aligns with the current push for digital literacy in education, providing both teachers and students with an adaptable tool for engaging with complex linguistic content.

CONCLUSION

This study concludes that the development of website-based instructional media using Canva is both feasible and effective in improving students' understanding of complex English grammar. The media was validated by experts and categorized as highly feasible, achieving an average score of 82.6%. The validation results indicate that the media met standards in terms of content accuracy, visual design, interactivity, and language clarity.

Furthermore, the results of the pretest and posttest showed a significant increase in student learning outcomes in the experimental group, with an N-Gain score of 0.64, categorized as moderate to high improvement. This finding suggests that Canva-based web media can enhance student motivation, engagement, and independent learning, particularly in topics that are typically perceived as difficult and abstract.

The use of interactive, visually appealing, and accessible media facilitated better student comprehension and fostered learner autonomy. Additionally, the shift in the teacher's role—from content deliverer to facilitator—supports a more student-centered and constructivist learning environment. In light of these findings, it can be concluded that the developed media holds strong potential for wider implementation in English language instruction, especially in teaching complex grammar at the senior high school level. It is recommended that further studies apply this model in various contexts and explore integration with other adaptive or gamified platforms to maximize learning impact.

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