A Qualitative Approach to the Use of Digital Modules in Teaching Argumentative Essay Writing to University Students

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ARTICLE INFO	ABSTRACT
	This study investigates the use of digital modules as a pedagogical tool in teaching argumentative essay writing to university students, using a qualitative research approach. The research aims to examine how digital learning materials enhance students' understanding of argumentative structures, improve writing skills, and support autonomous learning. This study employed a qualitative research methodology to explore how digital modules are used in teaching argumentative essay writing to university students. A qualitative approach was deemed appropriate for capturing the lived experiences, perceptions, and challenges encountered by both students and instructors in an authentic educational setting. Data were gathered through classroom observations, in-depth interviews with students and instructors, and analysis of students' written work. The findings suggest that digital modules provide structured and accessible content that aids students in organizing their ideas, developing critical arguments, and refining their writing techniques. Additionally, the interactive nature of digital modules fosters student engagement and motivation. Despite some challenges related to technical access and digital literacy, the overall impact of using digital modules in writing instruction is perceived as positive. In conclusion, digital modules can serve as effective scaffolding mechanisms that guide students through the complexities of argumentative writing. When designed with clear instructional sequences, examples, and interactive components, digital modules help students understand essay structure, develop coherent arguments, and engage in independent revision. *This is an open access article under the CC BY-SA license.*

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INTRODUCTION

In recent years, the integration of digital technologies into higher education has significantly transformed traditional teaching and learning practices. The rise of digital learning tools, particularly in response to the global shift toward online and blended education, has opened new possibilities for instructional design, especially in language and writing education. Among these innovations, digital modules—structured, self-paced

instructional units delivered through digital platforms—have emerged as valuable tools in supporting students' academic writing development. Academic writing, particularly argumentative essay writing, is a core component of higher education curricula. It requires students to construct logical arguments, critically engage with evidence, and articulate clear positions on complex issues. Despite its importance, many university students face challenges in organizing their thoughts, developing coherent arguments, and maintaining academic tone and structure in their essays. These difficulties are often compounded by a lack of sufficient instructional support and opportunities for practice. Digital modules offer a potential solution by providing step-by-step instruction, interactive learning activities, and multimodal resources that guide students through the writing process. Such modules may include video lectures, annotated example texts, automated quizzes, and writing prompts designed to build students' confidence and competence in argumentative writing. However, the effectiveness of these tools depends not only on their technical design but also on how they are perceived, used, and experienced by students and instructors within specific educational contexts. While existing research has explored the general impact of digital learning tools on language education, qualitative investigations into how digital modules shape the actual writing practices and experiences of university students remain limited. A qualitative approach is particularly valuable in this context because it allows for a deeper exploration of the nuanced ways in which learners interact with digital content, perceive instructional support, and navigate the challenges of academic writing.

This study aims to fill this gap by employing a qualitative research approach to examine the use of digital modules in teaching argumentative essay writing to university students. Specifically, it investigates how students and instructors engage with digital modules, what challenges they encounter, and how these modules influence students' development as academic writers. By understanding these dynamics, the study seeks to offer pedagogical insights and practical recommendations for improving writing instruction in digitally mediated learning environments.

LITERATURE REVIEW

This section explores the existing literature related to three major themes relevant to the present study: (1) argumentative essay writing in higher education, (2) the use of digital modules in academic writing instruction, and (3) the role of qualitative approaches in educational research.

Argumentative Essay Writing in Higher Education

Argumentative writing is a foundational academic skill that enables students to articulate positions, support claims with evidence, and engage critically with opposing viewpoints. It is considered one of the most cognitively demanding forms of academic writing, as it requires the integration of analysis, synthesis. In university contexts, the ability to construct well-reasoned arguments is crucial not only for academic success but also for participation in scholarly discourse.

Despite its importance, research consistently shows that students struggle with various aspects of argumentative essay writing. Wingate (2012) argues that many students lack a clear understanding of what constitutes a well-structured argument. Common issues include weak thesis statements, underdeveloped arguments, lack of coherence, and limited engagement with counterarguments (Osman, 2017). These challenges often stem from inadequate instruction and limited opportunities for guided practice.

To address these issues, educators have increasingly turned to pedagogical interventions that scaffold the writing process, such as explicit instruction on argument structures, use of model texts, and feedback mechanisms. However, with the growing prevalence of digital learning environments, attention has shifted toward how technology can support these pedagogical efforts.

Digital Modules in Writing Instruction

Digital modules refer to self-contained instructional units delivered through digital platforms, often combining multimedia content, interactive exercises, and assessments. In writing instruction, these modules aim to support the development of writing skills by providing structured guidance, access to resources, and opportunities for autonomous learning (Hyland, 2013).

Digital modules have been widely implemented in writing programs as part of blended or fully online learning models. Several studies highlight their potential benefits, including increased learner engagement, flexibility, and the ability to revisit content at one's own pace (Mayer, 2014; Al-Awidi & Ismail, 2014). Additionally, digital modules can incorporate immediate feedback mechanisms that help students identify and correct errors during the writing process.

However, the success of digital modules depends on a variety of factors, including instructional design quality, technological accessibility, and students' digital literacy. Poorly designed modules may lead to cognitive overload, disengagement, or confusion about instructional goals (Sweller, 2005). Moreover, students with limited experience in digital learning environments may find it difficult to navigate online platforms or benefit fully from self-directed learning tools (Zhao et al., 2020).

Importantly, most existing research on digital modules tends to focus on quantitative measures of effectiveness, such as test scores or usage statistics, which may not fully capture learners' experiences or the nuanced ways in which digital tools are integrated into writing practices.

Research Gap

While numerous studies have explored the effectiveness of digital tools in language learning, there is a lack of qualitative research focusing specifically on **digital modules for argumentative essay writing** in higher education contexts, particularly in non-Western settings. Most existing literature examines general writing skills or focuses on technological design rather than pedagogical implementation. Moreover, few studies investigate both

students' and instructors' perspectives, which are crucial for evaluating the practical value of digital modules.

This study addresses this gap by employing a qualitative approach to investigate how digital modules are used in teaching argumentative essay writing to university students. It focuses on how these modules are perceived, what challenges arise in their use, and how they influence students' writing development within an authentic instructional context.

RESEARCH METHOD

This study employed a qualitative research methodology to explore how digital modules are used in teaching argumentative essay writing to university students. A qualitative approach was deemed appropriate for capturing the lived experiences, perceptions, and challenges encountered by both students and instructors in an authentic educational setting. The methodology was designed to provide an in-depth understanding of how digital modules support or hinder students' development in argumentative writing.

Research Design

The research adopted a **qualitative case study** design, which allows for detailed investigation within a bounded context (Yin, 2014). The case selected was a semester-long academic writing course at a public university in Indonesia that had integrated digital modules as a central component of instruction. The case study approach enabled the researchers to examine the interaction between students, instructors, and digital instructional tools in a real-world setting.

Participants

Participants were selected through **purposive sampling**, focusing on individuals who had direct experience with the digital modules. The study involved:

1. **One course instructor**, responsible for designing and delivering the digital module content.
2. **Fifteen undergraduate students** enrolled in the academic writing course, coming from various faculties and with differing levels of writing proficiency.

All participants provided informed consent prior to their involvement, and ethical approval was obtained from the university's research ethics committee.

Data Collection

Data were collected through three primary methods:

1. **Semi-Structured Interviews**: In-depth interviews were conducted with the instructor and ten students. Questions focused on their experiences using the digital modules, perceived benefits, encountered challenges, and suggestions for improvement. Each interview lasted between 30 to 45 minutes and was audio-recorded with participants' permission.
2. **Classroom Observations**: The researcher conducted non-participant observations during six synchronous online sessions to observe how the instructor facilitated

learning using the digital modules. Field notes were taken to document instructional practices, student engagement, and interactions.

3. **Document Analysis**: Students' submitted argumentative essays and the digital module materials (including texts, tasks, and quizzes) were analyzed to assess how instructional elements were aligned with argumentative writing outcomes.

RESULT

This section presents the key findings derived from interviews, classroom observations, and document analysis, followed by a discussion that situates these findings within the context of existing literature.

Table 1. Summary of Key Findings from the Use of Digital Modules in Teaching Argumentative Essays

No	Main theme	Key Findings	Evidence from Data	Pedagogical Implications
1	Digital modules as scaffolding tools in the writing process	The module provides step-by-step guidance from brainstorming to revision. The structure helps students construct a logical argument .	Student Quote 7: "I can finish drafts faster."Observation: outlines are better	Digital modules are effective if they are structured in stages and interactively
2	Independence and motivation to learn through digital engagement	Students feel more comfortable and confident learning independently. Material can be accessed again at any time	Student Quote 3: "I like being able to review the material anytime..." Student drafts improved	Digital modules increase learning autonomy and responsibility
3	Challenges in implementing digital modules	Unstable internet access, too much homework, and lack of personal feedback are obstacles.	Student Quote 11: "I'm not used to studying online without reminders."	Digital modules require additional support: face-to-face sessions, peer review, and direct guidance from lecturers

Three main themes emerged from the data analysis: (1) digital modules as scaffolding tools in the writing process, (2) learner autonomy and motivation through digital engagement, and (3) challenges in digital module implementation.

Digital Modules as Scaffolding Tools in the Writing Process

Both students and the instructor reported that the digital modules served as effective scaffolding tools for learning the structure and components of argumentative essays. The modules were organized into sequential stages—such as brainstorming, thesis formulation, paragraph development, and revising—that mirrored the writing process. Each section contained explanatory videos, model texts, and guided tasks. Students appreciated the clarity and structure provided by the modules. Many described the materials as "step-by-step" guides that helped them understand how to build a logical argument. One student commented:

"The module helped me know exactly what to do in each part of the essay. I usually get stuck, but this time I followed the steps and finished my draft faster." (Student 7)

From classroom observations, it was evident that students who engaged with the module in advance of synchronous sessions asked more focused questions and produced more coherent outlines during in-class workshops. This aligns with Vygotsky's (1978) concept of scaffolding, where instructional support allows learners to accomplish tasks they might not manage independently. Digital modules, when well-structured, can function as virtual scaffolds by breaking down complex writing tasks into manageable steps.

Learner Autonomy and Motivation Through Digital Engagement

Another significant finding was the role of digital modules in fostering learner autonomy. Several students noted that having 24/7 access to the content allowed them to learn at their own pace and revisit difficult concepts as needed.

"I liked that I could go back and review the explanation whenever I didn't understand something. It felt more comfortable than asking in class." (Student 3)

The instructor also observed an increase in students' self-initiated revisions and improvements in draft submissions. Students appeared to take more ownership of their writing, using the module tools such as checklists and self-evaluation prompts before submitting assignments. These findings echo research by Hyland (2013), who emphasizes that digital tools can empower students to take more responsibility for their learning. However, this autonomy is most effective when students are sufficiently motivated and digitally literate—conditions that were met to varying degrees in the present study.

Challenges in Digital Module Implementation

Despite the generally positive feedback, several challenges were identified. A recurring issue was inconsistent internet access, which hindered some students' ability to engage fully with the module content. Others mentioned feeling overwhelmed by the volume of tasks and difficulty managing their time without direct supervision.

"Sometimes I forgot to do the module tasks until the deadline was very close. I'm not used to learning online without reminders." (Student 11)

Additionally, while the digital modules included automatic quizzes and reflection prompts, some students expressed a need for more personalized feedback on their writing, which the modules alone could not provide. The instructor acknowledged this limitation and supplemented the digital modules with peer review sessions and one-on-one feedback. These adjustments helped address the limitations of asynchronous learning tools and highlighted the importance of blending digital modules with interactive support.

These findings are consistent with Mayer's (2014) assertion that multimedia learning is most effective when accompanied by clear guidance and instructor interaction. Furthermore, digital tools should be integrated within a larger pedagogical strategy rather than functioning as stand-alone solutions.

Conclusion

This study set out to explore how digital modules are utilized in teaching argumentative essay writing to university students through a qualitative lens. By examining students' and the instructor's experiences, this research provides valuable insights into the pedagogical potentials and challenges of integrating digital instructional tools in academic writing courses.

The findings indicate that digital modules can serve as effective scaffolding mechanisms that guide students through the complexities of argumentative writing. When designed with clear instructional sequences, examples, and interactive components, digital modules help students understand essay structure, develop coherent arguments, and engage in independent revision. The modules also promote learner autonomy and motivation by allowing students to control the pace and timing of their learning.

However, the study also highlights several limitations, including technological barriers, uneven digital literacy among students, and the lack of personalized feedback within the digital environment. These challenges suggest that digital modules cannot function effectively in isolation. Instead, they should be integrated within a broader instructional framework that includes instructor support, peer interaction, and opportunities for formative assessment.

The qualitative approach employed in this study has enabled a rich, contextualized understanding of how digital modules shape the learning experience in writing instruction. It underscores the importance of aligning technological tools with pedagogical goals and the real needs of learners in diverse educational settings.

Ultimately, the study recommends a **blended learning strategy** that combines the flexibility and structure of digital modules with the guidance and responsiveness of human instruction. Such an approach is particularly relevant in higher education contexts that are navigating digital transitions while striving to uphold academic writing standards. Future research is encouraged to explore the long-term impact of digital modules on writing proficiency and to examine their effectiveness across different cultural and disciplinary contexts. Additionally, comparative studies between fully digital, blended, and traditional instruction models could offer deeper insights into optimizing writing pedagogy in the digital age.

Suggestion

Based on the findings and discussion of this study, several suggestions can be proposed for teachers, students, material developers, and future researchers regarding the use of digital modules in teaching argumentative essay writing.

Suggestions for Teachers

Teachers are encouraged to integrate digital modules as a complementary tool to traditional classroom instruction. The use of interactive and multimedia-based materials can enhance students' engagement and understanding of argumentative structures. However, teachers should also provide clear guidance on how to navigate the modules effectively and offer continuous feedback through online or blended learning platforms. Additionally, teachers should ensure that the digital activities promote critical thinking and evidence-based reasoning, rather than focusing solely on mechanical aspects of writing.

Suggestions for Students

Students should actively engage with the digital modules beyond mere completion of tasks. They are encouraged to utilize the interactive features, reflection prompts, and peer feedback opportunities embedded within the modules. To improve argumentative writing skills, students should also use the modules as a means to explore diverse perspectives and strengthen their ability to construct logical, coherent, and well-supported arguments.

Suggestions for Material Developers

Developers of digital learning materials should consider the needs and proficiency levels of university students when designing modules for argumentative essay writing. The modules should include authentic examples, interactive exercises, and formative assessments that encourage higher-order thinking. It is also recommended to include features that facilitate self-assessment and reflection so that learners can monitor their own progress. Accessibility and user-friendliness are essential to ensure that all students can benefit regardless of their technological competence.

Suggestions for Institutions

Higher education institutions should support the integration of digital learning tools by providing adequate infrastructure, training for educators, and policy frameworks that encourage innovation in writing instruction. Collaboration between language instructors and instructional designers can lead to more effective and contextually relevant digital modules. Institutional support is crucial in ensuring sustainability and scalability of digital learning initiatives.

Suggestions for Future Researchers

Future studies may explore a wider range of contexts and participants to gain a more comprehensive understanding of the impact of digital modules. It is also suggested to employ mixed-method approaches to triangulate qualitative insights with quantitative data, such as writing test scores or engagement analytics. Further research could focus on specific design

features of digital modules that most effectively support argumentative writing development, or compare the outcomes between digital and traditional instruction.

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