

## Innovating Arabic Language Module Design in Higher Education through a Content-Driven Integrated Model

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### Abstract

This study aims to examine the effectiveness of an e-module developed for the Ilm al-Bayan course at UIN Imam Bonjol Padang through a series of systematic empirical evaluations involving experimental and control groups. The development of the e-module was guided by the ADDIE instructional design model, encompassing five structured stages: needs analysis, design, development, implementation, and evaluation. Prior to hypothesis testing, data normality was assessed using the Kolmogorov–Smirnov and Shapiro–Wilk tests, while data homogeneity was examined using Levene’s test. Inferential statistical analyses included Paired Samples t-Tests to evaluate within-group learning improvements and Independent Samples t-Tests to compare post-test performance between groups. The results indicated that the data from both the experimental and control groups were normally distributed and homogeneous, fulfilling the assumptions required for parametric testing. The Paired Samples t-Test revealed statistically significant improvements in learning outcomes for both groups; however, the experimental group demonstrated a higher mean difference ( $-7.036$ ,  $p < 0.05$ ) compared to the control group ( $-4.673$ ,  $p < 0.05$ ). The study underscores the potential of e-modules as effective, student-centered pedagogical tools that support interactive learning and contribute to the digital transformation of Arabic language education in higher education.

**Keywords:** E- module, Content and Language Integrated Learning, ADDIE model, Arabic Rhetoric

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### INTRODUCTION

The learning of Arabic language, particularly the component of Arabic Rhetoric, often poses challenges for students due to its complex and intricate explanations that are difficult to comprehend (Mohd. Shamsuddin & Ahmad, 2020). Arabic rhetoric, a crucial aspect of language learning, combines science and art to develop cognitive, emotional, and critical skills (Salem et al., 2020) However, non-Arabic speakers face difficulties in learning rhetoric, prompting the development of technological solutions such as computerized software for self-learning. The use of textbooks filled with lengthy textual discussions often solely complicates students' understanding of the subject of Arabic Rhetoric. Compared to other Arabic language subjects, the subject of Arabic Rhetoric is perceived as more challenging. However, with careful planning, a variety of strategies, techniques, and approaches used by Arabic Rhetoric teachers who teach this subject must wisely plan, research, and understand the most effective teaching practices that can be applied to foster students' interest in Arabic Rhetoric teaching and learning. (Nikula et al., 2016)

Although the Arabic Rhetoric subject is viewed as the spearhead in developing students' character, its implementation in schools has been considered less successful because instructions tend to focus on on the cognitive component rather than the emotional and psychomotor components (Nuha & Musyafa'ah, 2023). As a result, students appear to gain religious knowledge without necessarily practicing it. Meanwhile, traditional teacher teaching methods, focusing on teachers rather than students, make learning monotonous for students. Teachers therefore need strategies that actively involve students in learning activity. Assignments, discussions, questioning, encouraging students to express ideas, and conducting evaluations are examples of practices that support active participation. Creating a learning environment that promotes creativity is a key indicator of high-quality instruction.

Mohamad Syukron et al. (2023) found that, to increase students' interest in mastering Balaghah, teaching methods must be renewed and diversified., Approaches, strategies, and teaching methods used in Arabic rhetoric that are less effective or unsuitable for students in higher education institutions are among the causes of their weak mastery of the subject (Syukron, 2023). According to Hakim (2020), Arabic rhetoric frequently rely on the lecture method when delivering lessons. This indicates that religious teachers, including those who teach Arabic rhetorics still employ conventional and passive approaches influenced by traditional teaching practices and primarily focused on the teacher. Teachers are seen mainly to deliver information through lectures while students only receive the information by listening (Hakim et al., 2020).

Furthermore, Shabriyah et al. (2022) stated that one of the factors hindering the achievement of Arabic Rhetoric teaching and learning goals is the use of rote memorization while neglecting the cultivation and application of the aesthetic and rhetorical values embedded in the expressions studied. Therefore, a contextual-based approach emphasizing communicative and collaborative activities among students is believed to develop students' critical and creative thinking skills when studying this subject and is recommended for implementation by teachers (Shabriyah & Nuruddin, 2022).

Methods and teaching techniques have been identified as key factors influencing students' interest in mastering Arabic Rhetoric. A study by Nazeri (2022) found that, out of 50 students surveyed, 49 students (98%) stated that in learning Arabic Rhetoric, teaching methods need to be diversified by teachers and lecturers. This is further reinforced by a study conducted by Syukran et al. (2023), which found that, to attract students' interest in mastering Arabic Rhetoric, teaching methods and techniques need to be renewed and diversified. Approaches, strategies, and teaching methods used in Arabic rhetoric that are ineffective or unsuitable for students in higher education institutions are among the causes of their weak mastery of the subject (Syukron, 2023).

The teaching of Balaghah (Arabic rhetoric) in higher education has been the subject of growing scholarly interest in recent years, particularly as educators seek to modernize traditional Islamic disciplines through contemporary pedagogical approaches. Several studies have highlighted the persistent reliance on classical texts such as *Jawāhir al-Balāghah* and *Jawhar al-Maknūn*, which—while foundational—are often delivered through didactic methods that fail to engage modern learners (Abdullah et al., 2023; Parhan & Isyanto, 2023). These texts frequently contain examples derived from ancient Arabic poetry, which can be linguistically and culturally distant for today's students, leading to low motivation and difficulties in comprehension (Alfisya et al., 2022).

Multiple researchers have called for innovation in the teaching of Balaghah. For instance, Nurbayan (2015) proposed developing teaching materials based on the Adabi (literary) approach, which situates rhetorical concepts within literary appreciation rather than rote memorization. Similarly, Ummah (2021) explored the use of Qur'anic stylistics (*balāghat al-Qur'ān*) as a means to make rhetorical instruction more spiritually engaging and contextually meaningful. These efforts indicate a shift towards more integrated and relevance-based instruction, yet many approaches still remain text-heavy and teacher-centered.

Other studies have explored the incorporation of instructional strategies such as Problem-Based Learning (PBL) and Cooperative Learning to foster student engagement. Umam et al. (2025) found that PBL-based Balaghah instruction improved analytical thinking and appreciation for rhetorical function, while Ashila et al. (2020) demonstrated that the Numbered Head Together method enhanced collaborative learning outcomes. However, despite these promising findings, technology integration in Balaghah instruction remains relatively underexplored.

Recent studies have begun to address this digital gap. For instance, Nurcholis (2022) introduced the use of digital mind maps and social media tools to visualize rhetorical structures and foster interaction. Meanwhile, Abdullah et al. (2023) examined students' perceptions of technology-based Balaghah instruction and found strong interest in mobile and web-based learning tools, though actual implementation was minimal. Rohman and Supriady (2025) developed teaching materials based on Qur'anic stylistic models, integrating them with digital platforms to support student-centered learning, though scalability and interactivity were limited.

Importantly, none of the reviewed studies explicitly employed the Content and Language Integrated Learning (CLIL) approach, which has been shown in other language disciplines to support both content mastery and language development through contextualized, meaningful learning (Coyle et al., 2010). This highlights a critical gap in current research: the lack of integrated pedagogical models that combine digital technology, content relevance, and language acquisition strategies in the teaching of Balaghah. Therefore, the present study offers a novel contribution by developing a CLIL-based e-module tailored to undergraduate learners, aiming to bridge classical rhetorical theory with students' real-life linguistic experiences, while also addressing the digital demands of contemporary education.

Overall, this study explores the teaching practices used by experienced teachers of Arabic rhetoric in delivering the curricular content. Teaching this subject requires teachers' commitment to providing diverse teaching materials and a thorough understanding of the curriculum and so that students can understand and master it well.

## METHODS

The qualitative research design employed in this study facilitates an in-depth examination of the implementation of Content and Language Integrated Learning (CLIL) within the context of Ilm al-Bayan education. Qualitative research is particularly suitable for this study as it enables the collection of rich, detailed data that can provide insights into the complexities of language learning and teaching. For the quantitative research, this study adopts a quasi-experimental research design. The sample was not selected through random sampling; instead, intact classes were used, as the students shared relatively similar characteristics. The quasi – experimental research design utilizes 2 categories, Pre- test and post -test design (Sugiyono, 2008). The study applies a non-equivalent pre-test–post-test design, as presented in the table below.

**Table 1.** Pre- test and Post-test design

Group	Pre- Test	Treatment	Post- Test
Control Group	O1		O2
Experimental Group	O1	X	O2

## Research Sampling Technique

### *Target Population and Sampling Technique*

The target population of this study consisted of undergraduate students enrolled in the Department of Arabic Language at the State Islamic University (UIN) Imam Bonjol Padang, West Sumatra, Indonesia. At the time of the study, the total population comprised 110 students who were actively registered in the Arabic Language program. These students represented a relatively homogeneous academic background in terms of curriculum, learning objectives, and exposure to Arabic language instruction, making them suitable for examining the effectiveness of instructional interventions.

The sampling technique employed in this study focused on third-semester students who were taking the *Ilm al-Bayan* course, as this subject is a core component of the Arabic rhetoric curriculum and directly aligned with the objectives of the developed e-module. Four intact classes were selected for participation and subsequently divided into two groups: an experimental group and a control group. Due to institutional and scheduling constraints, a non-random sampling method was adopted, consistent with a quasi-experimental research design. Group assignment was conducted at the class level to preserve the natural learning environment and minimize disruption to the existing instructional process.

Based on the Krejcie–Morgan sample size determination table, the total sample of 110 students was considered adequate to represent the population and to ensure sufficient statistical power for data analysis. Of these participants, 55 students were assigned to the experimental group, which received instruction using the CLIL-based e-module, while the remaining 55 students formed the control group and were taught using conventional instructional materials.

### ***Sample Size***

The final sample comprised 110 undergraduate students enrolled in the Arabic Language program at UIN Imam Bonjol Padang. The sample size reflects the entire accessible population and was deemed appropriate for conducting comparative statistical analyses within a quasi-experimental framework. This sampling approach allowed for meaningful comparison between groups while maintaining ecological validity and supporting the generalizability of the study findings within similar higher education contexts.

### **Research Instrument**

The instruments employed in this study consisted of a needs analysis questionnaire, a learning motivation questionnaire, a user acceptance questionnaire, an expert validation questionnaire, as well as pre-test and post-test instruments. Each instrument was carefully designed to address specific research objectives and to ensure the systematic collection of both perceptual and achievement-related data. This section outlines the purpose of each instrument and describes the procedures used for data collection, validity, and reliability testing.

### ***Questionnaires***

The researchers conducted a rigorous selection and validation process to ensure the appropriateness and accuracy of the questionnaire instruments used in this study. Several types of validity, including content validity and construct validity, were considered to confirm that the instruments adequately measured the intended variables. Reliability analysis was also performed to ensure the consistency of the responses. In total, four sets of questionnaires were utilized for data collection, each serving a distinct function within the research framework. The validity and reliability testing procedures for each questionnaire are described to support the credibility and trustworthiness of the findings.

### ***Needs Analysis Questionnaire***

The needs analysis questionnaire was designed to identify students' learning needs, challenges, and expectations related to the *Ilm al-Bayan* course. This instrument served as a foundational tool for informing the design and development of the CLIL-based e-module. The questionnaire was organized into three main sections. Section A focused on students' demographic backgrounds, including academic level, prior exposure to Arabic rhetoric, and experience with digital learning tools. This information was collected to identify similarities and differences among participants and to ensure that the instructional design addressed the characteristics of the target learners.

Section B examined students' learning experiences and difficulties in studying *Ilm al-Bayan*, including their understanding of rhetorical concepts, instructional methods used in class, and the availability of learning resources. Section C explored students' perceptions, preferences, and expectations regarding the use of digital learning materials, particularly e-modules, in supporting their learning process. Responses were measured using a Likert-scale format to facilitate quantitative analysis. The data obtained from the needs analysis questionnaire provided essential

insights into instructional gaps and learner requirements, which directly informed the content structure, learning activities, and technological features integrated into the developed e-module.

## FINDING AND DISCUSSIONS

**To identify students' need in using the CLIL module for teaching and learning of Ilm al - Bayan**

### *Demographic Background Information*

**Table 2.** Student's Demographic Background Information

Item	Sub-Item	Frequency (N)	Percentage (%)
Gender	Male	29	23.2
	Female	96	76.8
	<b>Total</b>	<b>125</b>	<b>100</b>
Institution	SMA	9	7.2
	MA	87	69.6
	Other	29	23.2
	<b>Total</b>	<b>125</b>	<b>100</b>
Arabic Language Background	Yes	21	16.8
	No	104	83.2
	<b>Total</b>	<b>125</b>	<b>100</b>
Years of Learning Arabic Language	Yes	21	16.8
	No	104	83.2
	<b>Total</b>	<b>125</b>	<b>100</b>
Major in High School	IPA	33	26.4
	IPS	20	16
	Agama	72	57.6
	<b>Total</b>	<b>125</b>	<b>100</b>

The data reveal that the majority of the participants are female (76.8%), while males constitute only 23.2% of the sample. This indicates a significant gender imbalance, with female students being more dominant in the studied population. A majority of the respondents (69.6%) graduated from Madrasah Aliyah (MA), while only 7.2% came from regular senior high schools (SMA). The remaining 23.2% attended other types of educational institutions. The dominance of MA graduates suggests that the sample largely consists of students from religious educational backgrounds, which may influence their exposure to or interest in Arabic language learning, considering Arabic is often integrated into the MA curriculum. Only 16.8% of the respondents reported having an Arabic language background, whereas a vast majority (83.2%) did not.

This shows that most of the participants have limited or no prior formal exposure to Arabic before entering higher education. This lack of foundational background could affect their performance and attitude toward Arabic language learning, potentially leading to a steeper learning curve. Similarly, only 16.8% of the students indicated that they had experience in learning Arabic for more than one year, while 83.2% did not. This mirrors the previous finding and reinforces the conclusion that Arabic is a relatively new subject for most respondents. If this variable is distinct from the Arabic language background, it may indicate that even among those exposed to Arabic, extended learning duration is uncommon. The majority of the students (57.6%) majored in religious studies (Agama) during high school, followed by science (IPA) at 26.4% and social sciences (IPS) at 16%. This again underscores the religious or faith-based educational orientation of the participants. Students with an Agama background are more likely to have encountered Arabic to some degree in their curriculum, which could influence their learning strategies or attitudes toward the language.

The demographic and academic profiles of the respondents indicate a predominantly female student population with strong representation from religious educational institutions and majors. However, despite the religious context, the majority have limited background and learning experience in Arabic, which could pose challenges in their current or future Arabic language acquisition. These factors should be considered carefully when analyzing students' proficiency, motivation, or attitudes toward Arabic, as they may be significantly influenced by gender, institutional type, and prior exposure.

### *Students' Needs Analysis of the Content of Ilm al-Bayan*

**Table 3.** Relevancy of Current Situation in Learning Ilm Bayan (Challenges Faced)

Item	Mean	SD
I find the traditional methods of learning <i>Ilm Bayan</i> challenging to understand	3.89	0.432
I struggle to keep up with the materials in my current <i>Ilm Bayan</i> classes	4.23	0.445
I struggle to keep up with the pace in my current <i>Ilm Bayan</i> classes	4.42	0.534
I feel that the resources available for learning <i>Ilm Bayan</i> are outdated	3.33	0.323
I find it difficult to understand <i>Ilm Bayan</i> concepts without additional resources	4.34	0.456
I have difficulty retaining information due to the lack of multimedia elements in our current resources	3.45	3.488
I feel that there is not enough interactive content to help me understand <i>Ilm Bayan</i> effectively	3.66	0.323
I think that learning <i>Ilm Bayan</i> would be more engaging if I had access to digital resources	3.33	0.623

The descriptive analysis of students' perceptions toward learning Ilm al-Bayan reveals several key insights. Although students generally do not find traditional methods particularly difficult (Mean = 2.0, SD = 0.3), many report struggling to keep up with both the material (Mean = 4.0, SD = 0.4) and the pace of instruction in their current classes (Mean = 4.0, SD = 0.5). This suggests that while the teaching approach may not be inherently problematic, the delivery or complexity of the content may be challenging for some students. Furthermore, students express a moderate level of dissatisfaction with the learning resources, perceiving them as somewhat outdated (Mean = 3.0, SD = 0.3) and lacking in interactivity (Mean = 3.0, SD = 0.3). Interestingly, most students do not struggle to understand the concepts without additional resources (Mean = 1.0, SD = 0.1), indicating a degree of self-sufficiency.

However, opinions are divided regarding the absence of multimedia elements, as shown by a relatively high standard deviation for this item (Mean = 3.0, SD = 1.4), suggesting varied learning preferences among the respondents. Lastly, there is a modest inclination toward digital enhancement in learning, with students indicating that access to digital resources could make learning Ilm al-Bayan more engaging (Mean = 3.0, SD = 0.6). Overall, while traditional methods are not perceived as ineffective, there is a clear desire among students for more accessible, engaging, and modernized instructional support.

### *Relevancy of Need for an E-Module in Learning Ilm Bayan*

**Table 4.** Relevancy of Need for an E-Module in Learning *Ilm Bayan*

Item	Mean	SD
I believe an e-module would help me understand <i>Ilm Bayan</i> concepts better	4.56	0.467
I would like an e-module that allows me to study <i>Ilm Bayan</i> at my own pace, I feel that an e-module could help me overcome my current learning challenges in <i>Ilm Bayan</i>	4.34	0.452
I feel that an e-module could help me overcome my current learning challenges in <i>Ilm Bayan</i>	4.33	0.465
I believe an e-module would make learning <i>Ilm Bayan</i> more enjoyable	4.62	0.412
I need an e-module that provides step-by-step explanations of <i>Ilm Bayan</i> concepts	3.65	0.345
I would like an e-module to supplement my classroom learning for <i>Ilm Bayan</i>	4.27	0.267
I think an e-module could provide the flexibility I need to review challenging <i>Ilm Bayan</i> topics	4.23	0.445
I feel that an e-module would give me more control over my learning process in <i>Ilm Bayan</i>	4.78	0.623

The data suggest that students generally hold positive perceptions toward the use of an e-module as a learning tool for *Ilm al-Bayan*, though their responses vary across specific aspects. The highest agreement was observed in the belief that an e-module would give them more control over their learning process (Mean = 4.78, SD = 0.623), followed closely by the perception that it would make learning *Ilm al-Bayan* more enjoyable (Mean = 4.62, SD = 0.412).

These findings indicate that learners highly value autonomy and engagement in the learning experience. Additionally, students expressed strong agreement that an e-module would help them overcome current learning challenges (Mean = 4.33–4.34), and that being able to study at their own pace is important (Mean = 4.34, SD = 0.452). A moderate level of agreement was recorded for the need for step-by-step explanations (Mean = 3.65, SD = 0.345), which reflects a desire for clarity and structured guidance in learning complex concepts. Overall, the data highlights a strong preference for autonomy, engagement, and personalized learning paths in digital instructional materials.

### The Development of e module using CLIL model

**Figure 1.** Content of Module

As illustrated in the Figure, the content of the e-module begins with a comprehensive presentation of the definition of *tashbīh* as articulated by several authoritative scholars in the field of Arabic rhetoric. This introductory section plays a crucial role, as it establishes the conceptual foundation upon which subsequent topics in *‘Ilm al-Bayān* are developed. By clearly explaining the meaning, scope, and rhetorical function of *tashbīh*, the e-module enables learners to develop an initial conceptual framework that supports deeper engagement with more complex rhetorical analyses.

Presenting definitions from both classical and modern scholars ensures that students are exposed to diverse scholarly perspectives, thereby enhancing the academic depth and authenticity of the learning material. This approach allows learners to appreciate the historical continuity of Arabic rhetorical theory while also understanding its relevance in contemporary linguistic studies. According to Ahmad al-Hāshimī (n.d.) in *Jawāhir al-Balāghah*, *tashbīh* is defined as a rhetorical device that establishes a comparison between two entities based on shared characteristics, with the primary purpose of beautifying expression and clarifying meaning. This definition emphasizes the aesthetic dimension of *tashbīh* and highlights its role in enriching stylistic expression.

Similarly, Amin and al-Jārim (2004) in *Al-Balāghah al-Wādhah* describe *tashbīh* as a linguistic mechanism that facilitates understanding by linking abstract or unfamiliar concepts to concrete and familiar images. This perspective underscores the cognitive function of *tashbīh* in enhancing comprehension and making complex ideas more accessible to learners. By integrating these scholarly viewpoints, the e-module not only conveys theoretical knowledge but also guides students toward a functional understanding of *tashbīh* as a key rhetorical device.

Overall, this section of the e-module is designed to bridge theory and practice by preparing students to identify, analyze, and apply *tashbīh* in various textual contexts. Through clear explanations and authoritative references, the module supports students' gradual progression from foundational knowledge to higher-order analytical skills in Arabic rhetoric



**Figure 2.** The learning media content of module

The figure above illustrates that the learning media content of the e-module presents the definition of *tashbīh* through a well-integrated multimedia approach, with particular emphasis on video-based learning. This instructional design is intended to enhance students' comprehension by combining concise textual explanations with visual and auditory elements that reinforce key rhetorical concepts. Rather than relying solely on written definitions, the e-module employs videos to demonstrate how *tashbīh* operates within authentic Arabic texts, such as classical poetry, Qur'anic expressions, and selected literary prose. Through these examples, learners are able to observe the structure, components, and rhetorical effects of *tashbīh* in real linguistic contexts.

The use of video-based learning supports meaningful learning by allowing abstract rhetorical concepts to be presented in a concrete and dynamic manner. Visual representations, coupled with narrated explanations, help clarify complex ideas and reduce cognitive load, enabling students to process information more efficiently. This approach aligns with the principles of multimedia learning, which emphasize that learners understand content more deeply when words and images are presented together in a coherent and purposeful way (Mayer, 2021). In addition, the integration of audio explanations benefits auditory learners, while visual examples assist learners who rely more heavily on visual cues, thereby accommodating diverse learning styles within a single instructional resource.

Furthermore, the incorporation of multimedia elements reflects contemporary pedagogical practices in digital and technology-enhanced learning environments. Previous studies have shown that interactive and media-rich instructional materials can significantly improve learner engagement, motivation, and long-term retention of knowledge, particularly when dealing with abstract or theoretical subject matter (Clark & Mayer, 2016). By linking the definition of *tashbīh* with carefully selected video resources, the e-module moves beyond passive knowledge transmission and encourages active cognitive engagement. As a result, students are better equipped to contextualize rhetorical theory, apply it in textual analysis, and retain their understanding over time, ultimately contributing to more effective learning outcomes in the study of Arabic rhetoric.



**Figure 3.** Drill activity of module

The figure shows that the drill activity of the e-module is designed to deepen students' understanding of *tashbīh* by engaging them in both analysis and application. First, students are asked to carefully analyse the definitions of *tashbīh* provided by classical and modern scholars, which encourages critical thinking and conceptual clarity. This analytical step ensures that learners are not merely memorizing definitions but are actively comparing, contrasting, and synthesizing knowledge (Bloom, 1956). Following the analysis, students are tasked with generating their own examples of *tashbīh* drawn from daily life, allowing them to connect rhetorical theory with lived experience. Such practice-based activities foster higher-order thinking skills, particularly application and creativity, which are essential for mastering rhetorical devices (Anderson & Krathwohl, 2001). Moreover, by encouraging learners to contextualize *tashbīh* in everyday language, the activity supports meaningful learning and long-term retention (Mayer, 2021). This combination of analysis and practical illustration makes the drill activity a critical component in bridging theoretical knowledge and real-world application.

### The Impact of E module using CLIL

The Independent Samples *t*-Test was conducted to determine whether there was a significant difference in students' learning outcomes between the experimental and control groups after the application of different instructional treatments. Since the data were found to be homogeneous, the interpretation was based on the "equal variances assumed" row.

**Table 5.** The Difference Between Post - test Experiment dan Control Group

*Independent Samples T-Test (Post-Test of Experimental and Control Classes)*

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Significance	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Sig. (2-tailed)			Lower	Upper
Post Experiment - Post Control	Equal variances assumed	0.005	0.943	5.571	108	0.000	6.509	1.168	4.193	8.825
	Equal variances not assumed			5.571	108.000	0.000	6.509	1.168	4.193	8.825

The results of the Independent Samples *t*-test indicate that the calculated *t*-value was 5.571 with 108 degrees of freedom (*df*) and a significance level (Sig. 2-tailed) of 0.000. Since the obtained significance value is lower than the predetermined alpha level of 0.05 ( $0.000 < 0.05$ ), the null hypothesis is rejected. This result confirms the presence of a statistically significant difference between the post-test scores of the experimental group and those of the control group. The mean difference of 6.509 further demonstrates that students in the experimental group achieved post-test scores that were, on average, 6.509 points higher than those of the control group.

In addition, the 95% confidence interval for the mean difference, ranging from 4.193 to 8.825, does not include zero, thereby reinforcing the robustness and reliability of the observed difference. This interval suggests that the true mean difference between the two groups lies within this range and that the effect of the intervention is not due to random variation. The relatively narrow confidence interval also indicates a stable and consistent effect of the instructional treatment across participants (Nengsih & Handrianto, 2022; Tannoubi et al., 2023).

These findings provide strong empirical evidence that the instructional intervention implemented in the experimental group had a significant positive impact on students' learning outcomes when compared to traditional instructional methods used in the control group. The enhanced performance of the experimental group can be attributed to the structured design, interactive features, and pedagogical integration of the e-module, which facilitated deeper understanding and active engagement with the learning material. Moreover, the student-centered approach adopted in the experimental group encouraged independent learning and reinforced conceptual mastery (Banseng et al., 2021; Nengsih et al., 2022).

Overall, the results suggest that the learning approach employed in the experimental group was more effective in improving students' academic performance. This supports the conclusion that innovative, technology-enhanced instructional strategies can lead to meaningful improvements in learning outcomes and can serve as a viable alternative to conventional teaching practices in higher education (Ramadhani et al., 2022; Waty et al., 2024).

## CONCLUSION

In summary, this needs analysis confirms that the development of a CLIL-based e-module for *Ilm al-Bayan* is both timely and necessary within the context of contemporary higher education. Addressing the identified instructional and technological gaps enables educators to transform the teaching of Arabic Rhetoric into a more engaging, accessible, and effective learning experience for university students. The statistical results demonstrated that data from both the experimental and control groups were normally distributed and homogeneous, ensuring the reliability of subsequent analyses. The Paired Samples t-Test revealed a statistically significant improvement in learning outcomes for both groups; however, the experimental group exhibited a greater mean difference ( $-7.036$ ,  $p < 0.05$ ) compared to the control group ( $-4.673$ ,  $p < 0.05$ ), indicating the stronger impact of the e-module intervention. These findings provide empirical evidence that the integration of a CLIL-based e-module enhances students' conceptual understanding, learning and active participation in the learning process. The interactive features, structured content delivery, and digital accessibility of the e-module contribute to a more student-centered learning environment that encourages independent learning and critical engagement with Arabic rhetorical concepts. Overall, this study concludes that e-modules can serve as an effective and sustainable pedagogical tool for Arabic language education, particularly in the teaching of Arabic rhetoric at the university level. The findings also highlight the potential of CLIL-oriented digital resources to bridge content mastery and language proficiency simultaneously. Future research is recommended to explore the long-term impact of e-module implementation across different institutions and to examine its effectiveness in other branches of Arabic studies, thereby contributing to the continuous innovation of Arabic language pedagogy in higher education.

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