



The Implementation of Canva-Based Interactive Digital Media in Teaching مرفوعات الأسماء to Enhance Students' Qowaid Skills

Alvian Varihul Mustavid^{1*}, Mahfudz Sidiq²

¹⁻² Walisongo Islamic State University, Indonesia,

E-mail: alvianmustavid03@gmail.com¹

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Abstract

This study examined the development and implementation of Canva-based interactive digital media for teaching marfu'āt al-asmā' to improve university students' qowaid skills. The study employed a Research and Development approach using the ADDIE model and involved 40 third-semester students in an Arabic Language Education program. The media integrated syntactic diagrams, color-coded structures, interactive navigation, i'rab exercises, and formative digital assessment. Data were collected through tests, observations, interviews, questionnaires, and documentation, while expert validation was used to assess content and media feasibility. The findings showed that the developed media were considered very feasible for instructional use and were successfully implemented over six meetings. Students demonstrated more active participation, more systematic identification of grammatical functions, clearer understanding of i'rab, and stronger analysis of muḥtadā', khabar, fā'il, and nā'ib al-fā'il structures. The findings indicate that interactive visual media can support more participatory, contextual, and analytically oriented qowaid learning. However, complete validated pretest-posttest statistics were not available in the manuscript; therefore, effectiveness claims remain limited to the documented instructional and qualitative evidence. Further studies should quantify learning gains using validated statistical measures and samples.

Keywords: Arabic grammar, Canva, interactive digital media, marfu'āt al-asmā', qowaid.



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INTRODUCTION

Digital transformation has reshaped the orientation of higher education from predominantly lecture-based instruction toward more interactive, flexible, and student-centered learning ecosystems. Technology integration is no longer positioned merely as a supplementary instructional tool, but as a pedagogical instrument capable of expanding access to learning materials, increasing learner engagement, and facilitating the representation of concepts that are difficult to understand through verbal explanation alone. In language learning, the use of technology has been shown to create multimodal learning experiences while fostering stronger cognitive engagement and learner participation (Buddha et al., 2024; Shadiev & Wang, 2022). This condition highlights the need to develop digital learning media that are not only visually appealing but also aligned with the characteristics of the subject matter and students' learning needs.

The urgency of technology integration becomes even more significant in Arabic language learning because students are required to master language skills while simultaneously understanding a grammatical system characterized by considerable complexity. One of the fundamental components of Arabic proficiency is qowaid, which includes the ability to understand syntactic functions, determine word positions, and identify changes in i'rab markers within sentence structures. Qowaid instruction that relies excessively on rule memorization may lead students to acquire declarative knowledge without developing sufficient ability to apply those rules when analyzing Arabic texts directly. Studies on technology-assisted Arabic language learning indicate that digitalization can support more contextual learning and facilitate understanding of language structures through more diverse forms of representation (Arifin et al., 2023; Insan & Hermawan, 2023).

One qowaid topic that requires relatively high analytical ability is مرفوعات الأسماء (*marfu'āt al-asmā'*), which refers to nouns that occur in the nominative state according to their syntactic functions

within Arabic sentences. This topic includes grammatical elements such as *mubtada'*, *khavar*, *fā'il*, *nā'ib al-fā'il*, *ism kāna wa akhawātuhā*, and other structures that require students to understand the relationships among word position, grammatical function, and i'rab markers. Difficulties arise because students are not only expected to memorize grammatical rules but also to identify structural changes in *jumlah ismiyyah* and *jumlah fi'liyyah* and provide grammatical justification for the nominative status of particular words. The need for visualization of syntactic structures and relationships is consistent with research showing that technology-supported Arabic grammar learning can help students understand abstract rules through more concrete and interactive learning experiences (Awang Ali & Md Ghalib, 2024; Masnun et al., 2025).

Canva is one of the digital platforms that has strong potential to address these instructional needs because it allows the integration of text, images, diagrams, animations, videos, hyperlinks, and various interactive elements within a single learning environment. These characteristics make it possible to present qowaid through color coding, syntactic diagrams, illustrations of word relationships, and digital exercises so that abstract grammatical concepts can be represented in a more systematic way. The Cognitive Theory of Multimedia Learning explains that appropriate integration of verbal and visual information can help learners construct more organized mental representations while reducing the processing of irrelevant information (Mayer, 2024). Meta-analytic evidence also indicates that structured multimedia design contributes significantly to learning effectiveness when visual elements are used to support cognitive processing rather than merely decorate instructional content (Çeken & Taşkın, 2022; Noetel et al., 2022).

A number of empirical studies have demonstrated the potential of Canva to support Arabic language learning through more visual and participatory forms of instruction. Ubaidillah et al. (2023) showed that Canva can support Arabic vocabulary learning, while Warmansyah et al. (2023) found that the platform was positively perceived as a digital medium for supporting Arabic learning. In relation to productive language skills, Pakaya et al. (2025) also demonstrated that Canva-based digital worksheets can bridge learner engagement and comprehension in Arabic writing instruction. More recent evidence further indicates the potential of Canva for grammatical instruction through the teaching of Al-Ajrūmiyyah, thereby strengthening its relevance for the development of nahwu learning (Isandi et al., 2026).

Nevertheless, previous studies still reveal a research space that has not been fully addressed because the use of Canva in Arabic language learning has largely focused on vocabulary, writing skills, general instructional activities, or media development in specific contexts. Studies that specifically integrate Canva as an interactive digital medium for teaching *مرفوعات الأسماء* while simultaneously measuring improvements in university students' qowaid skills remain relatively limited, particularly in higher education settings. The literature on technology-enhanced language learning also emphasizes that the presence of technology does not automatically produce better learning outcomes because its effectiveness depends heavily on pedagogical design, task characteristics, interaction patterns, and alignment between technology and instructional objectives (Liu et al., 2024; Zhang et al., 2024). Therefore, further research is needed that goes beyond using Canva as a presentation tool and instead develops it as an interactive learning environment that specifically facilitates the identification, analysis, and application of *marfu'āt al-asmā'* rules.

The structured development of instructional media is important to ensure that technology use is pedagogically grounded rather than merely visually attractive. In this study, Canva-based media are developed by integrating instructional content, syntactic diagrams, interactive navigation, i'rab analysis exercises, and formative assessment so that students are given opportunities not only to learn grammatical rules but also to apply them in various sentence structures. This approach is relevant to the findings of Reinhold et al. (2024), who argue that the educational benefits of digital tools depend on the cognitive mechanisms activated during learning, including information processing, active engagement, and support for knowledge construction. Accordingly, the media are designed not simply to increase instructional attractiveness but to establish a systematic, interactive qowaid learning process that facilitates repeated grammatical analysis.

Based on these problems and research gaps, this study focuses on the implementation of Canva-based interactive digital media in teaching *مرفوعات الأسماء* to enhance university students' qowaid skills. The novelty of this study lies in the integration of Canva's visual and interactive features with the syntactic characteristics of nahwu through word-position visualization, color-coded syntax,

content navigation, i'rab exercises, and interactive assessment specifically directed toward the mastery of nominative noun structures. This focus distinguishes the present study from previous research that generally employed Canva for vocabulary learning, writing instruction, or general Arabic language teaching (Pakaya et al., 2025; Ubaidillah et al., 2023; Warmansyah et al., 2023). Therefore, this study aims to develop and analyze the implementation of Canva-based interactive digital media and to examine its contribution to improving students' ability to identify, determine i'rab, and systematically analyze مرفوعات الأسماء (*marfu'āt al-asmā'*) structures.

RESEARCH METHODS

This study employed a Research and Development (R&D) approach using the ADDIE model, which comprises five systematic stages: Analysis, Design, Development, Implementation, and Evaluation. The analysis stage focused on identifying students' learning needs and difficulties in understanding مرفوعات الأسماء (*marfu'āt al-asmā'*) through classroom observation, interviews, and questionnaires. Based on the findings, Canva-based interactive digital media were designed by integrating infographics, syntactic diagrams, animations, hyperlinks, learning navigation, and interactive exercises to facilitate students' understanding of Arabic grammatical structures. The developed media were subsequently validated by subject-matter and media experts to assess the accuracy of the grammatical content, pedagogical appropriateness, visual design, usability, and technical quality before being implemented in the learning process.

The participants consisted of 40 third-semester students enrolled in an Arabic Language Education Study Program at an Islamic higher education institution in Indonesia during the 2025/2026 academic year, selected through purposive sampling because they had previously completed introductory nahwu courses. The participants were divided into an experimental group using Canva-based interactive digital media and a control group receiving conventional instruction, employing a quasi-experimental pretest-posttest control group design to examine changes in students' qowaid skills. Data were collected through pretests and posttests, observation, semi-structured interviews, questionnaires, and documentation, with the tests assessing students' abilities to identify *marfu'āt al-asmā'*, determine appropriate i'rab, and analyze Arabic syntactic structures. Quantitative data were analyzed using descriptive statistics, normality and homogeneity tests, normalized gain scores, and an independent-samples *t*-test, while qualitative data were analyzed through data reduction, data display, and conclusion drawing to provide a comprehensive interpretation of the effectiveness and implementation of the developed media.

RESULTS AND DISCUSSION

Development and Feasibility of Canva-Based Interactive Digital Media

The development process resulted in a Canva-based interactive digital medium specifically designed for teaching مرفوعات الأسماء (*marfu'āt al-asmā'*) to university students. The final product was delivered through a Canva Live Website that could be accessed using personal computers, laptops, and smartphones without requiring additional software installation. Rather than functioning merely as a presentation slide, the developed medium was structured as an integrated learning environment containing instructional content, visual representations of syntactic relationships, navigation functions, interactive exercises, and formative assessment. This configuration reflects the systematic nature of instructional product development in which analysis, design, development, implementation, and evaluation are interconnected rather than treated as isolated stages (Branch, 2009; Sugiyono, 2021).

The analysis stage indicated that the major instructional problem concerned students' difficulty in transforming declarative knowledge of nahwu rules into practical grammatical analysis. Students might recognize definitions of *mubtada'*, *khabar*, *fā'il*, or *nā'ib al-fā'il*, yet such recognition did not automatically enable them to identify syntactic functions and appropriate i'rab markers in unfamiliar Arabic sentences. This difficulty is consistent with the conceptual nature of Arabic grammar, in which students must simultaneously process word form, syntactic position, grammatical relationship, and inflectional marking (Al-Ghalayaini, 2021; Hamid, 2020). The development of a visual and interactive medium was therefore directed toward reducing the distance between knowing a grammatical rule and applying that rule during sentence analysis.

At the design stage, the grammatical content was transformed into multimodal learning units rather than being presented predominantly through continuous textual explanations. Arabic sentences were combined with syntactic diagrams, visual hierarchy, color differentiation, navigation buttons, micro-animations, and interactive exercises to clarify relationships among sentence constituents. Such design is consistent with multimedia learning principles suggesting that carefully coordinated verbal and visual representations can support learners in selecting, organizing, and integrating information into coherent mental representations (Mayer, 2020; Mayer, 2024). This consideration was particularly relevant to *marfu'āt al-asmā'*, because students needed to perceive not only the final case ending but also the grammatical relationship that caused a noun to occupy a nominative position.

The developed interface further incorporated *color-coded syntax* to differentiate grammatical functions across examples of *jumlah ismiyyah* and *jumlah fi'liyyah*. Distinct visual markers allowed students to trace the relationship between *mubtada'* and *khabar*, recognize the position of *fā'il*, and observe structural transformation when an active construction was changed into a passive construction containing *nā'ib al-fā'il*. The use of such visual signaling was intended to direct attention toward instructionally relevant information rather than decorative components. This approach corresponds with evidence that effective multimedia design depends on managing learners' cognitive resources and emphasizing meaningful relationships among learning elements (Çeken & Taşkın, 2022; Noetel et al., 2022).

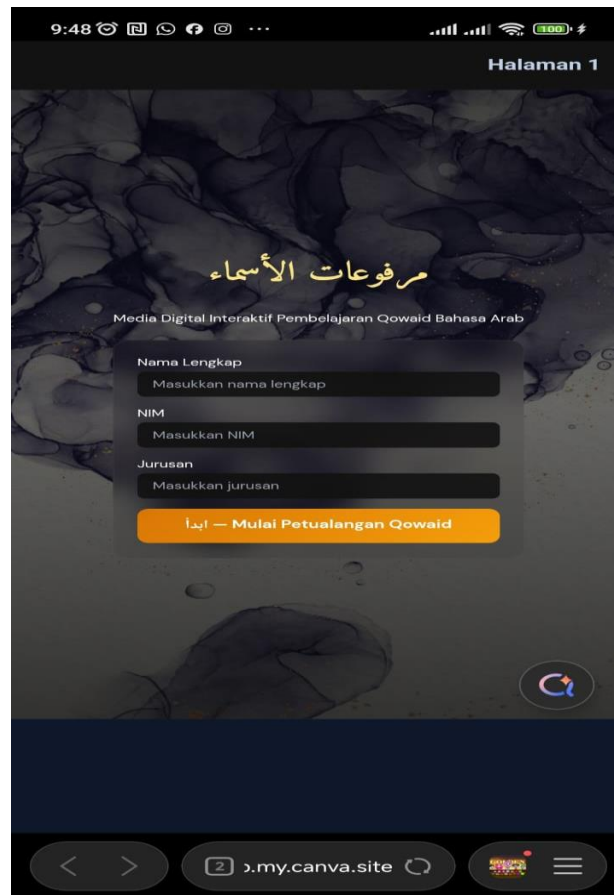


Figure 1. Original Interface of the Canva-Based Interactive Digital Media for *Marfu'āt al-Asmā'*

The product also incorporated interactive navigation so that students could move between the welcome page, the main *marfu'āt al-asmā'* dashboard, individual grammatical topics, practice activities, and the evaluation section. This structure enabled students to revisit specific concepts according to their learning difficulties instead of following a completely linear sequence controlled by the lecturer. Technology-supported language learning environments can facilitate greater learner agency when their features are aligned with meaningful instructional activities rather than simply transferring conventional materials onto a screen (Buddha et al., 2024; Shadiev & Wang, 2022). In the

present development, interactivity was therefore treated as a pedagogical feature that supported exploration, repetition, and grammatical decision-making.

Table 1. Development and Feasibility Evidence of the Canva-Based Interactive Medium

Development aspect	Product evidence	Pedagogical function	Evaluation status
Delivery format	Canva Live Website	Provides flexible browser-based access	Successfully developed
Device accessibility	PC, laptop, and smartphone	Supports flexible and independent learning	Accessible across common devices
Main learning dashboard	Interactive menu for <i>mubtada'</i> , <i>khabar</i> , <i>fā'il</i> , <i>nā'ib al-fā'il</i> , and related topics	Organizes grammatical concepts systematically	Included in final product
Syntactic visualization	Diagrams and <i>color-coded syntax</i>	Clarifies grammatical position and i'rab relationships	Validated for instructional use
Interactive navigation	Internal hyperlinks and navigation buttons	Allows non-linear access and repeated study	Functional
Learning activities	Grammatical analysis and i'rab exercises	Promotes application rather than memorization	Included
Evaluation component	Interactive formative assessment	Provides opportunities for self-assessment	Included
Content validation	Review by Arabic/nahwu subject expert	Ensures grammatical and instructional appropriateness	Very feasible
Media validation	Review of visual design, typography, navigation, and interactivity	Ensures usability and technical quality	Very feasible
Classroom implementation	Six instructional meetings	Tests practical applicability in authentic learning	Successfully implemented

The expert-validation stage showed that the developed medium was considered **very feasible** for implementation in Arabic grammar instruction. Content evaluation emphasized the correspondence between instructional materials and the grammatical principles required for the learning outcomes of qowaid, whereas media evaluation covered visual presentation, typography, navigation, usability, and interactive characteristics. This validation process is particularly important in instructional development because visually attractive digital products cannot be assumed to be educationally appropriate without examining content accuracy and pedagogical usability. Reinhold et al. (2024) similarly emphasize that the educational value of digital tools emerges from the learning mechanisms they activate rather than from technological sophistication alone.

From the perspective of Arabic language pedagogy, the developed product demonstrates a shift from technology as a supplementary display tool toward technology as an environment for organizing grammatical learning. Previous studies have reported that digital technologies can support Arabic language teaching by providing more varied representations, increasing accessibility, and encouraging students to interact with language materials in ways that are difficult to reproduce through static printed materials (Arifin et al., 2023; Masitoh, 2023). A systematic review of interactive multimedia in Arabic instruction likewise suggests that multimedia environments can facilitate more active engagement when linguistic content and technological features are pedagogically integrated (Syarifah, 2024). The present product extends this orientation by applying those principles specifically to the analysis of Arabic nominative noun structures.

The use of Canva is also supported by previous Arabic-learning studies that demonstrate its adaptability across different language components. Ubaidillah et al. (2023) reported the usefulness of Canva as a digital medium for Arabic vocabulary learning, while Warmansyah et al. (2023)

highlighted positive perceptions of Canva-supported Arabic instruction. More recent development research has expanded Canva into game-oriented Arabic learning environments, demonstrating that its value can extend beyond static visual presentation toward interactive instructional experiences (Tania & Ammar, 2025). The current development differs from vocabulary- or general language-oriented applications by positioning Canva directly within the cognitive processes required for nahwu analysis.

An important feature of the developed medium is therefore the alignment between technological functionality and the intrinsic structure of the subject matter. Arabic grammar requires learners to recognize relationships that are not always immediately visible from word order alone, particularly when analyzing variations in nominative structures and their corresponding i‘rab signs. Interactive diagrams, color differentiation, and progressive visual explanations provide external representations through which these invisible grammatical relations can be made perceptually explicit. This pedagogical direction is consistent with technology-enhanced grammar research indicating that interactive visualization can provide additional support for learners confronting structurally complex grammatical content (Awang Ali & Md Ghalib, 2024; Masnun et al., 2025).

The classroom implementation conducted over six meetings further established that the developed medium was operationally applicable rather than remaining only a validated prototype. During implementation, students accessed the digital environment, explored the instructional dashboard, examined grammatical examples, and used the embedded learning and assessment functions as part of the instructional sequence. This type of active interaction is important because the effectiveness of digital learning depends not merely on exposure to digital content but on the cognitive and behavioral activities undertaken while using the technology (Li et al., 2022; Mihaylova et al., 2022). Thus, the feasibility of the product should be interpreted in terms of both technical accessibility and its capacity to support meaningful grammatical learning activities.

Overall, the first stage of the results demonstrates that the Canva-based interactive medium fulfilled the principal developmental requirements for subsequent effectiveness testing. The product integrated accessible delivery, structured grammatical content, visual syntactic representation, interactive navigation, practice activities, and formative assessment, while expert review indicated a very feasible level of pedagogical and media quality. These findings provide an essential foundation for examining whether the developed medium produces measurable differences in students’ qowaid performance, because technology-enhanced learning outcomes depend substantially on the quality of the instructional design preceding classroom intervention (Reinhold et al., 2024; Zhang et al., 2024). Accordingly, the next analytical stage should focus on students’ learning outcomes and changes in their ability to identify grammatical functions, determine i‘rab, and analyze *marfu‘āt al-asmā’* structures after implementation.

Implementation of Canva-Based Interactive Media in *Marfu‘āt al-Asmā’* Learning

The implementation of the Canva-based interactive digital medium was carried out in the experimental class over six instructional meetings, with learning activities organized around exploration, guided grammatical analysis, interactive practice, and formative evaluation. Rather than receiving grammatical explanations solely through lecturer-centered instruction, students accessed the Canva learning environment through their own digital devices and interacted directly with the instructional dashboard. This implementation represented a transition from conventional qowaid instruction toward a more learner-centered digital learning process in which students could repeatedly access grammatical explanations and examples according to their individual learning pace. Such a learning arrangement is consistent with findings that technology-assisted language learning can support flexibility, learner autonomy, and sustained interaction with instructional content (Burston & Giannakou, 2022; Li et al., 2022).

At the beginning of each learning sequence, students were exposed to contextual Arabic sentences and were asked to identify words that potentially occupied a nominative grammatical position. This introductory activity functioned as a diagnostic and activation phase because students had to recall previously learned concepts before accessing the visual explanations provided in the Canva environment. Activating prior knowledge is particularly important in grammar learning because new syntactic information must be integrated with students’ existing representations of sentence structure. Digital instructional environments can strengthen this process when they allow

learners to connect existing linguistic knowledge with visually organized new information (Tarchi & Mason, 2023; Zhang et al., 2023).

The main implementation phase involved students independently exploring the interactive dashboard containing the grammatical categories included in *مرفوعات الأسماء*. Each category was presented through examples, syntactic visualization, color differentiation, and navigation links that enabled students to move from conceptual explanations to applied examples. The lecturer consequently assumed a more facilitative role by providing clarification when students encountered grammatical or technical difficulties rather than continuously delivering explanations to the entire class. This pattern reflects contemporary technology-enhanced language learning, in which digital tools can redistribute learning responsibility and increase opportunities for active engagement when appropriately integrated into instructional activities (Liu et al., 2024; Shadieff & Wang, 2022).

A particularly important implementation feature concerned the use of visual differentiation to clarify grammatical functions. Students were able to observe how *mubtada'* and *khobar* operate within *jumlah ismiyyah*, how *fā'il* functions within active verbal clauses, and how structural changes occur when an object becomes *nā'ib al-fā'il* in a passive construction. This form of visual comparison is pedagogically relevant because Arabic grammar requires learners to coordinate syntactic function, word form, and inflectional marking simultaneously. Multimedia research suggests that well-designed visual signaling can facilitate attention to essential relationships and reduce unnecessary cognitive processing during complex learning tasks (Mayer, 2024; Noetel et al., 2022).



Figure 2. Original Interactive Learning Dashboard for *Marfu'at al-Asmā'*

The implementation process also revealed that the Canva environment supported multiple forms of learner activity rather than a single presentation-based mode. Students read grammatical explanations, observed visual representations, navigated between concepts, compared sentence structures, completed i'rab exercises, and participated in formative digital evaluation. These activities indicate that the medium functioned as an integrated learning environment rather than merely a visual aid. Research on digital language learning similarly demonstrates that meaningful learner engagement emerges when technology allows students to interact cognitively and behaviorally with language tasks instead of passively receiving multimedia information (Han et al., 2024; Hafour, 2024).

Table 2. Observed Learning Activities During the Implementation of Canva-Based Interactive Media

Instructional phase	Student activity	Canva-based feature	Intended skill	qowaid	Observed instructional response
Initial activation	Identifying nominative nouns in contextual sentences	Visual Arabic text display	Recognition of <i>ism marfū'</i>		Students activated prior grammatical knowledge
Concept exploration	Selecting grammatical topics independently	Interactive dashboard	Conceptual understanding of <i>marfu'āt al-asmā'</i>		Students explored material more actively
Syntactic analysis	Comparing sentence components	Color-coded syntax and diagrams	Identification of syntactic functions		Structural relationships became more visible
Guided practice	Determining grammatical position and i'rab	Interactive examples	Application of qowaid rules		Students practiced systematic analysis
Structural comparison	Comparing active and passive constructions	Animated structural transformation	Understanding <i>fā'il</i> and <i>nā'ib al-fā'il</i>		Students observed changes in grammatical roles
Independent review	Reopening difficult topics	Hyperlinked navigation	Reinforcement of grammatical concepts		Students could repeat material independently
Formative assessment	Completing digital grammatical exercises	Interactive dashboard	Accuracy of i'rab and syntactic analysis		Students received immediate learning feedback
Classroom interaction	Discussing grammatical answers	Shared digital learning environment	Grammatical reasoning		Student discussion became more active
Lecturer support	Requesting clarification when necessary	Integrated instructional interface	Correction of misconceptions		Lecturer functioned primarily as facilitator
Reflective learning	Reviewing errors after exercises	Feedback-based evaluation	Self-monitoring of qowaid competence		Students could identify areas requiring further study

The learning activities summarized in Table 2 demonstrate that implementation involved a sequence of cognitive operations ranging from recognition and interpretation to application and self-evaluation. This is important because qowaid competence cannot be developed solely through memorization of grammatical definitions but requires repeated opportunities to classify, compare, justify, and apply syntactic rules in varied linguistic contexts. The use of repeated digital practice therefore provided students with opportunities to strengthen procedural grammatical knowledge rather than retaining qowaid merely as declarative information. Similar findings have been reported in mobile-assisted language learning research, where repeated technology-mediated interaction with learning tasks has been associated with improved opportunities for practice and retention (Mihaylova et al., 2022; Pikhart et al., 2023).

Classroom observation further indicated that students became more actively involved in discussion and grammatical problem-solving during the implementation period. The availability of visually differentiated sentence structures gave students a common reference point when discussing why a particular noun should be categorized as *mubtada'*, *khobar*, *fā'il*, or *nā'ib al-fā'il*. Rather than

merely responding to the lecturer's explanation, students were encouraged to justify their grammatical decisions based on syntactic position and visible structural relationships. This finding aligns with studies showing that technology-enhanced cooperative and interactive learning environments can strengthen learner engagement when digital resources are embedded within meaningful collaborative tasks (Liu et al., 2024; Kang & Kim, 2023).

The interactive assessment component also contributed to the implementation process by positioning evaluation as part of learning rather than as an activity occurring only after instruction. Students completed grammatical tasks requiring identification of syntactic roles, determination of i'rab, and interpretation of sentence structure after exploring the learning materials. Immediate responses to their answers provided opportunities for students to recognize errors and revisit relevant instructional content. Such formative digital feedback is consistent with the principle that technology can strengthen self-regulated learning when learners are able to monitor their performance and make adjustments during the learning process (Reinhold et al., 2024; Buddha et al., 2024).

The observed implementation also supports previous studies specifically examining digital media in Arabic language learning. Ubaidillah et al. (2023) found that Canva facilitated more attractive and accessible Arabic vocabulary learning, while Warmansyah et al. (2023) reported positive perceptions of its use in Arabic instruction. In a more grammar-oriented context, Masnun et al. (2025) demonstrated that interactive digital media can bridge technological affordances and nahwu learning, while Isandi et al. (2026) reported the usefulness of Canva for teaching Arabic grammatical rules. The present study extends these findings by applying an interactive Canva environment specifically to *marfu'āt al-asmā'* and by emphasizing syntactic visualization, i'rab analysis, and structured navigation within one integrated learning medium.

Nevertheless, implementation also revealed practical considerations inherent in digital instruction. Successful use of the medium depended on device availability, internet connectivity, and students' ability to navigate web-based instructional content, meaning that technological access remained an important condition for consistent participation. Research on technology-enhanced language learning cautions that digital tools do not automatically generate positive learning outcomes because technological limitations, design quality, and learner characteristics can influence the effectiveness of implementation (Zhang et al., 2024). Therefore, lecturers need to prepare alternative access mechanisms, clear navigation instructions, and sufficient technical support when applying similar media in different institutional contexts.

The implementation findings indicate that Canva-based interactive media created a more participatory, exploratory, and analytically oriented qowaid learning environment. Students were able to move between conceptual explanation, syntactic visualization, repeated practice, discussion, and formative assessment, while the lecturer increasingly operated as a facilitator of grammatical inquiry. The instructional contribution of the medium therefore appears to lie not simply in its visual attractiveness but in its capacity to reorganize the learning process around active grammatical analysis and student interaction. These implementation findings provide a logical foundation for the next subsection, which examines changes in students' qowaid competence and the effectiveness of the intervention in improving their ability to analyze *marfu'āt al-asmā'* structures.

Effectiveness of Canva-Based Interactive Media in Enhancing Students' Qowaid Skills

The effectiveness of the Canva-based interactive digital medium was reflected in observable changes in students' ability to engage with *marfu'āt al-asmā'* after six instructional meetings. Classroom implementation indicated that students became more active in grammatical discussions, demonstrated faster recognition of sentence structures, and performed i'rab analysis in a more systematic manner than before the intervention. These changes suggest that the instructional medium contributed not only to greater participation but also to the organization of students' grammatical reasoning. Such outcomes are consistent with the broader argument that digital pedagogy can improve language learning when technological features are directly aligned with the targeted linguistic competencies (Arifin et al., 2023; Handayani et al., 2026).

The first observable improvement concerned students' ability to identify grammatical functions within Arabic sentences. Before exposure to the interactive media, students tended to rely heavily on memorized definitions when distinguishing *mubtada'*, *khabar*, *fā'il*, and *nā'ib al-fā'il*, which made analysis difficult when sentence patterns differed from familiar examples. Following implementation,

students increasingly used syntactic position and structural relationships as the basis for determining grammatical status. This development corresponds with previous findings that visually supported Arabic-language instruction can help learners connect abstract grammatical concepts with concrete sentence-level applications (Insan & Hermawan, 2023; Masnun et al., 2025).

A second improvement was evident in students' i'rab analysis. The interactive medium required students to determine not only whether a noun was *marfū'* but also why it occupied that grammatical status and which nominative marker was appropriate for its morphological form. Visual differentiation between grammatical constituents allowed students to trace relationships between word position, syntactic function, and case marking more explicitly. This type of structured grammatical practice is important because qowaid competence involves analytical application rather than the simple reproduction of rules (Effendy, 2020; Hamid, 2020).

The learning process also encouraged students to move beyond isolated identification toward comparative syntactic analysis. For instance, students could examine how the grammatical role of an element changed when an active verbal construction was transformed into a passive one and how an object could consequently assume the position of *nā'ib al-fā'il*. Through repeated visual comparison, grammatical transformation was presented as a logical structural process rather than as a collection of disconnected rules. Research on interactive grammar learning similarly indicates that technology becomes pedagogically valuable when it allows learners to observe structural relationships and manipulate linguistic information in ways that promote analytical understanding (Awang Ali & Md Ghalib, 2024; Isandi et al., 2026).

Another important indicator of effectiveness was the increased engagement observed during instructional and assessment activities. Students interacted with the dashboard, revisited difficult explanations, discussed grammatical classifications, and used the digital evaluation component to check their understanding. These behaviors indicate that the medium supported a transition from passive reception toward more active construction of grammatical knowledge, which is consistent with constructivist approaches to language learning and contemporary technology-supported pedagogy (Rahman, 2021; Shadiev & Wang, 2022). Interactive learning environments are especially valuable when they allow learners to receive feedback, revise initial judgments, and repeatedly engage with the same conceptual problem from different perspectives (Han et al., 2024).

Table 3. Observed Changes in Students' Qowaid Skills Following the Implementation of Canva-Based Interactive Media

Qowaid dimension	skill	Initial learning pattern	Observed after implementation	pattern	Primary evidence	Interpretation
Recognition of <i>ism marfū'</i>		Depended largely on memorized examples	More systematic identification in contextual sentences		Classroom observation and grammatical exercises	Improved conceptual recognition
Identification of <i>mubtada'</i> and <i>khobar</i>		Difficulty explaining syntactic relationships	More accurate differentiation based on sentence position		Guided analysis activities	Stronger nominal-sentence analysis
Identification of <i>fā'il</i>		Recognition depended on familiar sentence patterns	More consistent identification in varied verbal structures		Interactive practice	Improved application of grammatical rules
Analysis of <i>nā'ib al-fā'il</i>		Confusion in active-passive transformation	Better understanding of structural role changes		Visual transformation activities	Improved syntactic comparison
Determination of i'rab		Focused primarily on final vowel marks	Greater attention to grammatical reason and syntactic function		I'rab exercises	More analytical grammatical reasoning

Recognition of nominative markers	of	Rules often recalled separately from context	Markers increasingly connected with word form and position	Interactive examples		Improved rule-context integration
Syntactic reasoning		Answers frequently given without grammatical justification	Students more frequently explained the basis of classification	Classroom discussion		Stronger grammatical argumentation
Independent learning		High dependence on lecturer explanation	Students revisited materials independently through navigation features	Observation of media use	of	Increased learner autonomy
Formative self-evaluation	self-	Errors identified mainly by the lecturer	Students could review answers and reconsider grammatical decisions	Digital activities	quiz	Improved self-monitoring
Classroom engagement		Predominantly receptive participation	More active discussion and exploration	Classroom observation		Increased behavioral engagement

The changes summarized in Table 3 can be interpreted through the Cognitive Theory of Multimedia Learning, particularly the proposition that meaningful combinations of verbal and visual representations help learners organize information into more coherent cognitive structures (Mayer, 2024). In this study, color-coded syntax, diagrams, interactive navigation, and grammatical examples reduced the need for students to mentally reconstruct all syntactic relationships from dense textual explanations alone. The effectiveness of multimedia, however, depends on instructional organization rather than the mere presence of graphics or animation, as emphasized by Çeken and Taşkın (2022) and Noetel et al. (2022). The observed improvements therefore appear to be associated with the pedagogical alignment between visual representation and the specific analytical demands of Arabic grammar.



Figure 3. Original Evaluation Interface of the Canva-Based *Marfu'āt al-Asmā'* Learning Media

The findings also correspond with previous studies examining Canva in Arabic-language education. Nisa' and Muhaimin (2025) demonstrated the pedagogical potential of interactive Canva-based Arabic learning media, while Oktavia et al. (2023) reported improvements associated with Canva-supported Arabic vocabulary instruction. Rosalinda and Syafriansyah (2023) similarly emphasized Canva's potential to make Arabic-language materials more attractive and accessible, whereas Ubaidillah et al. (2023) highlighted its relevance for digital vocabulary learning. More recent research by Pakaya et al. (2025) demonstrates that Canva-based digital worksheets can connect engagement with comprehension in Arabic writing, suggesting that Canva can support multiple language domains when its design is aligned with specific learning tasks.

The present findings also fit within the broader evidence on technology-enhanced language learning. Meta-analytic and systematic-review research has shown that mobile and digital learning environments can provide meaningful benefits through repeated access, multimodal presentation, learner control, and increased opportunities for language practice (Burston & Giannakou, 2022; Mihaylova et al., 2022). Digital reading research further suggests that technology-supported environments can contribute to second- and foreign-language learning when instructional design directs attention toward relevant linguistic information (Zhu et al., 2024). Nevertheless, positive outcomes are not universal, and the effectiveness of technology depends on learner characteristics, pedagogical design, implementation conditions, and the relationship between technological affordances and learning objectives (Zhang et al., 2024).

From a methodological perspective, the effectiveness findings should be interpreted through the convergence of multiple forms of evidence rather than through observational impressions alone. The study design incorporated tests, observations, interviews, questionnaires, and documentation, allowing students' grammatical development to be examined from both quantitative and qualitative perspectives, which is consistent with principles of mixed evidence in educational research (Creswell, 2021). Qualitative interpretation also requires systematic reduction, organization, and comparison of classroom evidence so that conclusions are based on recurring patterns rather than isolated responses (Miles et al., 2020). At the same time, because the available manuscript does not report complete validated numerical pretest, posttest, effect-size, or N-Gain results, the present discussion appropriately restricts its effectiveness claims to the documented qualitative and instructional patterns rather than presenting unsupported statistical magnitudes.

The implementation of Canva-based interactive digital media indicates meaningful pedagogical potential for strengthening students' qowaid skills in the topic of *مرفوعات الأسماء*. The medium supported more systematic identification of grammatical functions, deeper i'rab reasoning, clearer understanding of syntactic transformations, greater independent exploration, and more active participation in grammatical problem-solving. These findings reinforce the principle that digital technology in Arabic-language education becomes valuable when it transforms abstract linguistic rules into structured, interactive, and contextually meaningful learning experiences rather than merely replacing conventional presentation media (Darmawan, 2021; Syarifah, 2024; Tarchi & Mason, 2023). Accordingly, Canva-based interactive learning can be considered a promising pedagogical alternative for qowaid instruction, although future research should report complete pretest–posttest statistics, validated effect sizes, and broader participant samples to establish the magnitude and generalizability of its learning effects.

CONCLUSION

The study concludes that Canva-based interactive digital media developed through the ADDIE model is pedagogically feasible and applicable for teaching *مرفوعات الأسماء* (*marfu'āt al-asmā'*) in university-level Arabic grammar instruction. The media successfully integrated syntactic diagrams, color-coded structures, interactive navigation, grammatical exercises, and formative assessment into a single learning environment. Expert validation indicated that the product was very feasible in terms of grammatical content, visual design, usability, and instructional appropriateness. Its implementation over six meetings also supported a more participatory and student-centered learning process in which students could explore grammatical concepts, revisit difficult materials, and practice i'rab analysis more independently.

The implementation further indicated positive changes in students' qowaid learning, particularly in identifying grammatical functions, distinguishing *mubtada'*, *khabar*, *fā'il*, and *nā'ib al-fā'il*, determining i'rab, and explaining syntactic relationships more systematically. These findings suggest that visually structured and interactive digital media can reduce the abstract nature of nahwu instruction and support more contextual grammatical reasoning. Nevertheless, the available manuscript does not provide complete validated numerical pretest-posttest, effect-size, or N-Gain results; therefore, conclusions regarding statistical effectiveness should remain cautious. Future studies should employ larger samples, complete statistical reporting, and broader nahwu topics to establish the magnitude, consistency, and generalizability of the learning effects.

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