THE DEVELOPMENT OF HEYZINE FLIPBOOK-BASED INTERACTIVE E-BOOK IN ARABIC LANGUAGE LEARNING AT MADRASAH ALIYAH

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Abstract

The rapid development of digital technology, especially in the world of education, has driven changes in the provision and use of teaching materials, starting from conventional print media to more interactive and easily accessible digital learning resources. This study aims to develop an interactive e-book based on Heyzine Flipbook media. This study uses a development research method with the ADDIE development model. The teacher needs analysis showed a score of 84.4%, for the student needs analysis showed a score of 80.4%, both indicating that teachers and students "strongly agree" to the development of an interactive e-book product based on Heyzine Flipbook media. This product was validated by media experts with a score of 95.5%, material experts with a score of 94.4%, language experts with a score of 90.6%, all three are categorized as "very good" with minor revisions. The effectiveness of e-book use is measured from the results of trials, teacher and student responses. The score obtained from the trial results was 94%, for teacher responses 97.5%, and 86.9% for student responses, all three are categorized as "very good". These findings indicate that the Heyzine Flipbook-based interactive e-book product achieved a very high level of validity and user acceptance, thereby empirically meeting the feasibility criteria for use as a digital learning resource supporting Arabic language learning at the Madrasah Aliyah level. However, this study has not tested the effectiveness of e-book use on the comparative improvement of student learning outcomes, so further research is still needed.

INTRODUCTION | مقدمة

The rapid development of digital technology demands significant changes and adjustments in all sectors, including education. In the context of learning, the integration of digital technology has become an essential component in efforts to improve educational quality. The utilization of digital technology enables learning activities to be conducted flexibly, both in terms of time and place. Consequently, the role of teachers is no longer limited to being the primary source of knowledge but has shifted toward facilitating and guiding students in the learning process (Mundir, 2022). However in practice, the Arabic language learning process is still dominated by printed textbooks and conventional teaching methods, thereby limiting the optimal utilization of digital technology in the learning process.

The utilization of digital technology in Arabic language learning can be supported through the use of interactive e-books as a learning resources that serve as an alternative in assisting students' understanding of instructional materials. Interactive e-books are developed from printed textbooks into digital formats equipped with interactive programs that can be accessed

via computers or smartphones to facilitate student learning. The use of interactive e-books can enhance the quality of learning and make the learning process more creative, engaging, and flexible in terms of time and place (Belanisa et al., 2022). In addition,interactive e-books aim to facilitate students' comprehension of learning materials, expand learning resources, and enhance students' learning autonomy (Gede et al., 2018).

In the learning process, teachers play a crucial role in creating a conducive learning environment that fosters idea generation, stimulates imagination, and encourages exploration of new concepts, while also providing a variety of learning resources to broaden and enrich students' learning experiences (Mardiana & Kusuma, 2024). Previous studies have indicated that the use of interactive e-books is effective in enhancing student engagement and comprehension, thereby making the learning more engaging and meaningful (Zakiyyah Sujana et al., 2025). However in practice, only a limited number of teachers have integrated digital technology into instructional activities, particularly in the use of interactive learning resources (Widiansyah et al., 2024). Teachers' reluctance to adopt new technologies in classroom instruction hinders efforts to create learning environments that are more dynamic, interactive, and engaging for students (Azzahra et al., 2023).

Interactive e-books not only present material through text, but also integrate various multimedia elements such as images, audio, video, animation and interactive features that enable interaction and student involvement in learning activities (Martini et al., 2025). Interactive e-books can be developed through various digital media and platforms, flipbook-based media is one of the widely used alternatives because it displays teaching materials in a format similar to printed books but has the advantage of interactivity. One digital flipbook media that can be used in the development of interactive e-books is Heyzine Flipbook. Heyzine Flipbook is a web-based media that allows the presentation of learning materials in the form of digital pages that can be flipped virtually, and can add images, audio, video, graphics, and links so that the interactive e-book created looks more attractive (Ketut Erawati et al., 2022).

The advantages of Heyzine Flipbook media allow for the development of more engaging and less monotonous teaching materials, thereby increasing student engagement in learning activities (Lestari et al., 2025). The accessibility of Heyzine Flipbook, which can be accessed directly through a browser and shared online and is compatible with various digital devices such as laptops and smartphones, makes this media flexible and effective for use in learning Arabic (Haniah et al., 2023).

The development of the interactive e-book based on Heyzine Flipbook in this study is grounded in Constructivist Theory, which emphasizes that knowledge is actively constructed by students through interaction with the environment and meaningful learning resources, thereby aligning the use of interactive media with the principle of student-centered learning (Fadillah, 2025). Furthermore, the cognitive theory of multimedia learning introduced by Mayer explains that the combination of audio and visual representations can enhance cognitive processing and information comprehension (Herman Dwi Surjono, 2017)

Therefore, the development of an interactive e-book based on Heyzine Flipbook media in Arabic language learning is considered relevant as an effort to provide appropriate, practical, and engaging teaching materials, as well as support the creation of more interactive learning that is not solely teacher-centered. In addition, the interactive e-book based on Heyzine Flipbook media is expected to contribute to the development of Arabic language learning media, especially at the Madrasah Aliyah level.

METHOD	منهج

This study adopted a research and development (R&D) method using the ADDIE development model, which comprises five systematic stages: Analysis, Design, Development, Implementation, Evaluation.

The stages of the ADDIE development model applied in this study can be described as follows:

1. **Analysis** - begins with the analysis stage, identifying needs for developing an interactive e-book. The needs analysis process was carried out by conducting interviews and distributing questionnaires to teachers and students to obtain relevant information related to the development of interactive e-books.

2. **Design** - creates an e-book design and inputs eleventh-grade Arabic learning materials into the Canva application to produce a PDF format. The e-book is then transformed into an interactive product by adding audio, video, and interactive exercises using Heyzine Flipbook media.

3. **Development** - the developed interactive e-book is validated by subject matter experts, linguists, and media experts. Product revisions are made based on feedback provided by the validators.

4. **Implementation** - conducting trials using interactive e-book products based on Heyzine Flipbook media in the learning process.

5. **Evaluation** - the final stage aimed to evaluate the effectiveness of the interactive e-book based on the Heyzine Flipbook media, which was assessed through teacher's and students' responses. Further revisions were carried out when necessary, based on the evaluation results.
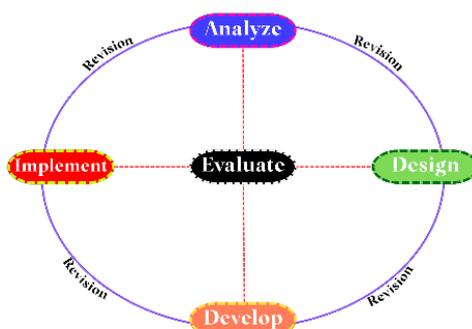
Research Instruments

The data were collected using several instruments, including:

1. Need analysis questionnaires administered to teachers and students;

2. Expert validation instruments;

3. Structured observation checklists;

4. Response questionnaires for teachers and students.

Data Analysis Techniques

Data analysis was conducted using a Likert scale with score conversion as described below:

1. Need Analysis Questionnaires Administered for Teachers and Students.

Score	Category	Percentage
4	Strongly Agree	76%-100%
3	Agree	51%-75%
2	Less Agree	26%-50%
1	Disagree	<26%

2. Expert Validation Instruments, Observation Checklists, and Response Questionnaires.

Score	Category	Percentage
4	Very Good	76%-100%
3	Good	51%-75%
2	Fair	26%-50%
1	Poor	<26%

The response percentages were calculates using the following formula:

$$P = \frac{Total\ score\ obtained}{Maximum\ score} \times 100\%$$

All stages of the research were conducted in strict adherence to the principles of educational research ethics. Each participant was provided with transparent information regarding the objectives, procedures, and potential benefits of the study. Participation in this research was voluntary and based on informed consent. Participants' identities were kept confidential, and all data collected were used solely for academic and scientific purposes.

RESULT | نتائج

The product developed in this study is an interactive e-book based on the Heyzine Flipbook media for Arabic language learning in 11th grade. This product was designed to support the implementation of digital-based learning and to facilitate students' independent learning, as it can be accessed anytime and anywhere. The development process employed the ADDIE model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. The following sections describe the stages of the research and development process carried out in this study.

Analysis

The analysis stage began with analyzing the learning materials and learning objectives, followed by interviews with two Arabic language teachers at MAN 1 Kota Bukittinggi. and the distribution of questionnaires to teachers and students. These activities aimed to identify the learning needs and existing conditions of Arabic language instruction in 11th grade at MAN 1 Kota Bukittinggi.

Analysis of Learning Materials and Objectives

This stage aimed to identify the learning objectives of Arabic language instruction for 11th grade and to align the materials contained in the KSKK textbook with the learning objectives stipulated in the Merdeka Curriculum.

Interview Results

The interviews were conducted on June 4, 2025, with Arabic language teachers to obtain information regarding the challenges encountered during the Arabic language teaching and

learning process and to find out the teachers' needs in developing interactive e-books for 11th grade. The interviews revealed a number of fundamental issues in implementation of learning: 1) The use of e-learning at the school had not been optimized and was primarily limited to summative assessment activities. For Arabic language learning, students were generally instructed to independently search for videos related to the learning materials; 2) The limited instructional time for Arabic language learning only two hours per week was considered insufficient to meet the expected learning outcomes; and 3) Teachers expressed the need for more relevant and easily accessible instructional materials to better support the achievement of learning objectives.

The findings from the students' perspective reinforce the results of the teacher interviews, indicating that the learning process remains predominantly dominated by the use of printed textbooks and teacher-led explanations in the classroom. Students also encounter difficulties when tasked with independently searching for instructional videos, as the materials discovered are not always aligned with the classroom content, and this situation further reduces classroom learning time, which is instead allocated to video searches. Consequently, students emphasize the need for digital learning resources that can be accessed at any time via personal devices and are equipped with interactive exercises providing immediate feedback. One student articulated that *"we need exercises that can be completed directly with answers available so that we can determine whether we have understood the material or not,"* while another student highlighted the necessity for e-books accessible via mobile phones at any time *"so that we can revisit the material at home without waiting for the teacher's explanation."*

Needs Assessment Questionnaire Results

Based on the needs assessment questionnaire distributed to Arabic language teachers and students regarding their requirements for developing interactive e-books based on Heyzine Flipbook media on June 4, 2025, the following data were obtained:

1. Teachers Needs Questionnaire Results

The questionnaire was distributed to two Arabic language teachers teaching in 11th grade, yielding the following results:

No	Pernyataan	1	2	3	4
1.	Teachers often face challenges in delivering Arabic language material in an engaging way	0	2	0	0
2.	Students lack interest in the Arabic language textbooks currently used.	1	1	0	0
3.	Teachers are accustomed to using digital devices in Arabic language teaching in 11th grade	0	0	0	2
4.	Teachers need an e-book that can be accessed via digital devices (laptops, tablets, smartphones).	0	0	0	2
5.	Teachers need teaching materials that can be used independently by students	0	0	1	1
6.	Features such as audio in interactive e-books based on Heyzine Flipbook media can help enhance students' enthusiasm and learning motivation.	0	0	0	2
7.	Features such as images in interactive e-books based on Heyzine Flipbook media can help enhance students' enthusiasm and learning motivation.	0	0	0	2
8.	Features such as videos in interactive e-books based on Heyzine Flipbook media can help enhance students' enthusiasm and learning motivation.	0	0	0	2
	Total score		54		

$$P = \frac{54}{64} \times 100\%$$
$$P = 84,4\%$$

Based on the results of the teacher needs questionnaire, the level of Arabic language teachers' need for interactive e-books based on Heyzine Flipbook media was 84.4%. This

percentage indicates that teachers "strongly agree" with the development of interactive e-books based on Heyzine Flipbook media in Arabic language learning for 11th grade.

2. **Student Needs Questionnaire Results**

The questionnaire was distributed to 43 11th grade students, yielding the following results:

No	Statement	1	2	3	4
1.	Students are accustomed to using digital devices in Arabic language learning in 11th grade.	1	5	23	14
2.	Students feel that digital teaching materials facilitate understanding of the material.	0	10	26	8
3.	Students need interactive and engaging teaching materials.	0	0	25	18
4.	Students need teaching materials that can be accessed via digital devices (laptops, tablets, smartphones).	0	2	24	17
5.	The use of interactive e-books based on Heyzine Flipbook media as a learning resource can help students learn independently.	0	6	27	10
6.	Students need audio for vocabulary pronunciation.	0	4	20	19
7.	Students need an e-book that includes exercises with automatic feedback.	0	3	27	13
	Total score		972		

$$P = \frac{972}{1024} \times 100\%$$
$$P = 80,4\%$$

The results of the student needs questionnaire also showed that students "strongly agreed" to the development of interactive e-books based on heyzine flipbook media in Arabic language learning in 11th grade, with a percentage of 80.4%.
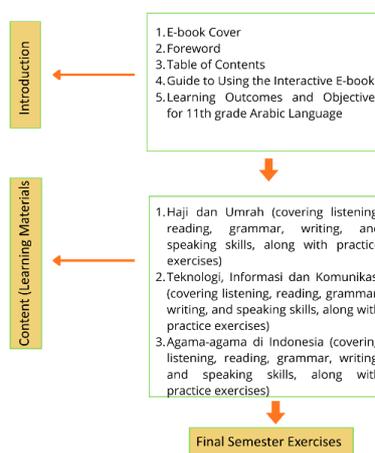
Design

Following the completion of the analysis process, the subsequent development stage is the design phase. In this phase, the design of the interactive e-book based on Heyzine Flipbook media begins with the conceptualization of the e-book, followed by creating the e-book using the Canva application to produce a product in PDF format. The exercises presented within the e-book are developed utilizing Canva's Code feature. The final step in the design process involves converting the e-book into an interactive format using Heyzine Flipbook media.

E-book Conceptualization

E-book conceptualization encompasses the determination of components to be included in the e-book and is conducted prior to the production stage as an initial step to facilitate and guide the product development process. The components of the e-book to be produced include:
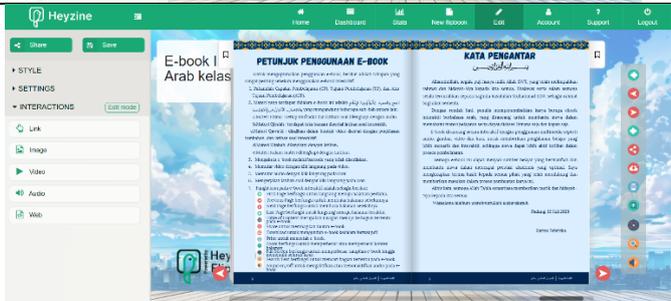
*Designing the E-book Using Canva Application*

The design of the e-book using the Canva application is carried out through several stages. The first stage involves setting the page size and creating templates tailored to the e-book's needs. Subsequently, layout settings are adjusted, including the selection of consistent and readable colours and typography, as well as creating an attractive visual display to enhance students' learning interest. Next, learning materials are loaded into the e-book design in accordance with the previously conceptualized framework, accompanied by relevant illustrations, icons, and supporting images, with the aim of clarifying content and facilitating students' understanding of the presented material. After the materials are loaded and the display is checked, the e-book is exported to PDF format for further development into an interactive e-book.

Creating an Interactive E-book Using Heyzine Flipbook Media

The first stage involves uploading the PDF-format e-book into Heyzine Flipbook media to display it in flipbook format. Subsequently, the flipbook display is configured, including page-flipping effects and navigation, to ensure the e-book is user-friendly and enhances user comfort. Next, interactive elements are added, such as vocabulary audio, audio exercises for listening materials, grammar video materials sourced from YouTube, and links to interactive exercises connected to Canva Code. The final stage involves checking and publishing the e-book to ensure it is ready for use and can be easily accessed via links or barcodes.

No.	Visualisasi	Deskripsi
1.		E-book cover
2.		The e-book features a preface and user instructions.
3.		The table of contents, learning outcomes, and objectives at the beginning of each chapter.

4.		The istima' material is supplemented with audio.
5.		the qira'ah and qawaid materials are enhanced with videos related to the current topic
6.		
7.		The kitabah and kalam materials include links where students can upload their practice results.
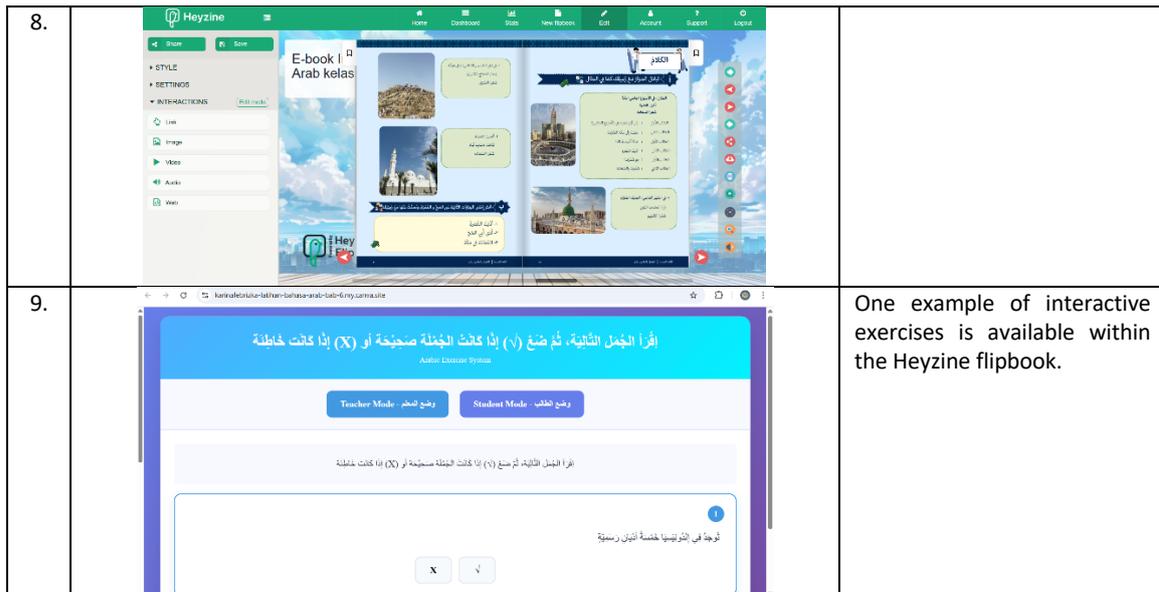
No		
8.		
9.		One example of interactive exercises is available within the Heyzine flipbook.

This design is expected to create a more interactive, engaging, and effective learning experience in supporting the implementation of Arabic language learning.

Development

Following the completion of the design phase, the next step is the development process. At this stage, the interactive e-book, previously created using Heyzine Flipbook media, undergoes a validation test first, followed by revisions based on the validation results. Validation is conducted by seeking evaluations from experts, including language experts, media experts, and subject matter experts. Subsequently, revisions are made based on the suggestions and feedback provided by the validators. This process aims to ensure that the developed interactive e-book product meets feasibility criteria before implementation in learning activities.

Validation

A structured questionnaire is utilized as the validation instrument to assess various aspects, such as content accuracy, visual presentation, and practical usability. Media validation was conducted by Adam Mudinillah, M.Pd, from STAI Al-Hikmah Pariangan Batusangkar. Material and language validation was performed by Dr. Hafni Bustami, M.Ag, a lecturer in Arabic Language Education at the Arabic Language Education study program at Universitas Islam Nageri Imam Bonjol Padang. This validation process also provided valuable input and suggestions for improving the interactive e-book before proceeding to the field trial stage.

1. Validation by Media Experts

The purpose of validation by media experts is to evaluate the feasibility of the interactive e-book developed using Heyzine Flipbook media, assessed from aspects of design, functionality, and presentation techniques. Based on the validation results from media experts, the following conclusions can be drawn:

No	Aspect	Statement	Category	Score
1.	Design and Layout	a. The e-book cover display is attractive.	Very Good	4
		b. The layout of the e-book content is consistent.	Very Good	4
		c. The type and size of fonts used are consistent and easy to read.	Good	3
		d. The composition and colour selection are appealing.	Very Good	4
		e. Images, audio, video, and hyperlinks attract students' attention.	Very Good	4

No	Aspect	Statement	Category	Score
		f. The displayed illustrations are appropriate to the context.	Good	3
2.	Features and Operation	a. Functionality of Fullscreen navigation.	Very Good	4
		b. Functionality of navigation buttons used in the e-book.	Very Good	4
		c. Ease of access to audio, video, and exercises within the e-book.	Very Good	4
3.	Usage Flexibility	a. Ease of access to the e-book via link/barcode.	Very Good	4
		b. The Heyzine Flipbook-based interactive e-book is compatible with various devices such as laptops, PCs, smartphones, and others.	Very Good	4
		Total score	Very Good	95,5%

2. Validation by Subject Matter Experts

Validation by subject matter experts is conducted to ensure that the compiled content aligns with learning objectives and is presented clearly and comprehensibly, thereby effectively supporting the learning process. Based on the validation results from subject matter experts, the following conclusions are drawn:

No	Aspect	Statement	Category	Score
1.	Content/ Material Feasibility	a. Completeness of material in accordance with the applied curriculum (Merdeka Curriculum).	Very Good	4
		b. Material is organized systematically.	Very Good	4
		c. The material presented in the e-book aligns with learning objectives and indicators to be achieved by students.	Very Good	4
		d. Exercises to support students' understanding.	Good	3
2.	Material Presentation	a. Material presentation is able to attract students' interest and motivation.	Very Good	4
		b. The presented material is relevant to Arabic language learning material for 11th grade.	Very Good	4
		c. The presented features assist students in understanding the learning material.	Very Good	4
		d. The use of the interactive e-book helps learners improve their abilities in *istima'* (listening), *kalam* (speaking), *qira'ah* (reading), *qawaid*, and *kitabah* (writing).	Good	3
		e. The material in the e-book enables students to learn independently.	Very Good	4
		Total score	Very Good	94,4%

3. Validation by Language Experts

The validation process conducted by language experts aimed to ensure that the use of Arabic in the interactive e-book adheres to correct grammatical rules and is easily comprehensible to students. Based on the validation results provided by the language experts, the following conclusions were drawn:

No	Aspect	Statement	Category	Score
1.	Appropriateness of Language	a. The language used conforms to correct Arabic grammatical rules.	Good	3
		b. The selection of Arabic words or terms is appropriate to the context of the learning material.	Very Good	4
		c. The sentence structures in Arabic within the e-book are correctly composed and adhere to grammatical rules.	Very Good	4
2.	Clarity and Readability	a. The language used in the e-book is easily understandable to students.	Very Good	4
		b. The sentences in the e-book use language appropriate to the comprehension level of 11th grade students.	Very Good	4

No.				
3.	Consistensy and Accuracy	a. Arabic terms are used consistently throughout the e-book.	Very Good	4
		b. There are no typographical errors	Good	3
		c. The writing of Arabic text consistently follows writing rules (e.g., diacritics, punctuation, etc.).	Good	3
		Total score	Very Good	90,6%

Revision

Revision was conducted following the validation stage as a follow-up to the feedback and suggestions from the validators. The purpose of this stage was to identify specific weaknesses in the product and to enhance its quality and suitability to meet learning standards. The interactive e-book product based on Heyzine Flipbook media was categorized as "very good" and deemed suitable for use in learning activities, with some minor improvements required:

No.	Aspect	Aspects Revised
1.	Media	No revisions were made by media expert, as the interactive e-book product based on Heyzine Flipbook was deemed suitable for use without revisions.
2.	Content	Correcting writing errors in the presentation of vocabulary material.
3.	Language	Refining the writing structure to adhere to proper linguistic rules.

Implementation

The implementation process involves applying the interactive e-book product, which has been deemed suitable through the validation and revision stages, into learning activities. The implementation was carried out through two trial stages: limited trials and field trials.

Limited Trials

Limited trials were conducted on July 18, 2025, involving Arabic language teachers as initial users of the product. The objective of the limited trials was to identify initial shortcomings and ensure the e-book was suitable for use before implementation with students. The results of the limited trials with teachers indicated that the developed interactive e-book was suitable and could be applied in Arabic language learning activities.

The results of the limited trial indicate a positive response from teachers, who stated that the e-book is easy to use, and the display of its interactive features is capable of supporting the classroom learning process. A teacher expressed, "*This e-book is very easy to use for both teachers and students, and its material has been adjusted to the learning objectives that must be achieved.*" Furthermore, teachers also assessed that the presence of the interactive e-book can help overcome limitations in learning time. Thus, the results of the limited trial indicate that the interactive e-book can proceed to the field trial stage.

Field Trials

Field trials were conducted on July 20, 2025, by directly implementing the interactive e-book in the learning process with students. The results of the field trials were obtained through observation sheets, with the following outcomes:

Activity	Learning Steps	Category	Score
Introduction	1. The teacher opens the lesson with greetings and a group prayer with students	Very Good	4
	2. The teacher prepares physically and psychologically and motivates students.	Very Good	4

	3. The teacher links the upcoming learning material to previous material.	Good	3
	4. The teacher conveys the learning objectives.	Very Good	4
	5. The teacher provides a brief introduction to the material to be discussed in the current session.	Very Good	4
Core Activities	6. The teacher provides access to the interactive e-book based on Heyzine Flipbook via link/scan barcode to students.	Very Good	4
	7. Students access the link/barcode of the interactive e-book based on Heyzine Flipbook media provided by the teacher on their respective devices.	Very Good	4
	8. Students are asked to listen to vocabulary audio (e.g., *istima'* material)	Very Good	4
	9. Students are asked to repeat the vocabulary they have listened to.	Very Good	4
	10. Students are asked to write (type) the vocabulary they have listened to on the available worksheet	Very Good	4
	11. Students ask questions related to vocabulary they have not understood.	Very Good	4
	12. The teacher provides assistance and guidance to students if needed.	Good	3
	13. Students complete exercises/quizzes available in the interactive e-book based on Heyzine Flipbook.	Very Good	4
Closing Activies	14. The teacher provides a summary of the material that has been learned	Good	3
	15. The teacher and students reflect on the learning process that has taken place.	Good	3
	16. The teacher assigns homework	Very Good	4
	17. The teacher ends the lesson with closing greetings and prayers.	Very Good	4
	Total Score	Very Good	94%

Evaluation

The evaluation phase was conducted to assess the quality, suitability, and effectiveness of the implemented interactive e-book. The evaluation aimed to determine the feasibility, practicality, and acceptance of the interactive e-book from the perspectives of teachers and students as users.

The evaluation process involved distributing response questionnaires to teachers and students after using the interactive e-book in learning activities. The results from the teacher responses are as follows:

Teacher Responses

No	Statement	1	2	3	4
1.	The Heyzine Flipbook-based interactive e-book can be used in classroom teaching activities and independent student learning.	0	0	0	2
2.	The Heyzine Flipbook-based interactive e-book supports digital-based Arabic language learning.	0	0	0	2
3.	The Heyzine Flipbook-based interactive e-book is engaging for use in learning.	0	0	0	2
4.	The Heyzine Flipbook-based interactive e-book is easy and appropriate to implement in the learning process.	0	0	0	2
5.	The material in the Heyzine Flipbook-based interactive e-book aligns with the objectives of Arabic language for 11th grade.	0	0	1	1
6.	The Heyzine Flipbook-based interactive e-book helps teachers deliver Arabic language material more effectively.	0	0	0	2
7.	The Heyzine Flipbook-based interactive e-book can be adjusted to the allocated learning time.	0	0	0	2

No		1	2	3	4
8.	The Heyzine Flipbook-based interactive e-book used can facilitate students in easily completing exercises.	0	0	0	2
9.	The features presented in the Heyzine Flipbook-based interactive e-book, such as images, audio, and video, help students understand the learning material.	0	0	0	2
10.	The use of the Heyzine Flipbook-based interactive e-book is more practical compared to printed books.	0	0	1	1
	Total score			78	

$$P = \frac{72+6}{80} \times 100\%$$
$$P = 97,5\%$$

Student Responses

The evaluation process also involved distributing response questionnaires to students after using the interactive e-book in learning activities. The results from the student responses are as follows:

No	Statement	1	2	3	4
1.	The Heyzine Flipbook-based interactive e-book can attract students' interest.	1	3	22	11
2.	The Heyzine Flipbook-based interactive e-book increases students' learning enthusiasm.	0	2	23	12
3.	The Heyzine Flipbook-based interactive e-book can be used anywhere and anytime.	0	3	16	18
4.	Students can use the Heyzine Flipbook-based interactive e-book independently without much help from teachers.	0	1	13	23
5.	The features in the Heyzine Flipbook-based interactive e-book, such as images, audio, and video, make the material clearer and easier for students to understand.	0	0	15	22
6.	The flipbook animation (such as page-flipping effects) makes the learning process more enjoyable.	0	2	15	20
7.	The language used in the Heyzine Flipbook-based interactive e-book is easy for students to understand.	0	0	15	22
8.	The use of colors, fonts, and text layout in the e-book is comfortable for students to read.	0	1	16	20
9.	The Heyzine Flipbook-based interactive e-book is easily accessible through students' devices (smartphones, laptops, or tablets).	0	0	10	27
10.	The use of the Heyzine Flipbook-based interactive e-book is more practical compared to printed books.	0	0	8	29
	Total Score			1287	

$$P = \frac{812+450+24+1}{1480} \times 100\%$$
$$P = 86,9\%$$

DISCUSSION | مناقشة

The research findings indicate that the development of the Heyzine Flipbook-based interactive e-book has a positive impact and is evaluated as effective for use in learning activities for 11th grade at Madrasah Aliyah. Assessments conducted by media experts, material experts, and language experts demonstrate that the developed product meets the feasibility criteria with a "very good" rating, although some minor improvements are needed to ensure the e-book can be optimally implemented in the classroom learning process. This finding aligns with Arsyad's view, which states that effective learning media must integrally meet pedagogical, technical, and aesthetic aspects (Arsyad, 2019). And also reinforces Mayer's theory, which posits that the utilization of multimedia that optimizes two channels of information processing—namely, audio and visual channels—can enhance an individual's effectiveness in receiving and comprehending information (Herman Dwi Surjono, 2017).

The observation results and positive responses from teachers and students indicate that the Heyzine Flipbook-based interactive e-book offers ease of use and can be effectively implemented in the learning process. From the teachers' perspective, the interactive e-book is

assessed as capable of helping deliver material in a more systematic and varied manner, thereby enhancing student participation in learning activities. Meanwhile, from the students' viewpoint, the interactive e-book not only aids in improving understanding of the studied material but also facilitates easy access to learning materials anytime and anywhere, supporting independent learning without having to wait for prior teacher explanations. This finding aligns with Sukimin's research, which found that interactive e-books are easily integrated into learning and can help reduce teacher dominance in material delivery, while providing space for students to explore materials independently (Sukimin et al., 2025). Furthermore, in alignment with the research by Ahmad and Setiawan, which demonstrates that the utilization of flipbook-based digital media serves as a relevant learning alternative in the digital era, providing variation in the learning process (Ahmad & Setiawan, 2025).

The implications of this study highlight the significance of leveraging digital technology in Madrasah Aliyah, particularly for Arabic language instruction. The development of interactive e-books based on Heyzine Flipbook holds potential to support student-centered learning by assisting teachers in delivering Arabic language content more variably, thereby enhancing student engagement and autonomy. Moreover, it offers an alternative solution to the time limitations inherent in classroom-based Arabic language learning, enabling students to independently study materials outside scheduled class hours.

However, this interactive e-book has certain limitations, as students cannot directly complete interactive exercises within the e-book itself. To access these exercises, students must click on provided links, which open the activities in separate tabs or pages. For future developments, similar initiatives could focus on integrating interactive e-books with online platforms or learning management systems (LMS), ensuring that interactive exercises can be performed within a unified platform without the need to switch tabs or pages.

CONCLUSSION | خاتمة

The development of interactive e-books based on Heyzine Flipbook media has produced an interactive e-book product to support digital Arabic language learning at Madrasah Aliyah. The interactive e-book underwent validation and revision stages based on recommendations from media experts, subject matter experts, and language experts. After revisions, the interactive e-book was deemed feasible and met the criteria for classroom implementation. The e-book's advantages include the integration of Arabic language materials, visual elements, and features such as interactive exercises within a single e-book, thereby addressing the time limitations of classroom Arabic language learning by allowing independent access outside class hours.

Observation results, along with teacher and student responses, which received a very good category, indicate that the Heyzine Flipbook-based interactive e-book has the potential to serve as an effective and relevant digital learning medium for Arabic language activities at Madrasah Aliyah. Theoretically, these findings reinforce the application of Constructivism theory and Mayer's multimedia cognitive learning theory in the context of Arabic language learning, particularly regarding multimedia integration that can enhance student engagement, cognitive processing, and independence.

This research also expands the conceptual framework regarding the transformation of printed teaching materials towards interactive digital teaching materials based on flipbook as an innovation in Arabic language learning media at Madrasah Aliyah. It is recommended to test the effectiveness of the Heyzine Flipbook-based interactive e-book on improving student Arabic

language learning outcomes and skills through an experimental design with a broader subject scope to obtain a more comprehensive understanding of the medium's effectiveness level.

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