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Development And Utilization Of AI In Creating Islamic Picture Stories At Rumah Kreatif Wadas Kelir Foundation Purwokerto

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Abstract
The study aims to develop and utilize artificial intelligence (AI) to create Islamic illustrated stories at the Wadas Kelir Creative House Foundation in Purwokerto, Central Java Province. This research employs the ADDIE model as the framework for research and development. It is a type of Research and Development (R&D) focused on developing illustrated story media modules using the artificial intelligence tool DALL-E. The study was conducted at the Wadas Kelir Creative House Foundation in Purwokerto during August-September 2023, with data collection techniques including documentation and questionnaires. The results indicate that the development of Islamic illustrated story modules using DALL-E is highly effective in addressing the challenges faced by students and teachers in creating illustrated stories. The use of artificial intelligence simplifies teacher to process of producing images without requiring expertise in illustration software. The module covers an introduction to Islamic stories and DALL-E, steps for creating Islamic story media with DALL-E, editing and adjusting images, and compiling stories.
Keywords: Artificial Intelligence (AI), DALL-E, Islamic Illustrated Stories

Introduction

The rapid advancement of internet-based information technology has significantly progressed and simplified various aspects for users (Bastian et al. 2023). Applications that previously required installation on individual computers are now accessible without installation. This is due to the emergence of web-based applications. For example, CorelDRAW can be replaced by the Canva website, Photoshop by Photoshop Online, and even Artificial Intelligence tools like OpenAI have become groundbreaking innovations. These tools offer convenience for internet users in areas such as creativity, business, and education (OT 2022; Peres et al. 2023). Therefore, the rapid advancements in information technology should be utilized effectively, especially in education.

One of the tools offered by OpenAI that can be used in education is DALL-E. DALL-E is a generative artificial intelligence tool capable of translating text into images. (Peres et al. 2023). This means users can utilize this website to create illustration images from text. This capability is particularly beneficial for educators in developing teaching materials, especially picture-based stories. On the other hand, DALL-E can generate copyright-free and approval-free medical dummy images (e.g., X-ray graphics and electrocardiograms [ECGs]), allowing medical students to practice and enhance their interpretation skills. Integrating AI-based tools into medical education offers a novel approach to teaching and learning, bridging the gap between theory and practice, and paving new ways for exploration and discovery for students and instructors alike (Amri and Hisan 2023). Thus, teachers can create image illustrations from text, making it easier for them to develop story media or children's activity books.

DALL-E and DALL-E 2 are deep learning models developed by OpenAI to generate digital images from natural language descriptions, known as "prompts." DALL-E was introduced by OpenAI in a blog post in January 2021 and utilizes a version of GPT-3 (Johnson 2021) which was modified to generate images. In April 2022, OpenAI announced DALL-E 2, its successor, designed to create more realistic images with higher resolution that "can combine concepts, attributes, and styles." (Website *Dall-E*).

DALL-E is a generative model that uses AI (Artificial Intelligence) technology to generate images based on textual descriptions provided. In the context of education, the integration of DALL-E can have several beneficial applications. First, DALL-E can be used to help students understand complex concepts by generating images that illustrate the given text descriptions. For example, in science learning, students can use DALL-E to generate images that depict abstract concepts like molecular structures or natural phenomena (Kerner 2022).

Second, DALL-E can be used as a tool to encourage students' creativity in art and design. Students can provide text descriptions of their creative ideas or concepts, and DALL-E will generate images that reflect those descriptions.

This can spark students' imagination and creative exploration, allowing them to express their ideas in visual forms (Clarke 2022).

Third, DALL-E can assist students in learning foreign languages by generating images that correspond to the words or phrases they are studying. For example, students can provide text descriptions in the target language, and DALL-E will generate images that reflect the meaning of those descriptions, helping students associate vocabulary with relevant images (Sanoko 2023).

Fourth, DALL-E can be used by teachers to create engaging and visual learning content. Teachers can provide text descriptions of the concepts they want to convey to students, and DALL-E can generate images that can be used in presentations, teaching materials, or student assignments (Shannon Donnally Quinn and Frederick Poole 2023).

Peter and Yenny (1991) state that "a story is a narrative, a record of an event, incident, and so on, while an image refers to a representation of objects, people, or scenes produced on a flat surface" (Peter Salim 1991). A story for children becomes more engaging when accompanied by images that illustrate the story. With images, children will better understand the characters, plot, and settings in the story (I Gede Yudha Pratama 2021). Since a story requires illustrations for children, DALL-E can be used to create engaging visual storytelling. Teachers can rely on DALL-E to generate picture stories while reinforcing the content of the story.

DALL-E can be used in various ways to create picture stories. As explained by Romero, teachers can provide text descriptions of the story they want to illustrate (Romero 2022). For example, they can describe the background, characters, conflict, and resolution of the story in detail. DALL-E can then generate images that reflect those descriptions. Zakraoui also explains that DALL-E can be used for visualizing narratives. DALL-E can generate images that represent important scenes in the story. Teachers can select key moments in the story and provide specific text descriptions, and DALL-E will generate images that align with those descriptions (Zakraoui et al. 2023). Additionally, Zakraoui adds that DALL-E can be used to enhance emotions and the atmosphere of the images. DALL-E can help depict emotions and the

atmosphere in picture stories. Teachers can provide text descriptions of the characters' moods or the atmosphere around them, and DALL-E can generate images that accurately depict the desired mood (Zakraoui et al. 2023). Meanwhile, Wang explains that DALL-E can be used in the creation of book illustrations. DALL-E can generate engaging illustrations for storybooks. Teachers can write their own short stories and use DALL-E to produce illustrations that match the narrative. This will enrich children's reading experience and add a strong visual dimension to the story (Wang 2022).

The ease offered by technology can assist educators in the educational process. However, in reality, many teachers still have limited skills in using technology. The Ministry of Education and Culture (Kemendikbud) revealed that 60 percent of educators in Indonesia still have limited skills in mastering Information and Communication Technology (ICT) (Jumeri in Liputan 6, 2021). Educators face difficulties in utilizing technology, especially when it comes to creating illustrations for story media. Moreover, the government encourages teacher training through Technical Competency Training in Information and Communication Technology (ICT) (Jumeri in Liputan 6 2021). Therefore, the emergence of DALL-E can make it easier for teachers to create image illustrations using just text.

In 2013, Rumah Kreatif Wadas Kelir (RKWK) was established, located at Jl. Wadas Kelir RT07 RW05, Karangklesem Village, South Purwokerto, Banyumas Regency, Central Java Province. The main focus of RKWK is to involve the surrounding community from various backgrounds and age groups in community service activities based on literacy and education (Sumiarti 2016:219).

The activities at RKWK are managed by 25 library volunteers who live in the RKWK area by renting rooms in the homes of nearby residents in Wadas Kelir. The presence of these volunteers has also had a positive impact on the local economy. The small shops, where the volunteers fulfill their daily needs, have seen an increase in sales, and some of the residents, both volunteers and local people around RKWK, have gained better business opportunities.

Rumah Kreatif Wadas Kelir (RKWK) in South Purwokerto is a foundation that promotes the concept of literapreneur. This concept, developed by Dr. Heru Kurniawan, M.A., the founder of RKWK and a lecturer at the State Islamic Institute of Purwokerto, focuses on utilizing the creative industry in the field of literacy as an effort to provide economic impact to its participants. The term literapreneur combines literacy and entrepreneur, referring to entrepreneurial activities based on literacy empowerment that create positive impacts.

One example of the literapreneur development activities carried out by the volunteers at RKWK is in the children's creative industry. This industry is growing rapidly in Indonesia, ranging from children's book publishing to literacy skills training such as storytelling, writing poetry, writing short stories, drama, and coloring. At RKWK, the library volunteers involved in the creative writing industry of storytelling have successfully published hundreds of book titles through various publishers in Indonesia and earned royalties for their works. As a result, the literacy activities they engage in not only enhance personal cognition but also provide economic benefits for themselves and their surrounding community. However, the volunteers at RKWK have not yet been able to create illustrations for their storybooks or Islamic stories. Creating illustrations is a challenging skill to learn; it requires not only the ability to imagine images but also expertise in using technology and combining both to create illustrative images. Therefore, artificial intelligence can facilitate the process of illustrating images simply through text. This research is conducted to develop and utilize artificial intelligence in the creation of Islamic picture stories at Rumah Kreatif Wadas Kelir Foundation in Purwokerto, Central Java Province.

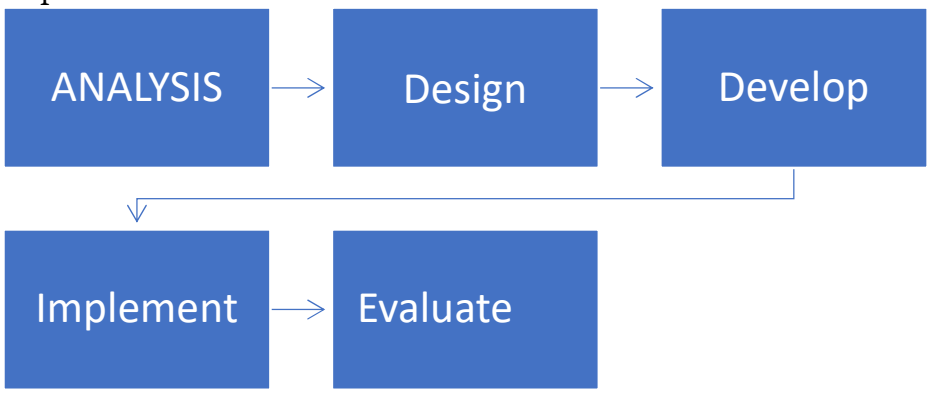
Method

This research methodology uses the ADDIE model as the framework for research and development, introduced by Reiser Ollenda and popularized by Robert Maribe (Rayanto 2020). ADDIE stands for Analysis-Design-Develop-Implement-Evaluate, an integrated and dynamic model that provides systematic and interactive guidance (Rayanto 2020). This study is a type of

Research and Development (R&D) focused on developing a picture story media module by utilizing the DALL-E artificial intelligence.

The research process follows the steps of the ADDIE model, from the Analysis of needs and problems to the Evaluation of implementation results. The Analysis phase indicates that the ADDIE model effectively addresses the challenges faced by students and teachers in creating picture stories using DALL-E. The Design phase includes the development of a module that introduces DALL-E, usage steps, and the concept of Islamic picture stories.

Figure 1.
Steps of the ADDIE Model



In the Development phase, a prototype of the module is created and revised by a team of media and content experts. The Implementation phase involves small and large-scale trials at Rumah Kreatif Wadas Kelir. The final Evaluation phase includes quantitative data analysis through surveys and qualitative analysis by reviewing feedback, suggestions, and critiques from media experts, content experts, and field trial participants.

This research was conducted at Rumah Kreatif Wadas Kelir Foundation in Purwokerto during August-September 2023, using data collection techniques through documentation and surveys. The research instruments included validation sheets for content and media experts, observation sheets, and volunteer feedback forms. Data analysis was carried out both quantitatively and qualitatively, referring to the percentage of validity and effectiveness levels.

Results And Discussion

The research design uses the ADDIE development model to create a module for the development of Islamic picture stories through DALL-E. The

model consists of five stages: Analysis, Design, Development, Implementation, and Evaluation, which together result in the design of a module for the development of Islamic picture stories using DALL-E. The module content includes an introduction to Islamic stories and DALL-E, steps for creating Islamic story media with DALL-E, image editing and adjustments, and story composition. This chapter will present the findings and discussions, which are organized according to the research problem outlined in this study. Steps to Develop the Islamic Picture Story Development Module through DALL-E

First, The development process results in the design of the Islamic picture story development module using DALL-E. following the ADDIE development stages: Analysis, Design, Development, Implementation, and Evaluation. These stages are outlined as follows.

Second, Analysis. This section presents the initial findings regarding the challenges in developing Islamic story media. The preliminary study is divided into three stages: needs analysis, content analysis, and instructional analysis to determine the competencies to be learned, which can address the issues and provide solutions.

Needs Analysis

Based on the findings from observations and information gathered in the field, it was revealed that the main difficulty faced by students and volunteers at Rumah Kreatif Wadas Kelir in South Purwokerto is the illustration of images, as it requires complex skills. Therefore, a solution is needed to help students, literacy activists, and teachers in illustrating images. Image illustration is a barrier to developing picture stories because it requires time, effort, cost, and high-spec computer technology. Although it is possible to search for images through Google, the results often have copyright issues and a high risk of plagiarism.

In response to this issue, artificial intelligence capable of illustrating requested images is needed. Artificial intelligence like DALL-E was chosen as a solution because it simplifies the process of illustrating images for students, literacy activists, and teachers. DALL-E and similar AI tools can be used on

computers and smartphones without the need for additional application installations.

Literature Study

Based on findings from the literature review, artificial intelligence (AI) like DALL-E can be utilized in education, such as creating learning media. DALL-E is an AI model that generates images from descriptive text. This can be used to create more engaging and interactive learning media. Here are some examples of how DALL-E can be applied in education to create learning media: 1) DALL-E can be used to create realistic and engaging illustrations of lesson materials. These illustrations can help students better understand the content; 2) DALL-E can be used to create realistic images of experiments. These images can assist students in comprehending the experimental process more effectively; 3) DALL-E can be used to generate images for abstract concepts that are difficult to describe with words. These images can make abstract concepts easier for students to understand (Hanson Prihantoro Putro, Tri Wahyu Widyaningsih, Inti Englishtina, Eko Nursanty, Robet, Efitra, Sepriano 2023)

Moreover, DALL-E can also be used to create learning media that is tailored to the needs and abilities of each student. For example, DALL-E can generate images that match a student's learning style. In the context of using DALL-E to create picture stories, the following points apply (Rony Sandra Yofa Zebua, Khairunnisa Khairunnisa, Hartatik Hartatik, Pariyadi Pariyadi, Dessy Putri Wahyuningtyas, Ahmad M Thantawi, I Gede Iwan Sudipa, Heri Prayitno, Grace Christien Sumakul, Sepriano Sepriano 2023): 1) DALL-E can be used to create images for each panel of the story. These images can help bring the story to life and make it more engaging; 2) DALL-E can be used to add effects and animations to the story images. This can make the story more interactive and captivating; 3) DALL-E can be used to generate images for the story's background. These images can help set the atmosphere of the story and make it more vivid.

Additionally, DALL-E can be used to create picture stories that cater to the needs and abilities of individual readers. For instance, DALL-E can be used to create picture stories that align with the readers' learning styles.

Stories for children become more appealing when accompanied by images that illustrate the narrative. With images, children can better understand the characters, plot, and setting of the story (I Gede Yudha Pratama 2021). Since stories for children require illustrated images, DALL-E can be used to generate engaging picture stories (visual storytelling). Teachers can rely on DALL-E to create picture stories while reinforcing the content of the narrative.
Design

The design process for developing the Islamic picture story module through Dall-E is done in stages. There are three main stages in designing the Islamic picture story development module with Dall-E: searching for materials, selecting materials, and editing materials. The materials include an introduction to Dall-E, Islamic picture stories, how to create scripts, registration tutorials, utilizing Dall-E, editing, organizing, and designing Islamic picture stories. The search for module materials involves reviewing literature such as texts and video tutorials available on the internet. The materials are then selected and stored in Microsoft Word. The editing and design process also uses Microsoft Word.

The first stage involves searching for information related to the introduction of Dall-E, Islamic picture stories, prompts creation methods, registration tutorials, and how to use Dall-E. Information sources are obtained from literature reviews, both texts and video tutorials accessible online.

The second stage involves sorting the gathered materials for module development. Relevant and useful materials are selected, while less relevant or unsuitable materials are eliminated. This selection process is conducted carefully to ensure that the module content covers essential and high-quality aspects.

After selection, the next step is editing the materials. The editing process includes organizing the information into a clear and understandable format. Microsoft Word is used as a tool for editing, including structuring the content, organizing the layout, and formatting the text.

Finally, the third stage involves the design process, where the edited materials are processed and designed using Microsoft Word. The module

design aims to enhance readability and the absorption of information, making it easier for learners to understand and apply the concepts of Islamic picture storytelling through Dall-E. The entire process is carried out systematically and continuously to ensure the quality and effectiveness of the Islamic picture story development module with Dall-E.

Development

The creation of Islamic picture stories using Dall-E involves the development of visualizations through a scriptwriter. A script, in this context, refers to the language used to articulate each command to artificial intelligence. The prompt writer for Dall-E typically includes the desired visualizations of images, such as a smiling Muslim child, a majestic mosque surrounded by gardens, and other relevant elements.

The visualization of characters in the story can be done by detailing their appearance, actions, and expressions. Meanwhile, the setting of the story can be described by naming places, objects, colors, atmosphere, conditions, and determining whether the story takes place during the day or night. The type of image or desired output—such as art painting, cartoon, vector, or sketch—is also an integral part of the visualization process within the scriptwriter.

In general, picture stories tend to use cartoon images because they offer vibrant colors and visual appeal, which are particularly engaging for children. However, some picture books also utilize art painting and sketches to provide aesthetic variation in the storytelling.

The development of Islamic picture stories with Dall-E fundamentally involves applying this visualization concept in the development of modules or learning media. By detailing every element of the story through the scriptwriter, more attractive Islamic picture stories can be created, offering a deeper learning experience for readers, especially children. This module development aims to enhance understanding and appreciation of Islamic values through an innovative and engaging medium.

Implementation

The implementation of the development of Islamic picture stories using Dall-E was carried out at Rumah Kreatif Wadas Kelir in Purwokerto Selatan.

The implementation was conducted in both small and large groups. The small group consisted of five volunteers from Rumah Kreatif Wadas Kelir, while the large group involved twenty volunteers from the Rumah Kreatif Wadas Kelir writing school.

The small group meeting was conducted as a trial for the Islamic picture story media development module using Dall-E. There was an issue during the trial with the five volunteers; after registering, they were unable to use Dall-E. This was due to the OpenAI policy, which now requires payment for services, whereas Dall-E was previously available for free. To address this issue, two solutions were proposed. The first solution was to use other artificial intelligence tools such as Craiyon or Foto AI. However, the images produced by these tools had lower pixel quality. These lower-resolution images could be enhanced using image-upscaling websites like Remini or Fotor. The second solution was to use Dall-E through Bing's browser by registering on Bing.

The large-scale implementation of the Islamic picture story development using AI was conducted in the evening with twenty volunteers. The large-scale development was carried out by presenting the module using Microsoft PowerPoint and immediately practicing the content of the module. The participants of the large-scale trial were actively engaged in the process, which allowed for more effective validation of the module's effectiveness. The large-scale implementation served as a critical step in evaluating the usability and applicability of the Islamic picture story development module through artificial intelligence (AI).

The large-scale trial participants did not only passively receive the module presentation but were also directly involved in hands-on practice related to the module's content. Active participation from the participants involved applying the concept of Islamic picture stories using AI, which depicted everyday life while utilizing the latest technology.

This trial process was conducted carefully to assess the participants' understanding, responses, and engagement with the module. Monitoring was done to determine how well the participants were able to apply the concept of Islamic picture stories integrated with AI in their daily lives. The data collected

from this trial is expected to provide valuable insights into the effectiveness of the module in conveying Islamic values through an innovative approach.

Additionally, direct feedback from the participants was crucial in assessing the potential for module development and improvement. The results from the large-scale trial can serve as a foundation for enhancing the quality of the Islamic picture story module through AI, making it a more effective and engaging learning resource. By involving active participation from the volunteers, the large-scale implementation of the Islamic picture story development through AI became a key step in validating and refining the module to better align with the needs and feedback of the participants.

Evaluation

The evaluation process in the development of Islamic picture stories using Dall-E consists of two main aspects: the first involves evaluation by media and content experts, and the second involves evaluating the results of the trial.

The evaluation by media and content experts is a crucial initial step in ensuring the quality and sustainability of the picture story module. In this phase, the media expert will assess the technical aspects related to the presentation, visualization, and continuity of the Islamic picture story with Dall-E. Meanwhile, the content expert will evaluate the substance and accuracy of the content from an Islamic perspective, ensuring that the values and messages conveyed in the story align with Islamic norms.

After the evaluation by media and content experts, the next step is to evaluate the trial results. This evaluation aims to measure the participants' responses and understanding of the Islamic picture story developed with Dall-E. Trial participants will be given the opportunity to provide feedback on the clarity of the message, visual appeal, and the relevance of the story to Islamic teachings.

The combination of these two evaluation aspects will provide a comprehensive overview of the success and potential improvements needed in the development of Islamic picture stories with Dall-E. Therefore, the results of this evaluation will not only serve as a guide to enhance the quality of the module but also as a foundation for further development, ensuring that the

Islamic picture stories produced can become an effective learning resource that aligns with Islamic values.

Expert Evaluation

The expert evaluation was conducted by validating the Islamic picture story development module, including both the media and content. The validation was based on product evaluation criteria: usefulness, satisfaction, and ease of use (Lund, 2016). The validation was carried out with four levels of assessment: 1) very valid, very effective, and usable; 2) valid, effective, usable with minor revisions; 3) somewhat valid, somewhat effective, requires major revisions; 4) not valid, not effective, not usable. Below are the results of the validation by Content Expert, Dr. Heru Kurniawan, M.A., and Media Expert, Birru Muqdamien, M.Kom.:

Table 1.
Content Validation

No	Indicator	Validation
1.	Accuracy of theories and concepts	Valid, provides the meaning of Islamic stories
2.	Up-to-date material	Very valid
3.	Coherence of the material	Valid, lacks coherence and neat organization
4.	Appropriateness of the examples provided	Valid, examples are appropriate but some images are not provided
5.	Accuracy of terminology usage	Very valid
6.	Contextual nature	Very valid
7.	Clarity of development objectives	Less valid, material reduced, focusing more on meaning
8.	Relevance of development objectives	Very valid
9.	Systematic, logical, and clear organization	Very valid
10.	Clarity in explaining the material	Valid, too much material
11.	Ease of self-learning for the reader	Valid, add more image examples
12.	Language used is appropriate for cognitive level and characteristics	Very valid
13.	Correct and proper language usage	Very valid
14.	Accuracy of language and spelling	Very valid
15.	Language used is concise and clear	Less valid, too much material

The evaluation results by experts on the development of the Islamic picture story module using the DALL-E model show an in-depth analysis of

several critical indicators. First, the validation highlights the accuracy of theories and concepts, emphasizing the interpretation of Islamic stories. These findings suggest that the material successfully connects with Islamic theoretical principles, providing a solid foundation for understanding the concepts. Furthermore, the validation results indicate that the module is very up-to-date, reflecting the timeliness and relevance of the information in the context of Islamic stories. This validity indicates that the module not only considers theories and concepts but also successfully integrates the latest relevant elements.

Although the module is considered valid in terms of coherence, there are notes that the structure of the material is less organized and lacks neatness. This indicates the need for restructuring to make the content more systematic and easier to understand. The validation regarding the appropriateness of the examples shows validity, but with a note that some examples lack images. Recommendations were made to include images as supporting elements to enhance clarity and understanding of the content.

The use of terminology was rated as very valid, reflecting the module's effort to adhere to the correct terminology. Likewise, the relevance of the material in context was rated as very valid, showing a good understanding of the context. However, there is a note regarding the clarity of the development objectives, which was considered less valid, indicating that the material was less focused on the meaning. Recommendations were provided to better direct the material to make the development objectives more focused.

The relevance of the development objectives was rated as very valid, indicating a strong connection between the material and the established goals. The logical, clear, and systematic structure of the module was also rated as very valid, reflecting a well-organized presentation method. The accuracy in explaining the material was rated as valid, although there was a note that the material was excessive and should be given more attention. The ease for readers to learn independently was considered valid, but it was recommended to include more image examples to enhance understanding.

The use of language appropriate to the thinking level and characteristics of the audience was rated as very valid, demonstrating accuracy in conveying information. Similarly, the use of proper and correct language, along with appropriate spelling and grammar, was also rated as very valid. However, there was a note regarding the language being less concise and clear, with a recommendation to reduce the amount of material to make the language more focused and easier to understand.

In the expert evaluation of the developed material, a detailed analysis emerged regarding several indicators, including the accuracy of theories and concepts, the timeliness of the material, the coherence of the structure, the appropriateness of examples, the use of terminology, and the clarity and relevance of the development objectives. While the material was found valid in many aspects, shortcomings were noted, particularly in the coherence of the structure, which lacked systematic organization, and the clarity of the development objectives, which needed improvement. Recommendations for restructuring the material to achieve a better systematics and stronger emphasis on the meaning of the development goals provide guidance for improvement. Nevertheless, the validation indicated a high level of quality in terms of timeliness, relevance to the context, use of terminology, presentation systematics, language, and spelling. Recommendations to add more image examples and reduce the amount of material to clarify the language and improve reading ease provide concrete directions for further development.

This evaluation conclusion provides a comprehensive overview of the strengths and weaknesses of the module, offering guidance for improvements and further development in utilizing the DALL-E model for creating Islamic picture stories.

Table 2.
Media Expert Validation

No	Indicator	Validation
1	Usage instructions (User Manual)	Less valid, no usage instructions provided
2	Font format	Valid, bold for chapters and subchapters
3	Word spacing	Very valid
4	Text readability	Very valid

5	Display quality	Valid, improve display appearance
6	Visual appeal	Valid, add color to the pages
7	Layout of the material	Very valid
8	Color composition	Valid, monotonous
9	Neatness	Valid, need to improve the neatness of the content
10	Easy-to-understand instructions	Less valid, no instructions provided
11	Font size	Very valid

The expert evaluation of the Islamic picture story development module using the DALL-E model reflects a thorough analysis of various indicators that influence the quality and effectiveness of the module. The first assessment focuses on the usage instructions, where the expert identified a significant shortcoming due to the absence of adequate instructions. Clear and comprehensive usage instructions were considered essential for guiding users in understanding and optimizing the use of the module.

Next, the module's font format was deemed valid, with the decision to bold the chapter and subchapter titles considered an effective step to help guide the reader through the content efficiently. The assessment of word spacing showed high validity, indicating that the spacing between words met readability standards. However, the visual quality of the module could still be improved, and the expert recommended refining it to enhance its aesthetics.

The visual appeal of the module was considered valid, and the recommendation to add color to the pages as a visual element was acknowledged as a step that could elevate the overall appearance of the guidebook. Color was seen as a way to enrich the visuals and capture the reader's interest. The material layout was rated very valid, indicating that the content had been structured following good layout criteria. However, the color composition was considered monotonous, with the suggestion to diversify the color scheme seen as a way to introduce more visual variety.

The neatness of the guidebook's content was considered valid, though the expert recommended further tidying up. Regularity and order in presenting the information were thought to improve readability and comprehension. The clarity of the instructions was rated less valid due to the absence of adequate guidance. Clear and easy-to-understand instructions were deemed important

for guiding users in utilizing the product, making this a critical area that needs further attention. The font size was rated very valid, indicating that the font size met readability standards.

Overall, the evaluation of the indicators highlighted areas for improvement to enhance the overall quality of the module. These improvements include providing clear usage instructions, diversifying the color scheme, and refining the visual quality of the module.

The expert evaluation of the Islamic picture story development module using the DALL-E model reflects a thorough analysis of various quality indicators. The evaluation begins by highlighting the lack of adequate usage instructions, emphasizing the need for clear guidance to ensure optimal understanding and utilization of the module. While the font format of the module was deemed valid, the focus on readability and the aesthetics of the visual presentation remains a point of concern. The recommendation to improve visuals through the addition of color was recognized as a positive step to enhance visual appeal.

Although the material layout was considered very valid, the lack of color variation created monotony, and while the cohesion of the guidebook's content was deemed valid, it was recommended for further improvement. The critique regarding the absence of easy-to-understand instructions highlighted the necessity for clearer guidance for users. The very valid font size indicated that readability standards had been met.

The evaluation provides comprehensive insights into both the strengths and weaknesses of the module, offering directions for improvements that could significantly enhance the overall quality of the Islamic picture story development module.

Trial Evaluation

This small group meeting was held as a trial phase for the development of the Islamic picture story media module using the DALL-E model. During the trial process with five volunteers, a significant issue was identified: after completing registration, the volunteers faced difficulties accessing DALL-E. This obstacle arose due to OpenAI's policy change, which now requires

payment for services, whereas previously, users could access DALL-E for free. To address this issue, two solutions were proposed. First, using alternative artificial intelligence tools such as Craiyon, Foto AI, and others, although the image results tend to have lower pixel resolution. However, the low-quality images can be enhanced using image enhancement services like Remini, Fotor, and similar platforms. Second, accessing DALL-E through the Bing browser by registering on the platform was suggested as a reliable alternative solution to overcome the obstacles encountered during the trial.

Post-Revisions Results

After validation by the Content Expert and Media Expert, the researcher made revisions based on the evaluators' feedback. These revisions were categorized into major and minor revisions. The major revisions are as follows:

Major Revisions

Clarity of Development Goals

The sub-topic on the history of Artificial Intelligence (AI) DALL-E did not clearly reflect the goals of the module's development. As a result, the discussion was revised to focus on Artificial Intelligence systems with similar functions to DALL-E. This serves as an alternative for module users who may struggle to use DALL-E.

Figure 2.
Before Revisions

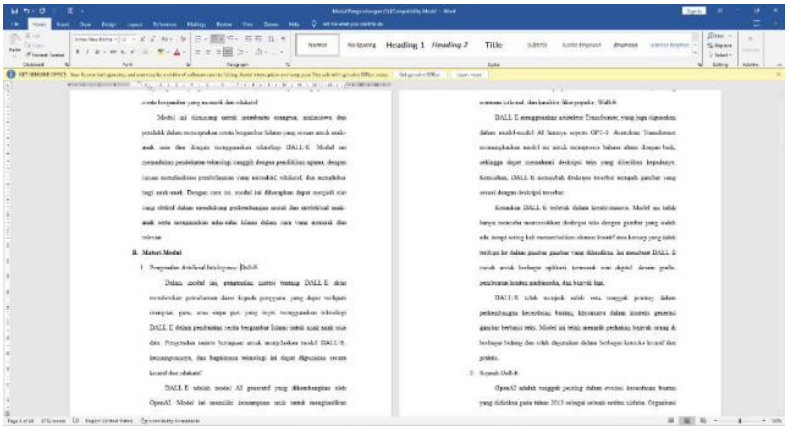
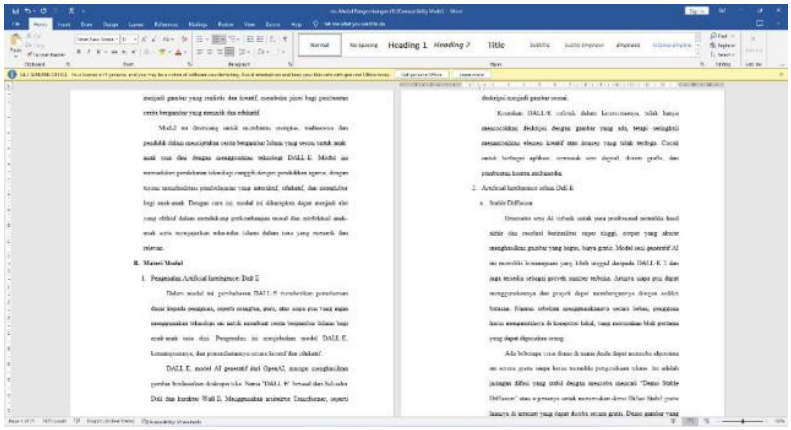


Figure 3.
After Revisions



Concise and Clear Language

Figure 4.
Before Revisions

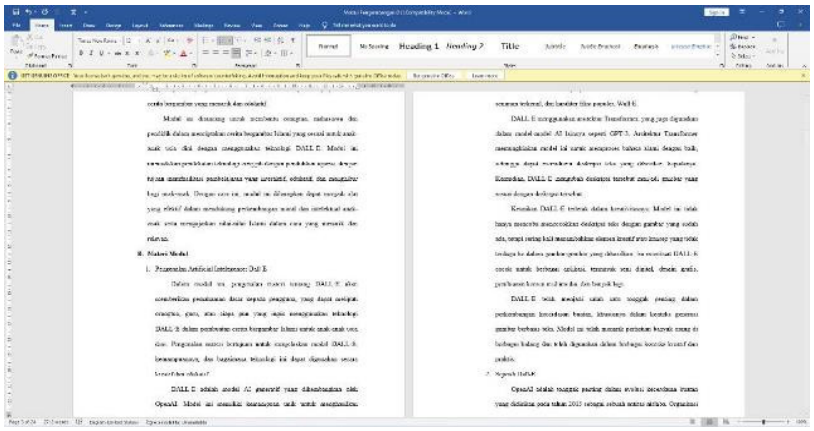
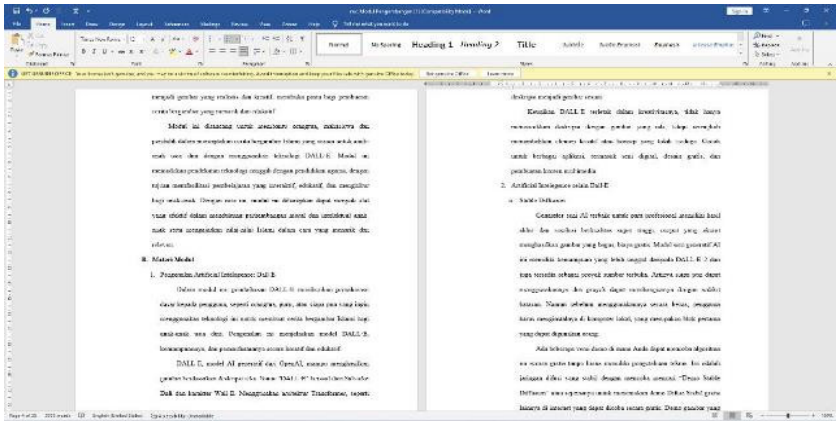


Figure 5.
After Revisions



Revision: Insufficient validity, no usage instructions, and unclear instructions

The module on the development of Islamic picture story media covers content that was not sufficiently concise. Therefore, the language used in the module has been revised to be more concise and clear. In the section on the history of Dall-E, it was removed because it was not relevant to the context and

replaced with an alternative artificial intelligence to Dall-E. This change was made based on the results of a small-scale trial, where participants were unable to access Dall-E for free.

Figure 6.
Before Revisions

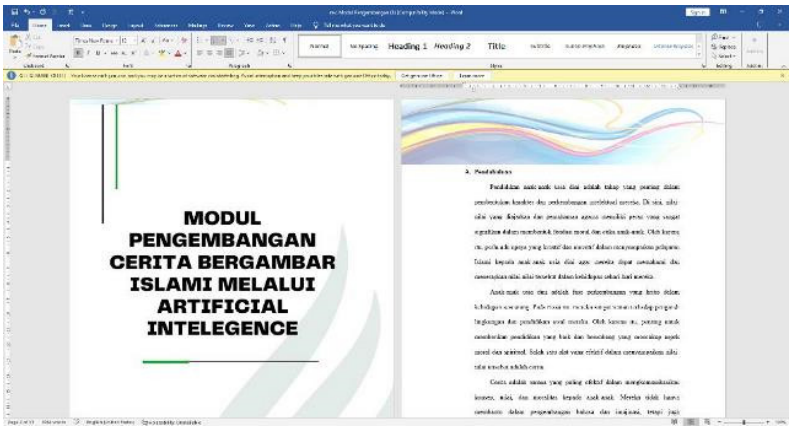
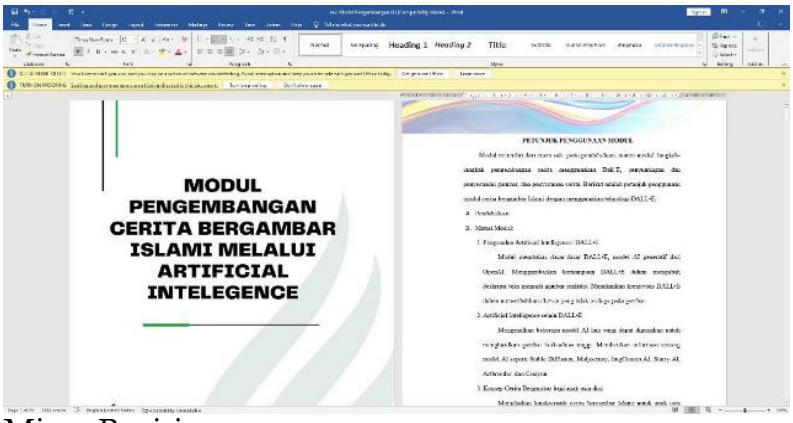


Figure 7.
After Revisions



Minor Revisions

The initial assessment of the document revealed several validities in its content, but some suggestions were made by the validators to improve the overall quality. The following is an explanation of the revisions made in response to the validator's suggestions.

Valid, but not well-structured and organized. Revisions were made to structure the content in a more organized manner. Chapters and sub-chapters were arranged more logically to improve clarity and the order of understanding for readers.

Valid, examples are appropriate but some lack images. The document was revised to include images in the examples that were previously missing visuals. This aims to provide a better and clearer understanding for the readers.

Valid, too much content. The amount of content was reduced to avoid overwhelming the reader. The focus was placed on essential and relevant content to maintain readability.

Valid, but too few images. More example images were added to clarify the concepts explained in the document. The number of images increased from 11 to 23, helping the readers understand the information more effectively.

Valid, bold chapters and sub-chapters. The writing style was revised to apply bold formatting to chapters and sub-chapters, making them easier to read and navigate for the readers.

Valid, improve appearance. Improvements were made to the layout and design to enhance the visual appeal and help readers follow the flow of the document more easily.

Valid, add color to the pages. Color elements were added to the pages to make the document visually appealing and attractive. Colors like gray and green (for the background of the garden) were used to enhance the overall presentation.

Valid, monotonous. Variety was added to the presentation of information to avoid monotony. This was achieved by varying the writing style, examples, and design elements.

Valid, need more organization in the content. Revisions were made to ensure clarity, consistency, and readability of the document's content. Paragraphs and sentences were organized more neatly to ensure that the message is effectively communicated to the reader.

Figure 8
Final Revised Cover

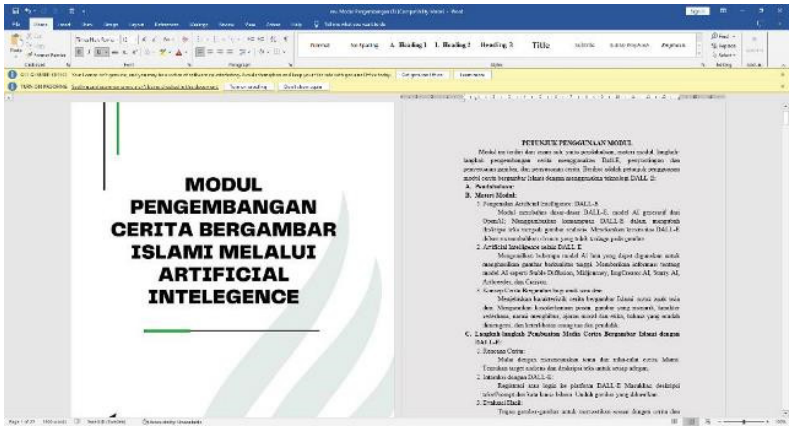


Figure 9.
Final Revised Beginning of the Module

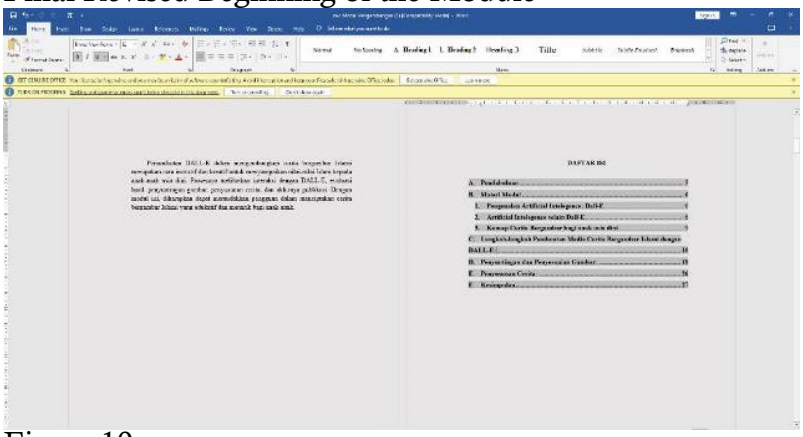


Figure 10.
Final Revised Content Section of the Module

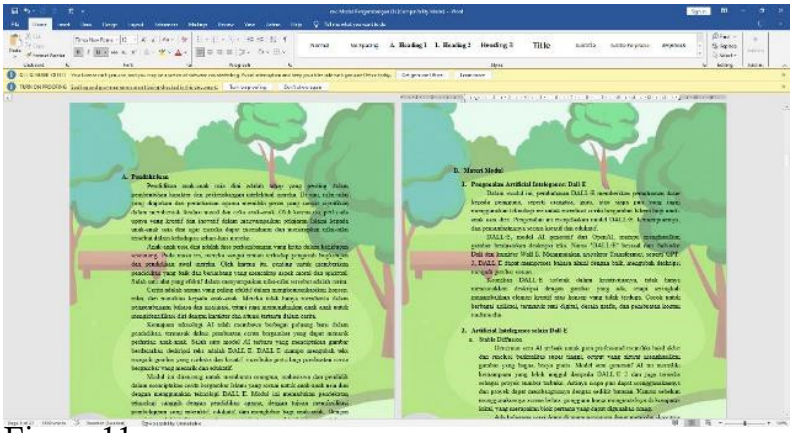


Figure 11.
Final Revised Content Section

Readability Test of the Module

The readability of the Islamic picture story media development module using Dall-E was assessed by distributing a questionnaire to participants in a large-scale trial. The large-scale trial involved 20 volunteers from the Yayasan Rumah Kreatif Wadas Kelir. The results of the questionnaire were then processed using Excel to measure the readability level of the module. Below are the results of the module readability questionnaire:

Table 3.
Module Readability

Indicator	Score (%)	Category
Ease of application	87.5	Very Good
Ease of understanding the material	88.75	Very Good
Module readability	87.5	Very Good
Visual appeal	92.5	Very Good
Usefulness of the module	92.5	Very Good
Accuracy of theory and concepts	88.75	Very Good
Up-to-date material	88.75	Very Good
Coherence of the material	88.75	Very Good
Relevance of examples provided	85	Very Good
Correctness in terminology	88.75	Very Good
Contextual relevance	96.25	Very Good
Color	92.5	Very Good
Form	87.5	Very Good
Images	82.5	Very Good

The table above presents an evaluation of a module or material, with various indicators being assessed. This module demonstrates very good quality based on the different evaluation indicators. The ease of application and readability of the module both received a score of 87.5%, reflecting high ease of use. Understanding of the material, coherence, and accuracy of terminology each received a score of 88.75%, indicating very good quality in understanding and presenting the material. The module's visual appeal and usefulness both achieved a score of 92.5%, showing its strength in attracting users' attention and providing benefits. The relevance of the examples provided scored 85%, still considered very good, although slightly lower than the other indicators. The module also excelled in contextual relevance with a score of 96.25%, and high ratings were given for color usage, design, and images, each receiving scores of

92.5%, 87.5%, and 82.5%, respectively. Overall, the module is evaluated as having very good quality across all indicators, reflecting excellence in application, presentation, and user benefits.

Conclusion

The development of the Islamic picture story module using Dall-E and the ADDIE model has successfully provided an innovative learning resource. The structured ADDIE framework helped ensure that the module met the needs of users, particularly students and volunteers at Rumah Kreatif Wadas Kelir Purwokerto Selatan, who faced challenges in illustrating Islamic picture stories. The integration of Dall-E as an AI-based image-generation tool proved to be an effective solution in producing high-quality visuals automatically, enhancing the storytelling experience. Expert evaluations and user trials highlighted the module's strengths, particularly in ease of application, usability, and terminology accuracy, while also identifying areas for improvement in structure, readability, and user guidance.

Further development should focus on refining the module's structure and user instructions based on expert feedback to enhance accessibility and clarity. Additional trials involving a broader audience could provide deeper insights into its effectiveness and adaptability in various learning settings. Integrating more diverse artistic styles and storytelling techniques could also enrich the module's appeal and usability. Lastly, collaboration with educators and Islamic scholars is recommended to ensure that the content remains pedagogically and theologically sound, further strengthening its role as an engaging and valuable educational resource.

Acknowledgment

We extend our gratitude to the media experts and story-writing validators, Yayasan Rumah Kreatif Wadas Kelir Purwokerto, RKWK volunteers, and the Faculty of Tarbiyah and Teacher Training. This article is an outcome of the research grant No. 1157 of 2023 from the Faculty of Tarbiyah and Teacher Training, UIN Sultan Maulana Hasanuddin Banten.

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