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The Utilization of Meta AI in Creating Educational Children's Story Illustrations

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Abstract: *This research aims to describe how Meta AI can be used in creating engaging and educational illustrations through children's stories, as well as analyzing its strengths and weaknesses. This study uses a descriptive qualitative approach to analyze the potential of Meta AI in making children's story illustrations. Data was obtained through: literature studies on Meta AI applications and trial illustration making using Meta AI. The results of the study show that Meta AI has great potential in producing illustrations that meet the needs of learning with high accessibility and creative exploration capabilities. However, limited contextual understanding, lack of human touch, and copyright issues are the main challenges. This study recommends collaboration between AI developers and human illustrators to optimize the quality of illustrations as well as training for educators in utilizing this technology.*

Keywords: *Meta AI, illustration, children's stories, innovation, educational development.*

1. INTRODUCTION

A. Background

Artificial intelligence (AI) technology is increasingly dominating various aspects of life, including in the world of education and creativity. One of the latest innovations is Meta AI, a tool developed by Meta (the parent company of Facebook and Instagram) to assist users in creating engaging and interactive content. One of the interesting applications of Meta AI is in the creation of educational children's story illustrations. By utilizing these tools, educators and parents can create learning materials that are not only informative but also fun for children. Illustrations in children's stories play an important role in attracting interest in reading, improving comprehension, and supporting the development of children's imagination (FIP Unesa, 2022).

Illustrations in children's stories play an important role in attracting interest in reading, improving comprehension, and supporting the development of children's imagination. By utilizing Meta AI technology, the illustration making process can be more efficient, innovative,

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and in accordance with the educational values that you want to convey. Meta AI can generate illustrations that support moral and educational messages with high precision, helping to create more effective learning media.

Not all children's story writers have the access or budget to hire a professional illustrator. Meta AI offers an alternative by providing tools that allow writers to independently generate high-quality illustrations. It is important to empower independent authors or small publishers in creating competitive work.

The use of Meta AI in the creation of educational illustrations can also be an important case study in the development of responsible artificial intelligence-based technologies. This research allows testing the limitations and potential of AI in creating content that is child-friendly, free of stereotypes, and in accordance with ethical principles. In the digital age, children are exposed to a variety of visual content, including those that are less educational or inappropriate for their development. This research has the potential to produce a new approach in creating picture stories that combine elements of entertainment with education, providing a quality alternative to replace visual content that is less supportive of children's learning.

This research also opens up opportunities to integrate digital literacy into the world of children's education, both for content creators and for young readers. Children can be taught to understand how technologies like AI are being used positively to create something useful. In an increasingly competitive and fast-paced global context, innovation in the world of education is an urgent need. This research is not only relevant for the development of AI technology, but also for the world of education and the creative industry, especially in creating relevant, interesting, and meaningful educational media for the younger generation.

B. Problem Formulation

1. How can Meta AI be used to create engaging and educational illustrations in children's stories?
2. What are the advantages and disadvantages of using Meta AI in creating children's story illustrations?

C. Research Objectives

1. Describe how Meta AI can be used to create engaging and educational illustrations in children's stories.
2. Describe the advantages and disadvantages of using Meta AI in creating children's story illustrations.

2. LITERATURE REVIEW

A. Basic Concepts of Generative AI

Generative AI is a technology that uses machine learning algorithms to create new content based on pre-trained data. Meta AI, as one of the flagship products, is able to generate images by considering aesthetics, story context, and educational needs.

Generative AI is a branch of artificial intelligence (AI) that has the ability to create new content based on previously learned data. The technology uses machine learning algorithms to analyze patterns and structures in large data sets, so that it can generate text, images, videos, audio, and other types of content that resemble real data. One common approach used in generative AI is Generative Adversarial Networks (GANs), which consist of two models: a generator and a discriminator. Generators are tasked with creating new data, while discriminators function to distinguish between original data and data generated by generators (Virtus Indonesia, 2024; IBM, 2024). Meta AI is one of the applications of generative AI technology developed by Meta (the parent company of Facebook and Instagram). Meta AI is able to generate images by considering various aspects such as aesthetics, story context, and educational needs. By leveraging Meta AI, educators and children's storytellers can create illustrations that are not only engaging but also educational, helping children better understand moral messages and educational concepts (Tempo.co, 2024). Generative AI is also known for its ability to improve the efficiency of creative processes. This model can be used to generate content automatically, inspiring writers, artists, and designers to create new works. This is especially useful for children's story writers who may not have the access or budget to hire a professional illustrator (Intel, 2024; MarkPlus Institute, 2024).

According to Dewey (1938), effective education must involve experiences that are interesting and relevant for children. Illustration serves as a means to strengthen children's understanding of narratives, help cognitive development, and foster imagination. Meta AI offers a solution to produce high-quality illustrations in a relatively short time and at a lower cost than traditional methods. This technology allows personalization based on the theme of the story, educational value, and characteristics of the target audience.

B. Meta AI Concept

Meta AI is an artificial intelligence-based platform designed to simplify the creative process. This technology uses machine learning algorithms to understand user preferences and generate visual content that suits their needs (Merdeka, 2024). . In the context of creating illustrations of children's stories, Meta AI can help create images that are interesting and relevant to the theme of the story.

C. The Importance of Illustration in Children's Stories

Illustrations have an important role in grabbing children's attention and helping them understand the story. According to research, images can strengthen children's understanding and memory of the information conveyed in the text (Liputan6, 2024). Therefore, the use of appropriate and attractive illustrations is crucial in children's education.

3. METHODS

This study uses a descriptive qualitative approach to analyze the potential of Meta AI in making children's story illustrations. Data was obtained through: literature studies on Meta AI applications and trial illustration making using Meta AI.

4. RESULTS

A. How Meta AI can be used to create engaging and educational illustrations in children's stories

Meta AI can be used to create engaging and educational illustrations in children's stories through a variety of innovative features designed to be easily accessible to all users. This process begins by ensuring that the WhatsApp (WA) app has been updated to the latest version, where Meta AI features are available. Once the app is updated, users can open WhatsApp and select the message icon to access Direct Messages (DM) as the initial door using Meta AI's features. With this feature, users can enter a description or prompt that contains the characters, setting, activities, and context of the children's story they want to create. Meta AI will then process the information to generate appropriate illustrations, whether in cartoon, educational, or cultural styles. Through these steps, Meta AI provides practical and creative solutions for educators, writers, or parents to create visuals that support storytelling, enrich children's imaginations, and convey educational values such as culture, environment, or diversity in the form of engaging and interactive images. Here's how Meta AI can be used to create interesting and educational illustrations in children's stories.

1. Access Meta AI Features

Access to the AI meta feature starts with the user having to make sure that the whatsapp application (WA) has been updated to the latest version (AI meta feature available). After that, open the application and select the message icon to access Direct Messages (DM) on WhatsApp.

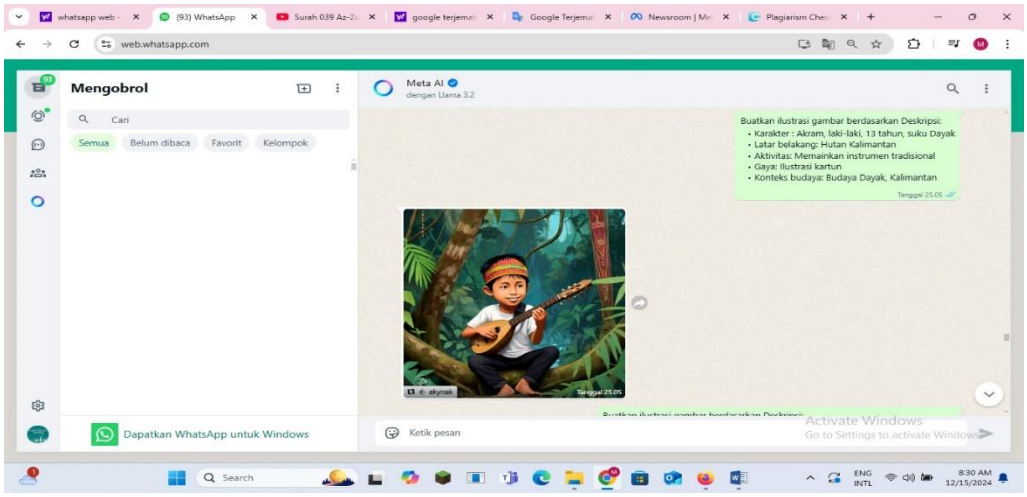


Figure 1: Access Meta AI Features on WA Application

2. Using Command Sentences to Create Images

In DMs, users can type the command "imagine" followed by a description of the desired image, such as "Cat reading a book" or "Children playing in the park". Meta AI will generate an image based on the description.

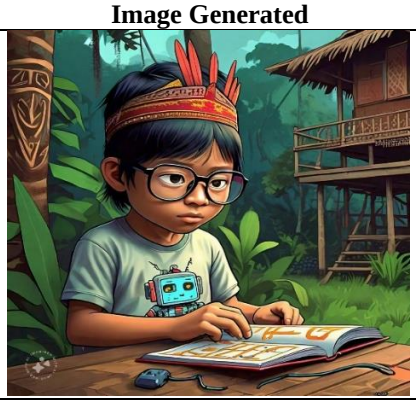
Table 1: Generated Command Sentences and Images

Command Sentences Used	Image Generated
Create an illustration based on Description: a. Characters: Akram, male, 13 years old, Dayak tribe b. Background: Borneo Forest c. Activity: Playing traditional instruments d. Style: Cartoon illustration e. Cultural context: Dayak culture, Kalimantan	

The image illustrations created by Meta AI have several advantages, such as attractive visual details and in accordance with the descriptions provided. Akram's character is clearly seen with a friendly expression, wearing simple clothes while playing a traditional musical instrument in the middle of the jungle of Kalimantan. The forest background is depicted quite well with tropical plant elements and typical Dayak ornaments that strengthen the nuances of local culture. The cartoon illustration style makes this visual seem friendly to children and teenagers, while the message of Dayak culture is conveyed through the symbols presented.

However, this illustration has several drawbacks, such as the lack of color variation that makes the background look monotonous, as well as the lack of detail in traditional musical instruments that are depicted too simply. The cultural context also feels less profound because there are no additional elements such as more specific traditional clothing or other symbols that enrich the visuals. In addition, the proportions of the character's body look a little stiff, especially in the position of the legs and hands. By adding color variations, enriching the details of musical instruments, and incorporating additional cultural elements, these illustrations can become more vivid and better represent Dayak culture.

Table 2: Generated Command Sentences and Images

Command Sentences Used	Image Generated
Create an illustration based on Description: a. Character: A logical and problem-solving person, 12 years old, slightly smaller than Akram. Straight hair and always wearing glasses. He likes to wear t-shirts with pictures of robots or cartoon characters, the Dayak tribe. b. Background: Backyard. c. Activity: Read a book on programming to create an educational game. d. Style: Cartoon illustration. e. Cultural context: Dayak culture, Kalimantan	

The image illustrations produced by Meta AI have several advantages that deserve appreciation. First, the character of the boy depicted is in accordance with the description, both in terms of a slightly smaller posture, straight hair, to distinctive features such as glasses and a t-shirt with a picture of a robot. The details on the typical Dayak crown also stand out and reinforce the nuances of local culture. In addition, the background in the form of a traditional stilt house courtyard in the middle of Kalimantan nature provides a strong cultural context. The serious and focused expression of the character when reading a book about programming also reflects the intelligence and perseverance that characterize the character's personality.

However, this illustration also has some flaws that can be fixed. Although the nuances of Dayak culture are visible, some supporting elements such as traditional clothes or typical Dayak trinkets can be further strengthened so that the culture is more dominant. The details in the book read also seem simple and less informative to show programming activities. In addition, the background colors, especially the foliage and stilthouse elements, look a little monotonous and require variety to make the image more vibrant. With the addition of details and enrichment of visual elements, this illustration will become more interesting and able to represent Dayak culture and character activities in more depth.

Table 3: Command Sentences and Generated Images

Command Sentences Used	Image Generated
Create an illustration based on Description: a. Character: Creative and enjoys drawing, 12 years old, brunette and slightly taller than Ridwan. He likes to wear hats and often carries small robot toys in his pocket. b. Background: The middle of the house/family room. c. Activity: is drawing an adventure character to create an educational game. d. Style: Cartoon illustration. e. Cultural context: Dayak culture, Kalimantan	

The illustrations produced by Meta AI have a number of advantages that deserve appreciation. One of them is the representation of the child's character in accordance with the description. The 12-year-old is depicted with a small body, straight black hair, and a distinctive appearance with a hat and casual clothes. The toy robot next to the child is also made with interesting details, providing a futuristic feel that blends with the child's creativity. In addition, the background of the living room with elements of Dayak culture, such as traditional carvings and typical Kalimantan motifs, enriches the cultural context in the picture. The style of cartoon illustration chosen adds a cheerful and child-friendly impression, in harmony with the theme of adventure and creativity that you want to highlight.

However, this illustration still has some flaws that can be fixed. Even though the background already carries elements of Dayak culture, these elements still seem minimal and less conspicuous. The addition of Dayak trinkets or more in-depth ornaments can emphasize the desired cultural context. In addition, children's activities that are supposed to "draw adventure characters" are not explicitly visible, so the creative impression in drawing is less depicted. A sketch or drawing tool such as pencil and paper around the child can help explain this activity more clearly. Improvements in this aspect will make the illustration more communicative and in accordance with the description given.

B. Advantages and Disadvantages of Using Meta AI in Making Children's Story Illustrations

The use of Meta AI in creating children's story illustrations has a number of advantages that make it an innovative solution in the digital era. **Accessibility** is a key advantage, where anyone with an internet connection can take advantage of this technology without the need to have special design skills. This opens up opportunities for educators, writers, or parents to create quality illustrations quickly and easily. Additionally, the **innovation and creativity** that AI offers allows for the exploration of different visual styles, providing an engaging and diverse visual experience for children. The technology also supports **educational integration**, where illustrations can be tailored to specific learning messages, such as promoting cultural diversity or positive values such as caring for the environment. With this flexibility, generative AI like Meta AI can be an effective support tool in educating and entertaining children through engaging visuals.

However, behind the advantages, the use of Meta AI also has some drawbacks. One of the main challenges is **the limitations of contextual understanding**, where AI sometimes does not fully capture the essence of the narrative if the description provided is not specific. This can result in illustrations that are less relevant or don't match the expectations of the story.

In addition, the resulting illustrations often **lack the emotional touch** typical of human work, such as the uniqueness of the details and the personal style of a professional illustrator. This can reduce the artistic nuances and depth of the story. Finally, copyright **and ethics issues arise**, because AI illustrations spark debates about the ownership of works and their impact on the sustainability of the illustrator profession. Therefore, while AI offers efficiency and creativity, a balance is needed between the use of technology and the appreciation of the work of human illustrators.

5. DISCUSSION

Technologies like Meta AI have their drawbacks, but this should not discourage us from maximizing their potential. The limitations of contextual understanding, for example, are an important reminder that human creativity remains an irreplaceable element. By providing more specific and in-depth descriptions, we can bridge this gap, ensuring that AI produces work that is true to the essence of the story. This deficiency actually encourages us to collaborate more with technology, making it a supporting tool, not a replacement. In addition, AI illustrations that are considered less emotional and artistic open up opportunities for artists to highlight their unique personal style, thus providing added value that machines cannot. Rather than seeing it as a threat, we can utilize AI for technical tasks, while the artistic aspect remains the main domain of artists. Ethical and copyright issues are also opportunities to build collective awareness about the importance of appreciating human art and creating fair regulations. By using these issues as motivation, we can ensure that technology develops in line with respect for traditional artistic values, creating harmony between the efficiency of technology and the beauty of human art.

6. CONCLUSIONS AND SUGGESTIONS

A. Conclusion

The use of Meta AI in creating children's story illustrations offers a variety of advantages, including time efficiency, personalization, and accessibility. This technology can be a revolutionary tool in supporting children's creative and interactive education.

B. Suggestion

1. More research is needed to explore the potential of Meta AI in various educational contexts.
2. Training for educators on the use of Meta AI needs to be held so that this technology can be used optimally.

3. Collaboration between AI developers and human illustrators is essential to producing high-quality illustrations.

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