Preserving Indonesian Cultural Heritage with Canva: An AI Education 6.0 Graphic Arts Project

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Abstract. This paper was written with the aim to realize one of the core objectives of Education 6.0, which is to recognize the importance of a learner-centric approach that emphasizes the significance of technological advancements to create personalized and adaptive learning experiences. As a method, the author as educator has instructed her students to employ the power of Artificial Intelligence (AI) in her Graphic Arts course as an exciting opportunity to create modern storytelling techniques. Empowered to create digital comic books, students were taught not only to celebrate iconic elements of Indonesian culture but also foster a deep connection to the cultural heritage. Within the Graphic Arts classroom, students learned to enhance their narratives using cutting-edge AI technologies, which further deepened their appreciation for Indonesian culture. Utilizing Google Forms as an instrument, it was revealed that students actively engage themselves with AI tools such as Google Search, Google Translate, and ChatGPT to craft compelling narratives, which they subsequently brough to life in-text balloons and graphics in their Canva comic books. This article proved that the digital comic book project using Canva was not just an assignment, it was a powerful catalyst to unlock students' potential by merging creativity with digital art innovation. The innovative method of teaching the Graphic Arts course with AI was found to fulfill the objectives of Education 6.0 while embracing the educational landscapes' efforts of preserving the Indonesian cultural heritage.

Keywords: AI, education 6.0, Indonesian culture and heritage, Graphic Arts, storytelling

1 Introduction

1.1 AI Education (AIEd) 6.0

Education 6.0 places the importance of personalized and adaptive learning experiences by making use of technological advances [1]. This learner-centric approach has risen among others due to the conditions brought by Covid-19 pandemic which necessitated a shift in educational methods. Not only were students encouraged to delve in their individual strengths by quickly understanding the lessons delivered by their online in-

structors, they also had to effectively use their non-school time by independently learning available online resources. The online resources most students use to enhance their learning outcomes were AI-driven platforms, which Holmes et al. [2] believe has the potential of offering personalized learning experiences that are tailored to individual students' needs and learning styles. The so-called AI (Artificial Intelligence) resources can address specific learning gaps and reinforces the individual students' strengths [3].

Understood as a demonstration of computer intelligence that uses algorithms to learn human activities, AI makes some kind of pattern recognition. Historically, AI has been used since 1956, when the computer was formally introduced in the academic world to "solve complicated problems, make reliable predictions, and carry out a wide variety of formerly manual tasks automatically", to ensure a more comfortable and technologically advanced human life [4, p. 127]. AI applications have been recommended in the education field and teachers have referred to it as Information Communication Technology (ICT). Startups like Knewton and Carnegie Learning, Learning Management Systems (LMS) like the Moodle platform and Massive Online Open Courses (MOOCs) have mushroomed as new AI technologies for learning that can support not only with the upload of classroom materials for students to use, but they are also completed with systems that help make students' resumes and give out certificates and diplomas [5].

As informed above, AI involves computer software designed to perform tasks that requires human intelligence. Its performance relies both on knowledge about the world and uses algorithms to process the knowledge intelligently. There are three key models of AI in Education (AIEd): the pedagogical, domain, and learner model [6, p. 19] to which examples of the specific knowledges are displayed in Tabel 1 below.

Table 1. AIEd models and samples of specific knowledges

AIEd models	What the model represents	Examples of specific knowledge represented in AIEd models
Pedagogical model	The knowledge and expertise of teaching	- 'Productive failure' (allowing students to explore a concept and make mistakes before being shown the 'right answer' - Feedback (questions, hints, or haptics), triggered by student action which is designed to help the student improve their learning - Assessment to inform and measure learning
Domain model	Knowledge of the subject being learned (domain expertise)	- How to add, substract, or multiply two fractions - Newton's second law (forces) - Causes of World War I - How to structure an argument - Different approaches to reading a text (e.g. for sense or for detail)
Learner model	Knowledge of the learner	- The student's previous achievements and difficulties - The students' emotional state - The students' engagement in learning (for example: time-on-task)

Table 1 shows that in the learner model, students' current activities, previous achievements, emotional state, and whether they followed feedback is used by the domain and pedagogy components of the AIEd program to deduce the success of not only the learner but also the teacher. This is necessary to determine the next most appropriate learning materials and activities. Thus, a personalized, one-to-one tutoring called the ITS (Intelligent Tutoring System) learning model is beneficial in helping students' control their own pace of learning. Although several research suggested that collaboration between two students undertaking a project together, for example, can foster higher learning outcomes rather than learning alone due to enhanced motivation for students who care about each other's progress, it was hard to apply during the Covid-19 learning's environment because students could not meet in person safely. How significant is the role of AI in post pandemic? The following discusses its role in a particular course setting.

1.2 The Role of AI in the Personalized Learning of Graphic Arts

The role of AI in Education 6.0 is to recommend the enhancement of personalized learning and adaptive pedagogy. This personalized learning is a learning experience that is tailored to fit any student's specific needs. It lets the accommodation of individual student's learning speed with the kind of instructional approaches, technologies, and quality of materials used to learn [7]. Evanick [8] pinpoints a significant advantage of AI in online education. He believes AI-driven systems can offer real-time feedback and assessment, unlike traditional education models that often rely on periodic evaluations, thus delaying the identification of learning gaps. By continuously monitoring students' performances, AI can provide instant feedback, henceforth helping students quickly correct mistakes and reinforce learning concepts. In addition to providing real-time feedback, AI provides students with gamification learning brought by dynamic and engaging quiz simulations and interactive video learning materials that make use of Virtual Reality (VR) and Augmented Reality (AR). There are disadvantages to relying on AI, however. AI-driven personalized learning requires reliable stable internet connectivity and digital devices, which are not available in remote places. Thos is why, teachers and students alike still prefer offline classes, thus, also explains why in the second phase of the pandemic, there were hybrid classes.

In the third phase of the pandemic when the Covid-19 was announced to have been controlled by humans, teachers and students feel relieved to come back to the traditional classrooms. The use of AI in classrooms, however, still continued to be valuable. This reason advised teachers to continually embrace AI and make good use of it while performing as orchestrators of when, and how to use AIEd tools in the classrooms effectively. The AI serve as a catalyst for teachers to do tasks they were having limited time in, like marking, record keeping students' work, and devoting more of their energies to provide more creative and innovative teaching-learning materials [9, p. 31]. In using AI, teachers are advised also to make students aware that their data privacy and security may be at risk due to easily using all sorts of available AI software on the internet. Due to the easy access of AI materials on the internet teachers has, at the same time, be on their toes for student plagiarism culture, the emergence of AI pushes teachers to teach

students the ethical and equitable practices of not relying solely on AI to do their projects, but only make use of their human judgements to produce creative, innovative products that elevates human intelligence. In other words, despite the personalized learning opportunities AI offers to students, teachers still play a crucial role in providing support and creating an ethical environment for academically inspiring learning environments. One such course in FLA-SCU (Faculty of Language and Arts at Soegijapranata Catholic University) in Indonesia that provides the mentioned environment is Graphic Arts.

Graphic Arts is a course in the English Department that requires Indonesian students to use AI effectively and responsibly to create comic books as a media for modern storytelling. Unlike the VCD (Visual Communication Design) Department from the Architecture Faculty, which focuses on freehand drawing and tools such as Adobe Illustrator and Photoshop, the English Department emphasizes their Graphic Arts students to use English for communication and online resources. This is why, students are taught to take advantage of tutorials from YouTube and other online comic drawing software that are primarily in English. In other words, students are taught to rely on AIEd to produce the personalized learning in comic creation by adapting to individual students' needs and learning paces. In the Graphic Arts course, AI tools such as Google Search, Google Translate, and ChatGPT are employed to assist students in writing narratives for their end product of crafting digital comic books. These tools provide students with resources and language support, enhancing their ability to create compelling and culturally relevant stories through an AI drawing technology such as found in Canva.

The integration of AI in the Graphic Arts course stimulates creativity and innovation among students. By using the AI tools found in Canva, students can explore a new way of storytelling. Students learn to incorporate modern techniques with traditional narratives. This approach not only fosters creativity but also encourages students to think critically and innovatively about their work.

1.3   Celebrating and Preserving Indonesian Cultural Heritage through Digital Comic Books

The central project of the Graphic Arts course is the creation of digital comic books using Canva. This project requires students to depict elements of Indonesian culture, such as folklore, historical events, and iconic landscapes. By using Canva, which is a "technologically based educational tool" on the internet that "offers aesthetically pleasing designs in the form of templates, features, and categories" [10] as a cultural catalyst to creating digital comic books, students are not only learning modern storytelling techniques but also engaging deeply with their cultural heritage.

Surfing the web, there seems to be no researcher from an English Department that has reported on the use of comics media to transfer some Indonesian cultural heritage. Thus far, there is an Indonesian Literature Education scholar, Suroso who found that Indonesian novels tended to deal with multicultural issues that deal with social, political, religious and ethnic interactions. The issues would consist of (1) the use of multi languages (Indonesian, Javanese, English, and Dutch) in the dialogs, (2) the description

of social classes in Javanese society with their affection, humility, sincerity, whole-heartedness, and humble attitude, (3) the relationship between aristocrats, common people, masters, and servants, (4) the issues of devotion, social relationship, affection and perseverance in carrying out professional demands, (5) the inter-religion and inter-nation marriage [11].

With regards to comic books, a news report [12] stated that like the novel, the Indonesian comic usually reflects the socio-political and cultural situation of the country, so it has been a medium to teach local wisdom and culture. The report continues to inform that among the cultural elements found in earliest Indonesian comics were the use of Peranakan language "owe" to refer to the self of the Hokkien language of "gua" and "elu". Another evidence is the visual of an 1800s Peranakan mother wearing a long kebaya. A VCD scholar, Mustaqim, reported his research on Masdiono's comic, Karimata 1890, which relied solely on visual images to narrate a story. He showed a scene at a traditional market (see Fig. 1.) where Indonesian women are also wearing kebaya complete with their kain and slendang to carry a bamboo basket of what they intend to sell, alongside men wearing their beskap and blangkon head dress who seem to eagerly consume one of the lady's products [13, p. 4]:

Fig. 1. An Indonesian cultural scene at a traditional market

Another scholar, Imanda, is an Anthropologist. He informed that the Indonesian comic actually started with the founding of the Borobudur temple reliefs. In its development, however, the Indonesian comics were heavily influenced by the Dutch and Japanese that former President Soekarno, who was anti-Western at that time, declared early works as being rubbish. In the1970-80s, however, comic artists such as R.A. Kosasih, Jan Mintaraga, and Ganes Th became known by their local themes of images that included a puppeteer, self-defense art, and local heroes [14, p. 71].

2   Methodology

2.1   Course Design and Implementation

The Graphic Arts course is designed to incorporate AI tools at various stages of the creative process. In the even semester of 2023/24 academic year, as many as 12 students take the Graphic Arts course.

In the implementation, the students were firstly introduced to the basics of AI and its applications in creative arts. They were then guided through the process of using the basic AI tools such as Google Scholar to gather information, Google Translate to translate texts, and ChatGPT as well to generate creative content. The culmination of this process is the creation of digital comic books using Canva, where students apply their learned skills to produce culturally significant stories.

In the creation of their stories, students were guided to discuss various aspects of Indonesian cultural heritage or issues they wished to use as their themes. Once the themes were decided, students presented detailed plots, including the physical appearance and characterization of both major and minor characters. Following this, students identified which parts of the stories would be depicted on the pages and panels of their prospective comic books. Fig. 2. is an example of the drafted digital comic book that the student did for the story, *Scoops of Happiness* along with comments from the teacher:

Fig. 2. Editing *Scoops of Happiness* draft

Each student then presented their decisions on visualizing the characters, choosing appropriate backgrounds, and selecting colours, as well as justifying their choices of font types and sizes for the text balloons. This process helped avoid plagiarism, as everyone in the classroom was familiar with the background of each digital comic book's creation. Utilizing Canva as the medium also allowed the teacher to act as a collaborative editor, frequently checking on the progress of the book-making. Finally, to recognize the students' hard work, some of their projects were selected to receive ISBNs or HKI (scientific work rights) certificates. See below Fig. 3. That showcased the process.

Fig. 3. The creative process of *Scoops of Happiness* digital comic book

2.2   Data Collection and Analysis

Data on student engagement and outcomes of the Canva comic book project is collected using Google Forms. In addition to the data acquired from the Google Form, direct class observation with a one-to-one interview on the process of the comic book creation were used to assess how students interact with AI tools. Students were also assessed on how the AI tools have impacted on the learning process. Henceforth, a descriptive qualitative analysis that focused on the effectiveness of AI in enhancing students' creativity, the quality of narratives produced, and their appreciation for their cultural heritage as represented in their images could be formulated.

3   Results and Discussion

The advent of Education 6.0 that emphasized a shift towards learner-centric education, have leveraged technological advancements to create personalized and adaptive learning environments. This paradigm recognized the importance of integrating technology into education to enhance learning outcomes. One such integration was the use of AI in creative arts education, which offered significant potential for enriching the learning experience. This article examines how AI is harnessed in the Graphic Arts course at Soegijapranata Catholic University, Indonesia, to teach modern storytelling techniques and preserve cultural heritage in the form of digital comic books.

Using Google Form as an assessment instrument, it was revealed that students actively engage with AI tools to enhance their narratives. Google Search provided them with cultural and historical information, Google Translate helped in understanding and using local languages accurately, and ChatGPT assisted in generating creative content and dialogue. These tools collectively enable students to create rich, culturally infused narratives that they brought to life through their digital comic books. In clarifying whether there were other forms of AI tools other than already mentioned above, the following chart in Fig. 4. indicated that students were also using Adobe Illustrator, Remove BG, YouTube, CapCut, Quilt Bolt and others: NightCafe Creator, Duolingo. IG, perplexity, ibis paint and Looke (see Fig. 4).
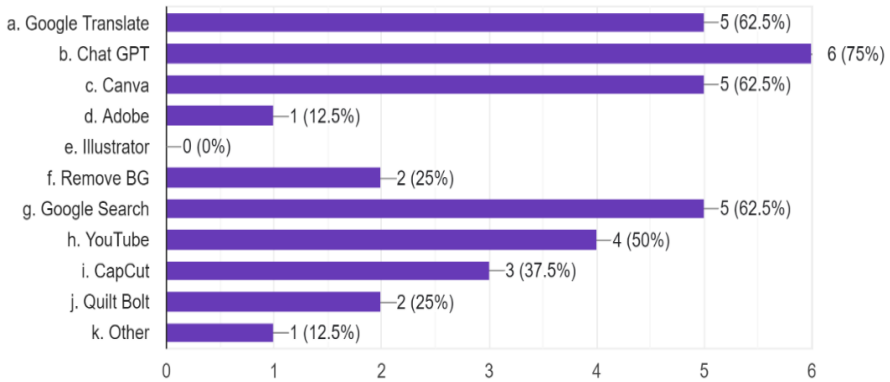
Fig. 4. Types of AI tools used

When asked how significant AI has been to them, students claim they needed the AI tools to inspire and help them generate and create the visual background of their comic panels and in changing the facial expressions of their comic characters. The tools assisted the students to express their ideas into images that they could not imagine before because none of them had any formal background in art, especially on drawing comics. Thus, they depended on what the AI has to offer with regards to the descriptive prompts students feed into the AI tool in creating the image of the comic book's hero or main character. Although the AI sometimes struggled to produce characters with the required background and behavior based on student prompts, it was still efficient in helping them quickly draw and decide on images and text for their story openings, development, and endings.

With regards to which part of the story plot will students show Indonesian cultural heritage, an equal 37.5% said they will use it in the Exposition and Conflict of their stories. This is followed by an equal 12.5% for the Resolution and Ending of the story (see Fig.5.):
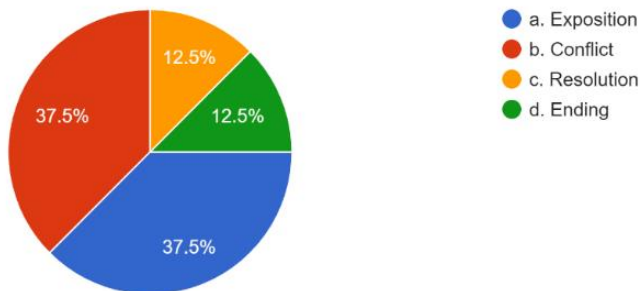

Fig. 5. Placement of Indonesian cultural heritage based on the stories' plot

Meanwhile, when asked where the Indonesian cultural heritage will be positioned, students responded that in the Exposition of the story, they will draw characters wearing clothes with batik motif or other Indonesian culture ornaments. In the Conflict and Resolution of their stories, they have the characters experience Indonesian situations and conditions.

Peering into samples of students work the comic book images showcased the points mentioned above. First, in *Scoops of Happiness* (see Fig. 3.) a distinctive Indonesian cultural scene is shown in the white and red uniform the school kid characters are wearing. They represent an Elementary/ Primary school uniform worn by all Indonesian children.

Next, in the story, *Belly's Adventure*, the comic writer deliberately created the image of Mr. Maino, an old man wearing a Javanese head dress called the *blangkon* to have batik motif on it with a common brown cloth color (see Fig. 6). Then, the two giants wearing batik motif short *sarung* was also the student creator's way of showing an Indonesian cultural heritage. Notice that the Indonesian name, Mr. Maino, for the old man, and the words "*wah, wah wah*" is also used by one of the giants to distinctively show the peculiar Indonesian way of showing disbelieve in what the giant reacted in seeing the kid (see Fig. 7):

Fig. 6. The man's *blangkon*   **Fig. 7.** The giants' *sarung*

Another sample is in the story, *Purple Heart*, where in Fig. 7. the student creator has creatively drawn an image of Indonesian coffee poured in a clay made cup and saucer, thus, making it uniquely Indonesian. It is, however, made more eye catching by putting on top of it a scoop of whipped cream. This illustrated that the idea of having a chapter on 'coffee and you', ie. where the protagonist is met with the antagonist is not only found in Western stories but also in Eastern ones, like in Indonesia.

Fig. 8. Indonesian coffee whipped cream   **Fig.9.** The pink orchid and colorful batik blouse

This kind of Indonesian scene is repeated in Fig. 8. where a pink orchid is seen near the girl wearing a modern colorful blue, pink, red, and yellow batik outfit. Although the setting is in a modern office, the student has creatively put in these Indonesian elements to show the unique Indonesian cultural heritage elements deserved to be preserved through the comic book images. There are other images and dialog instances in the digital comic books created by other students, which indicated that the use of AI tools in the Graphics Art class have significantly enhanced students' creativity and learning experiences. Yet, the project sample of two of the students above are already exemplary enough.

During individual interview and also class presentation sessions of their drafted digital comic books, students reported that AI tools have helped them develop more detailed and imaginative narratives. The ability to access vast amounts of images and generate creative ones through various AI drawing software and of Canva's magic media facility enables students to quickly create unique images applicable to the theme of Indonesian cultural heritage. Students claim that working with AI was not as easy as it seems. There were setbacks to it. When prompting Canva to generate the images they needed through the magical studio, students had to use very descriptive and specific vocabularies. Extra precaution had to be used also to ensure that the work produced was original and would not be judged as a product of plagiarism. Nevertheless, the results not only made the English Department students happy in putting to practice their English in a creative way, they also learned how to apply it successfully for an artistic work. In the end, both teacher and students felt satisfied with their efforts of appreciating and preserving Indonesia's cultural heritage.

4   Conclusion

The project of preserving Indonesian cultural heritage through AIEd tools such as Canva in the Graphic Arts classroom has a profound impact on students' appreciation of Indonesian culture. By engaging AI for the purpose of meeting a personalized and adaptive learning experiences of Education 6.0, the Indonesian students developed a deeper connection to their own cultural heritage. The digital comic books produced by the Graphic Arts students were not only educational but also serve as valuable resources for promoting and preserving the Indonesian culture. The teacher's innovative approach of making the class more alive and enjoyable with AIEd demonstrated how technology in modern education can be used to human's advantage.

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