# ETHICAL INTEGRATION OF AI IN ANIMATION STUDIES: FOSTERING LIFELONG LEARNING, RESPONSIBLE DECISION-MAKING, AND HUMAN CREATIVITY

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**ARTIKEL**
**Diterima:** 26 April 2024 ⋮ **Direvisi:** 20 Mei 2024 ⋮ **Disetujui:** 10 Juni 2024

***ABSTRACT***

*This paper explores the ethical integration of artificial intelligence (AI) in animation studies, focusing on empowering undergraduate students as lifelong learners. The research aims to provide practical guidance for undergraduate animation students to ethically integrate AI technologies into their learning and creative processes while fostering responsible decision-making and promoting the preservation of human creativity. The study employs a desk research methodology, gathering and analyzing relevant literature and scholarly sources in AI ethics and animation studies.*

*The main findings of the research highlight the importance of critical thinking and responsible decision-making when incorporating AI tools into the creative process. It emphasizes addressing ethical challenges such as authorship, bias, transparency, and appropriation in utilizing AI technologies. The research also delves into the ethical implications of generative AI, including considerations of originality and the balance between human creativity and AI capabilities.*

*The implications of the research findings underscore the significance of lifelong learning and adaptability for undergraduate students to keep pace with AI advancements and ensure ongoing ethical development as creators and innovators in animation. By promoting the ethical integration of AI technologies, students can navigate the challenges of AI utilization while preserving the integrity of their creative expression. The research contributes to understanding ethical considerations in integrating AI in animation studies. It provides practical insights for students and educators in fostering responsible and innovative use of AI technologies.*

***Keywords: AI Integration, Animation Studies, Ethical Practices, Lifelong Learning, Human Creativity***

**ABSTRAK**

Makalah ini mengeksplorasi integrasi etis kecerdasan buatan (AI) dalam studi animasi, dengan fokus pada pemberdayaan mahasiswa sebagai pembelajar seumur hidup. Penelitian ini bertujuan memberikan panduan praktis bagi mahasiswa animasi yang secara etis mengintegrasikan teknologi AI ke dalam proses pembelajaran dan kreatif mereka, sambil mendorong pengambilan keputusan yang bertanggung jawab dan mempromosikan pelestarian kreativitas manusia. Studi ini menggunakan metodologi penelitian meja, mengumpulkan, dan menganalisis literatur serta sumber-sumber akademis yang relevan dalam etika AI dan studi animasi.

Temuan utama penelitian menyoroti pentingnya berpikir kritis dan pengambilan keputusan yang bertanggung jawab saat mengintegrasikan AI ke dalam proses kreatif. Ini menekankan perlunya mengatasi tantangan etis seperti kepemilikan, dampak, transparansi, dan pengambilan yang tepat dalam menggunakan teknologi AI. Penelitian ini juga mendalami implikasi etis dari AI generatif, termasuk pertimbangan tentang orisinalitas dan keseimbangan antara kreativitas manusia dan kemampuan AI.

Implikasi temuan penelitian menekankan pentingnya pembelajaran seumur hidup dan kemampuan beradaptasi bagi mahasiswa untuk mengikuti perkembangan AI dan memastikan pengembangan etis yang berkelanjutan sebagai pencipta serta inovator dalam animasi. Dengan mempromosikan integrasi etis teknologi AI, mahasiswa dapat menghadapi tantangan penggunaan AI sambil menjaga integritas ekspresi kreatif mereka. Penelitian ini berkontribusi pada pemahaman pertimbangan etis dalam integrasi AI dalam studi animasi, serta memberikan wawasan praktis bagi mahasiswa dan pendidik dalam mendorong penggunaan teknologi AI yang bertanggung jawab dan inovatif.

**Kata Kunci: Integrasi AI, Studi Animasi, Praktik Etis, Pembelajaran Seumur Hidup, Kreativitas Manusia**

## INTRODUCTION

Digital technology has ushered in significant changes in daily routines, affecting both work and leisure activities. These changes have also left an indelible mark on educational institutions, particularly universities, altering how knowledge is imparted within the classroom. The traditional pedagogical process of content delivery, learning assessment, and the refinement of creative outputs has undergone a profound disruption. The conventional approach, which necessitated students to independently seek, comprehend, and assimilate literary sources, is increasingly being streamlined by integrating artificial intelligence (AI), expediting this educational process.

Digital disruption in higher education, propelled by technological innovations, has led to the rise of online learning platforms, MOOCs, and virtual classrooms, making education more accessible and flexible. While changing student demographics demand adaptable and personalized learning experiences, they have forced universities to reassess their traditional methods. Digital disruption presents both challenges and opportunities for universities. Universities must navigate quality assurance issues, faculty adaptation to new teaching methods, and maintain a sense of community in a digital world. These challenges are balanced by opportunities to innovate, increase access to education, and tailor learning experiences to diverse student needs.

Simultaneously, higher education is experiencing a seismic shift due to digital disruption. Historically anchored in physical campuses and in-person teaching, universities are now navigating a transformation in education delivery. This shift challenges long-standing norms in higher education. This paper explores the digital disruption of AI usage in the context of universities, exploring the drivers fueling this transformation and its wide-ranging implications for institutions, educators, and students.

This article tries to explore how digital disruption in higher education, especially in the Animation subject, where sciences can be utilized, by taking the example of applying AI to the creative process in exploring the visual concept of animated films. Authors will explain the creative stages that can be carried out in constructing animated visual concepts with the help of AI while still prioritizing academic ethics.

This article uses AI assistance to connect several discussion data, sequence thought processes and search for data related to best practices for applying AI in Arts education, especially Animation subjects. The authors processed the obtained data from AI, by verifying them with the help of search engines and reference literatures.

## METHODOLOGY

This research endeavors to clarify contemporary circumstances through a descriptive-qualitative research approach. Various sources, encompassing studies in the forms of books, journals, and reports, contribute to the collection of secondary data, which is then subjected to a literature study analysis. In the context of secondary data analysis (SDA) studies, researchers leverage pre-existing data collected by others to address different research inquiries. Given its retrospective nature, this study utilizes the available data to explore causality or correlation pertaining to current issues and glean insights into the subject (Johnston, 2014).

The primary objective of this analysis is to illuminate present-day phenomena by investigating the cause-and-effect relationships embedded within the examined dataset. The methodology entails the systematic collection and organization of data, followed by its inter-

pretation, facilitating a deeper understanding of the realities encountered in the field. This approach encourages the incorporation of creativity and intuition into the evolution of theoretical concepts and aids in discerning both the broader applicability and specific nuances of the observed phenomena (Dubois & Gadde, 2002; Kovács & Spens, 2005).

The structure of this article is as follows: Data description sections are used as a bridge to comprehend human creativity, Artificial Intelligence and higher education, especially in the field of Animation. A discussion of several previous studies on the application of AI works is used to understand how AI is implemented in practice. The ethics of using AI in the context of academic integrity will be discussed to provide guidance or consensus discourse which is then generated as a reaction to the practice of implementing AI.

In the next section the authors will explain strategy in constructing an animated visual concept using AI. An explanation will be carried out using stages of instructions, starting from formulating creative ideas to the execution stage in constructing animated visual concepts with the help of AI.

In the discussion section, the authors will describe reflections on how the stages explained in the previous subchapter are acceptable/unacceptable in terms of academic ethics.

## RESULT

### A. Creative Concepts and Originality Issues

In the context of works of art, creativity and originality are often discussed simultaneously. A work of Art is the result of a creative process, and is required to be original. Specker et. al (2023) in his article discusses the concept of originality, specifically *the genuineness effect*; a situation on how the authenticity of a work will affect the viewing experience of the audience.

The case brought by Specker was applied in the context of some original work of art which are exhibited in a museum. He then concluded that the existence of the genuineness effect could not be proven. In animated films, where the animated work is created collaboratively; originality and creativity are on different spectrums. Animated films are categorized as creative works, but their originality value may be on another spectrum that cannot be equated with individually created works of art.

Martinez (2023) in his article questions how creativity has a very broad meaning. He then offers strategies on how to interpret creativity in education, especially in the context of developing student capacity in the context of critical thinking. In an era where the variety of content is abundant, criteria of creativity and originality should be renewed.

When artificial intelligence drives the transformation, challenges the new way in understanding creativity and originality, it brings opportunities when it presents, and investigates the strategies universities employ to thrive in this evolving landscape.

To produce visual art requires a creative process that should be explored directly by students, traditionally in the form of a hands-on learning experience. Higher education institutions should redefine their roles in the digital age and the implications for the future of higher education in ethical practices of AI integration in creative learning environments.

## B. AI in the Context of Animation Production

Qingke Liu and Hui Peng (2021) in their article explain that the development of animation cannot be separated from the scientific-technological area. The Persistence of Vision with Regard to Moving Objects, proposed by Peter Mark Roget, is the basis for understanding animation as moving images.

Then, the development of moving image technology; initially from various philosophical toys that use optical principles, then to the development of camera technology and various industrial scale animation production equipment; all are developed using the principles of scientific technology.

Animation comes into contact with the visual art area, when moving images require artistic creativity to attract attention and gather the masses. Products with a touch of artistic creativity are more attractive, gain more attention and ultimately bring more benefits.

The animation industry continues to grow, providing extensive space for various innovations used for the efficiency and effectiveness of the production process, and improving the artistic quality of the animation products.

In the context of arts education, especially the Animation specialization, institutions should provide opportunities for students to recognize and apply the animation production process to the animation creations, as well as bringing students closer to the applications of animation production systems in the industry. AI is an innovation product whose processes were developing simultaneously over the time with the development of animation technology itself.

In the context of arts education, the application of AI is imminent. AI allows self-regulated learning to occur, and it will increase productivity. The following are the possible uses of AI in the area of art and design education, especially in the Animation specialization: as a tool for brainstorming, formulating topics or ideas, tools to gather and sort artistic references, tools for constructing work feedbacks, tools to enable tutorials and virtual assistants, analyzing data, automating several animation production processes, etc.

**C. Ethical Considerations in using AI in Animation Studies, and its Interrelationships with Higher Education Context**

In his 2023 publication, Tigre contends that AI should be regarded as a tool for generating or enhancing the value of creative outputs. Nonetheless, Tigre acknowledges that ethical and, in some cases, legal aspects related to the use of AI in various creative works warrant more in-depth examination and discourse. This is primarily because the presence of AI has expanded the spectrum of potential alternatives for creating new works. Tigre views this as a customary phenomenon, recognizing that technological advancements in any form invariably bring about societal shifts.

This aligns with the observations made by Siray (2021), who discussed the transformative impact of emerging technologies on the artistic direction. According to Siray, avant-garde artists consistently seek to incorporate innovation, both in terms of mediums and concepts, into their work. In contemporary times, avant-garde artists employ unconventional materials such as discarded items, collage techniques, and found objects to introduce novelty and liberate themselves from the conventional constraints associated with canvas art, which is perceived as limiting their creative freedom.

As technology and digitalization become increasingly pervasive, there arises a necessity to harness these tools for creative endeavors. In the realm of digital expression, there's also a demand to employ various mediums, including radio, film, animation, and sound recordings, to craft artistic works. This phenomenon contributes to the advancement of art and raises ethical concerns concerning the creation and authenticity of artworks.

The ongoing discourse surrounding the advancement of AI and the myriad of issues arising from its application in the realm of art creation reflects a recurrence of historical patterns.

In referring to animation as a medium for creative work and recognizing that animated projects are typically collaborative efforts, it becomes evident that ethical matters about AI-assisted animated creations will necessitate further deliberation. Moreover, when contemplating these discussions within an educational context, examining the ethical dimensions of how the democratization of education has transformed the landscape into a more inclusive one becomes crucial.

AI contributes to a more inclusive educational landscape by expanding opportunities for students to access and process knowledge. It's worth emphasizing that policies related to AI usage in education and other domains must be formulated with various considerations in mind. These considerations should promote lifelong learning, facilitate responsible decision-making, and uphold academic integrity.

**D. Result Constructing an Animated Visual Concept using AI: A Proposed Strategy**

Wallas (1926) outlined the concept that the materialization of a project corresponds to the realization of an idea that progresses through various phases of a cognitive journey, commencing with preparation, followed by incubation, illumination, and ultimately verification (as detailed in "The Arts of Thought," 1926). This notion was further bolstered by Alfred North Whitehead in 1927 when he introduced the term 'creativity' to describe thought processes prevalent in the realms of science, literature, and art.

In the process of creating visual concepts in animation learning, students, as creators, are required to look for ideas that will be processed into works. The material for creating animated works emphasizes the pre-production process, where ideas are creatively finalized to have a design basis for production.

In their initial idea, they will look for various references for the visual concept that will be processed. Before using drawing or other graphic skills, they will try to study assorted relevant references. They started with films, comics, books, photos, journals, and or field observations. These various references are sorted, selected, and arranged.

Once assembled, students employ it as a guide for generating the visual elements required in alignment with the concept of their narrative. During this phase, they commence with preliminary sketch drawings, which subsequently evolve into final drawings serving as visual references.

This stage is notably demanding as students are tasked with progressing through all four creative steps, culminating in the verification stage. Their visual concept should be recognized as their own creative endeavor, distinct from mere imitation or plagiarism of pre-existing work.

During the animation class, students encountered a situation in which they required additional time when attempting to translate the abstract nature of their ideas. This involved searching for suitable references and striving to identify visual associations that would align with their intended visualizations.

Through the application of AI, students can now input keywords structured as prompts. These prompts describe the amalgamation of ideas they aim to convey visually. The AI's primary objective is to emulate humans' cognitive processes when seeking solutions to problems or goals.

Students will follow the crucial phases for processing their assignments in each class, employing a visual concept-oriented approach. When organized in sequence, these steps roughly encompass:

1. Brainstorming ideas.
2. Documenting the chosen fundamental concepts.
3. Sourcing relevant references.
4. Compiling these references to serve as a guide.
5. Developing visual concepts.

6. Finalizing the visual image as a representation of their work.
7. Creating their artwork.

Through these stages, it becomes evident that students engage in a cognitive process reminiscent of Wallas' stages. A trial-and-error procedure is involved in shaping their ideas, commencing with brainstorming and extending through the reference compilation stage. Within these stages, students may require additional time to refine their concepts and gain confidence in their work.

Classroom directives required them to manually sketch and draft their visual concepts, either through traditional or digital means. However, this is the stage where AI can serve as a valuable tool, assisting students in shaping their initial ideas and aligning them with pertinent references, provided these references remain contextually relevant.

Building upon the earlier conversation about the ethical aspects of employing AI in Animation Studies and its connections with Higher Education, it can be asserted that, to promote inclusivity in the learning journey, students may allowed to employ AI to enhance the efficiency of their creative processes, provided that they maintain awareness and transparency regarding their methods.

## DISCUSSION

The utilization of AI in the creative process can commence by generating innovative ideas and gathering references for the work. Considering the educational attainment requirements and the prevailing dynamics of the animation industry, students are encouraged to independently navigate the phases of visual concept development in their work.

However, it is essential to recognize that the strategy proposed here may evolve in response to future transformations in the animation industry landscape, ongoing AI advancements, and introduction new policies. Additionally, it's worth noting that numerous strategies exist for integrating AI into various aspects of teaching, learning activities, and creative work.

The approach to be adopted will hinge on the policies and protocols employed by the institution to evaluate the resultant product or work. Such variations can potentially result in divergent interpretations across institutions, contingent upon their stance regarding the application of AI within the realm of creation.

Leveraging AI's assistance, the author frequently examined the potential of AI as a creative instrument in art education. Repeatedly, the AI awarded the highest scores for transparency, indicating the degree to which users are willing to acknowledge the AI's role as a tool openly. Another significant aspect, equally emphasized by the author, is how this transparency also shapes the responses of external parties when encountering work generated with AI assistance.

## CONCLUSION

Technological progress will invariably exist alongside societal transformations, whether these changes occur as a direct or indirect result of technology. Artificial Intelligence introduces fresh approaches to addressing and solving diverse issues that arise as logical outcomes.

Within the context of animation education, AI creates possibilities for democratizing creative endeavors, serving as a means to overcome artistic constraints. This aligns with the broader concept of democratizing education, which has long aimed to attain inclusive learning, ensuring everyone has equal access to information and ideas for their creative work.

As AI advances in sophistication, it becomes crucial to focus on policies that encourage democratization and cultivate lifelong learning, responsible decision-making, and academic integrity.

The principle of transparency plays a pivotal role in acclimating and promoting educational activities. Transparency can encompass various aspects, including disclosing the sources of references in the work, elucidating the work process, and articulating how the work is presented. Safeguarding best practices through institutional policies is vital. Institutions can establish and uphold a framework that ensures enduring integrity and fosters a positive reputation in academic cultural practices.

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