

Creative Subjectivity Reconstruction in Experimental Animation Education under Generative AI: Evidence from Private Universities in Liaoning, China

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Abstract

With the widespread use of generative artificial intelligence in the field of visual creation, the creative logic and teaching mode of experimental animation have changed profoundly. The old people-oriented creative model is gradually being replaced by a new human-artificial intelligence collaboration model, and as a result, a series of problems have arisen in the construction of creative subjectivity, the definition of originality and the reform of teaching evaluation standards, etc. Experimental animation teaching is the subject of this paper; under the background of the development of generative artificial intelligence, a corresponding teaching mechanism will be constructed from the perspective of creative subjective reconstruction. Based on the above analysis of theory, teaching practice and case studies, it is hoped that modifications in the subjection of individuals during the creation process of AI-driven experimental animation can be revealed; according to this, suitable teaching countermeasures will be proposed.

Keywords

Generative AI, experimental animation, creative subjectivity, semiotics, teaching mechanism.

1. Introduction

1.1. Research Background

In line with the national policy directions of the 14th Five-Year Plan for Digital Economy Development and the Interim Measures for the Management of Generative Artificial Intelligence Services, the digital creative industry has begun to drive cultural innovation and industrial upgrading [1]. In recent years, with the rapid development of generative AI technology and the widespread use of tools such as Stable Diffusion and Runway, creative workflows have been changing all sorts of ways due to the introduction of generative AI [2]. Now, AI can create images in various ways and even help us structure the logic and expression of our own creations.

Experimental animation is an art form focused on individual expression and exploration of various media; therefore, it is essentially about creators' subjective thoughts. However, with the strong generative ability of AI, a number of students have become accustomed to algorithmic output for their creations and, as a result, the visuals and expressive content of their works are relatively uniform. Thus, the exploratory nature of experimental animation has been weakened and the traditional structure of creative subjects has been reshaped.

Therefore, redefining the idea of creative subjectivity and constructing corresponding teaching systems have become urgent problems in the current research on experimental animation education.

1.2. Research Significance

Theoretically, the emergence of generative artificial intelligence has challenged the traditional concept of authorship and creative agency in art [3]. Creative subjects have moved away from being solely human creators and now take the form of joint creation by humans and AI; thus, re-examining creative subjectivity has expanded the theoretical scope of research on art creation in the age of AI.

There are many teaching problems in university animation education across the country, such as the uninhibited use of artificial intelligence, too many students relying on automatic generation, and no clear assessment norm for original works. To build a subject-centered teaching system, we can foster proactive governance of generative workflows and improve the artistic expression ability of students.

Practically speaking, this paper integrates experimental animation teaching with generative artificial intelligence technology to propose reform ideas for curriculum design and new ideas for the development of art education in the era of artificial intelligence.

1.3. Research Status at Home and Abroad

Overseas experimental animation education has an established system. Universities in the United States, the United Kingdom, Japan and other countries have established close cooperation with animation enterprises and creative studios to build a three-way talent cultivation system covering artistic exploration, technological innovation and industrial practice. These institutions consider AI to be a means of creation and are thus focused on copyright management and the right of creation. Most studies abroad are based on the elite art academies, and there have been fewer studies in China about application-oriented talent training in private universities as well as fewer comprehensive investigations that integrate regional industries and indigenous cultures.

At present, many studies have been conducted domestically on experimental animation curriculum reform, AI arts education, industry-education integration and new liberal arts construction. The previous research has found that there are still problems with traditional teaching, such as outdated curriculum content, a lack of practical resources and a low industrial application rate, and has made some initial attempts to use artificial intelligence in storyboarding, art design and material experimentation. However, there are still some deficiencies in the current research. First, most studies have only focused on the role of artificial intelligence as a tool; Second, there has been no particular exploration of the enrollment characteristics and schooling situations of private universities; Third, practical solutions to the problems of AI dependence, lack of originality and ethical abnormalities have not been put forward; Fourth, clear paths for integrating Liaoning regional culture into experimental animation teaching and refined achievement transformation mechanisms have also not been established. According to the actual situation of private higher education, this paper has built an all-round innovative teaching system with unique theoretical and practical innovative value.

1.4. Research Ideas and Methodology

The two main problems this paper will address are: how has generative AI changed the concept of "creative subjectivity" in experimental animation, and how should education adapt to these changes? Therefore, the three stages of research in this paper are theoretical analysis, instructional design and practical verification.

Firstly, the related theories of generative artificial intelligence, experimental animation and creative subjectivity will be studied to provide a theoretical foundation for this paper; Secondly, in the background of instructional practice, a mechanism for the reconstruction of subjectivity in teaching will be proposed; Finally, case studies and classroom feedback will be used to verify and summarize the results of teaching.

The three main ways of research are:

- (1) Literature Review: Gather the original theories of Generative AI and experimental animation.
- (2) Action Research: Based on the results of continuous application of the curriculum, modify the proposed teaching mechanism.
- (3) Case Analysis: Study the particular cases of classroom construction and draw conclusions.

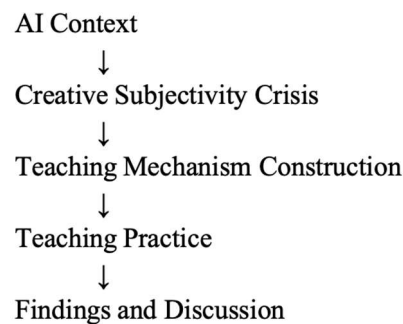


Figure 1. General Research Framework of This Study.

1.5. Research Methodology

At the same time, a combined method was employed in this study to investigate how to rebuild creative subjectivity in experimental animation education in light of the development of generative artificial intelligence; literature review, action research, classroom observation and case study were also used. Over 16 weeks of the undergraduate experimental animation course, 45 students took part in the study.

The plan for instructional intervention was based on the concept of subjectivity-oriented teaching, and it will focus on symbolic reconstruction, procedural intervention and meaning construction. Students have been creating AI-assisted animation works in class, and the teachers have been observing their creation behaviour and study results all along.

Many sources of data were employed to guarantee the reliability of the research. Firstly, the 100-point evaluation rubric for teachers' work contained originality, symbolic reconstruction, expression of ideas and creativity. Secondly, at the end of class, an anonymous questionnaire was given to the students to have them share their thoughts on creative subjectivity and AI-assisted creation, and a 5-point Likert scale was used. Thirdly, the works and observations of some representative students in class were also added to the qualitative data.

The collected data will be compared with qualitative content analysis in the analysis. Based on the comparison of the situation before and after the intervention, this paper will study the effect of the new teaching model and what kinds of changes generative AI brings to creative subjectivity in experimental animation education.

1.6. Research Contribution

Most previous research has focused on how to apply generative artificial intelligence to the teaching of animation, but not much attention has been paid to creation under creative subjectivity. According to the theory of semiotics, experimental animation and human-AI collaboration will be employed to create a subjective-oriented teaching system based on symbolic reconstruction, meaning construction and people's participation in the generation process.

The two types of contributions of this paper are: First of all, it can provide an introduction to the ideas of how creativity is carried out; it does not need to be lost in the process of AI-assisted art production. Second, it can provide a good teaching system for experimental animation education for students and allow them to switch from being passively led by artificial intelligence to actively constructing meaning and making creative choices.

2. Theoretical Foundation and Analysis Framework

2.1. Reconstruction of Creative Subjectivity

Traditionally, the core of art creation has been centred on the author's intent for signification, and now Generative AI has been added. The way of operation for the creation now is to generate and screen, then make adjustments. Creators are no longer just following visual instructions; instead, they are building generative algorithms and new modes of expression. As a result, at present, the participation of creators in human-AI co-creation has become a very popular topic [4].

Among the components of the AI ecosystem, fewer are implemented by hand and more are procedural. The competence of the main creator has moved from technical operation to the control of generative logic, visual relations and expression architecture. Therefore, generative AI should not be mistaken for a human creator or a subject of consciousness; rather, it is a joint subject of human-AI collaboration. Recent studies have found that human creativity now mainly takes the form of decisions on what to create, evaluation and modification, etc., rather than direct creation [5].

Generative artificial intelligence learns patterns from statistics; thus, the works it produces are often in a dull way. Too many students are too dependent on the automated results and have lost their own ideas for art expression. Therefore, to cultivate subjectivity in education, students must be able to manage the entire generative pipeline independently.

2.2. Medium Experimentality of Experimental Animation

Experimental animation is to explore new ways and visual experiments by means of materials, movement, structure, etc., and create new forms of sight. Traditional experimental animation is made by hand, collage and stop-motion, and there is a closer connection between the creator's life and the medium.

Generative AI is also used to expand the objects of experiment, and AI has been elevated from a technical tool to a new kind of experiment. They are not the same anymore; experimental animation is about chance and free expression, but AI produces standardised, template-like images by default.

Experimentally, animation has always been about artistic exploration, individual expression and the exploration of new mediums [6], and its aesthetics are no longer just means of technical production and functions; they have become independent language systems for art expression [7]. Therefore, in classroom teaching, we should go beyond teaching the basic tools and guide students to trim, collage, and rearrange AI-generated images, integrate algorithmic assets into their own expression systems, and inherit the original openness and exploratory spirit of experimental animation.

2.3. Semiotic Generation and Meaning Reconstruction Mechanism

Semiologically speaking, moving images are made up of form and meaning. After training on a large amount of data, generative AI can create images that have many signs but lack a firm reference for what they mean. With the spread of artificial intelligence-generated pictures, more research has been conducted at present on the connection between image creation and meaning.

Therefore, experimental animation is often a display of visual effects without deep ideas. It can be seen that there are problems with the stability of meaning and aesthetic unity in AI-generated visual culture. Therefore, the instruction should no longer be just about image generation training but should also have students rearrange visual symbols and create semantic connotations through context construction and teacher guidance. Therefore, the

creator's subjectivity is expressed in the reordering of relational visual symbols rather than in the creation of images.

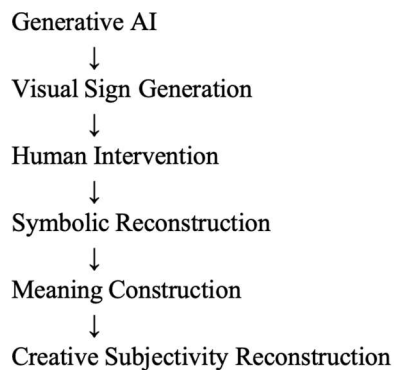


Figure 2. Theoretical Model of Creative Subjectivity Reconstruction in AI-assisted Experimental Animation Creation.

2.4. Research Gap

Most previous research on the application of generative AI in art education focuses on technology and changes in teaching, and little attention has been paid to the change in creative subjectivity. Research on experimental animation has mainly concentrated on medium experimentation and visual expression, and the effect of generative artificial intelligence on authorship and the construction of meaning has not been thoroughly investigated. Although semiotic theory can be used to study the meaning of pictures, it has not yet been applied in AI-assisted animation teaching.

Therefore, research has not yet been carried out on the intersection of generative AI, creative subjectivity and experimental animation education. Little research has been carried out on the reconstruction of creative subjectivity in experimental animation education with the help of artificial intelligence [8]. To solve this problem, a new system of subjectivity-oriented teaching based on symbolic reconstruction will be proposed in this paper.

The three contributions of this paper are as follows: First, to provide a theoretical foundation for the reconstruction of creative subjectivity; Second, to introduce semiotic reconstruction in animation education; Third, to show that a subjectivity-oriented teaching system can be achieved in reality.

3. Analysis Current Teaching Conditions and Deficiencies

Generative AI has been applied to experimental animation teaching in many places, but some problems have been exposed. First, students are too reliant on AI-generated results and lose their own thoughts. Second, the same prompt will usually produce the same picture. Third, people's attention will shift from constructing meaning to quick image production. Finally, the present assessment system cannot accurately evaluate how much students have participated in the creation process with the help of artificial intelligence.

Therefore, in order to address these problems, we need to shift from technical training to the construction of creative subjectivity.

4. Construction of the Teaching Mechanism

The proposed framework centers on creative subjectivity reconstruction through human-AI collaboration. AI serves as a tool for visual generation, while students remain responsible for symbolic reorganization and meaning construction.

The three parts of the curriculum are: Experimental Animation Basics, AI-assisted Experimentation and Project-based Creative Practice. Through gradual learning, the students will soon learn how to use AI for their studies.

In order not to be too dependent on artificial intelligence, creative journals, prompt archives and revision records are needed. Assessment is based on the process of intervention and symbolic reconstruction rather than solely on the final product to boost learners' sense of achievement. As a result, process-oriented evaluation has been widely adopted by many people to help motivate students learning about artificial intelligence in their daily studies [9].

5. Teaching Practice and Case Study

At the same time, in the teaching of regional culture through experimental animation, AI-generated pictures and manual operations were also used together.

Initially, many students directly used the output of AI and thus had uniform visual styles and shallow cultural connotations. Therefore, symbol restructuring training was added to address the above issue. Students should be able to use collage, texture modification and frame-by-frame adjustment to edit, fragment and reorder the pictures produced by AI.

Student A made artificial pictures of industrial heritage and added symbols and drawings. The last work had stronger local culture and deeper ideas. The modified work has a better sense of story and local culture than the first AI-generated picture.

As shown in the case, although artificial intelligence can generate pictures, people are still required to add meaning and new ideas.

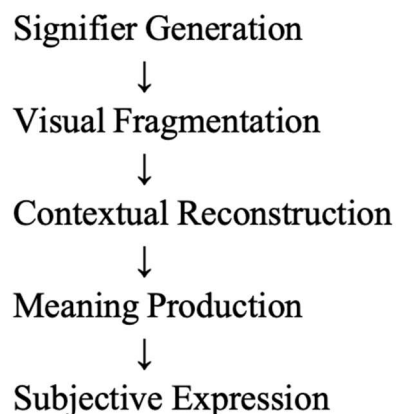


Figure 3. Semiotics Reconstruction Process in AI-assisted Experimental Animation Creation.

6. Analysis of Teaching Outcomes

There were 45 undergraduate students in total who participated in the 16-week experimental animation course. Based on the results, students have begun to change the content produced by artificial intelligence actively and add their own ideas. Visual Homogenisation decreased and the styles of creativity were varied.

Teacher evaluation increased from 72.3 to 86.7 after the intervention. According to the questionnaire, 81% of the students thought they had more creative freedom and 63% felt less visual monotony.

Based on the above results, it can be concluded that the proposed framework can help students manage themselves in the creation of AI-assisted animation.

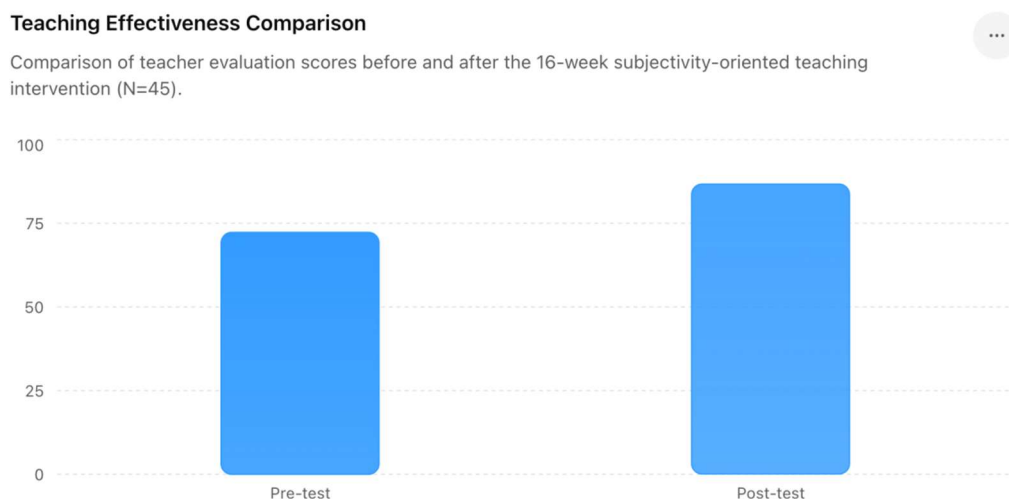


Figure 4. Comparison of teacher evaluation scores before and after implementation of the teaching framework.

7. Discussion

Therefore, it is not a substitute for creative subjectivity but rather a change of it. With the help of AI, creators will no longer be directly engaged in creation but rather take on the roles of directors, editors, etc. Based on the above, recent research has indicated that artificial intelligence is changing, but not replacing, human creativity [10].

Generative AI will promote the development of aesthetics in the future. If not properly addressed, the students will be dependent on algorithmic answers and lose the will to explore. Therefore, experimental animation is a good place to challenge uniformity by means of symbolic reconstruction and procedural intervention.

Later, studies will be conducted on the Reconstruction of Subjectivity in Cross-Media and Real-time Generative Environments.

8. Conclusion

Research on the Reconstruction of Creative Subjectivity in Experimental Animation Education Under Generative AI. According to the framework of subjectivity-oriented teaching centred on symbolic reconstruction, procedural intervention and meaning construction, students took the initiative to create with the help of AI.

The findings indicate that generative AI does not replace human creators but redefines their role within the creative workflow. The study provides a practical and theoretical reference for future art education in the AI era.

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