WEP
Warwick
Evans
Publishing

Exploring the Pathways of Intelligent Media Technology Intervention in the Reform of Aesthetic Education in Higher Education

Guangchao Dong [1, *], Lingling Hu [2]

[1] Qilu University of Technology, Jinan, China

[2] Qilu University of Technology, Jinan, China

Abstract. The reform of aesthetic education in higher education institutions is urgently needed to adapt to contemporary educational concepts and development principles. Intelligent media technology, characterized by abundant information resources, strong timeliness, and high interactivity, offers new avenues for reforming aesthetic education in higher education. The current challenges faced by this reform include the neglect of aesthetic education, the low digital literacy of the teaching staff, and the potential risks associated with intelligent media technology. Therefore, guided by the principle of "student-centered education," this paper explores the pathways of integrating intelligent media into the reform of aesthetic education in higher education from four perspectives: enhancing the digital literacy of aesthetic education teachers and students; optimizing the top-level design of higher education institutions; integrating high-quality aesthetic education resources and building intelligent media platforms for aesthetic education; promoting diversified linkages to achieve organic integration; and strengthening network supervision to improve the aesthetic education support system.

Keywords: Intelligent Media Technology; Aesthetic Education in Higher Education; Promotion Strategies; Aesthetic Education Platform.

1. Introduction

The task of higher education is to cultivate morality and nurture talents, fundamentally aiming to develop individuals with well-rounded abilities in ethics, intellect, physical fitness, aesthetics, and labor. Aesthetic education in higher education institutions plays a crucial role in developing students' aesthetic abilities, shaping well-rounded personalities, and nurturing their emotional sensibilities. In 2019, the Ministry of Education issued the "Opinions on Effectively Strengthening Aesthetic Education in Higher Education Institutions," which emphasized "promoting the reform and innovation of aesthetic education, integrating it with professional teaching, social practice, and entrepreneurship education. Fully utilizing modern information technology to explore and build a networked, digital, intelligent, and online-offline combined teaching model". In 2020, the General Office of the Central Committee of the Communist Party of China and the General Office of the State Council jointly issued the "Opinions on Comprehensively Strengthening and Improving Aesthetic Education in Schools in the New Era," which also proposed "developing a batch of high-quality digital educational resources for aesthetic education".

The educational policies of the new era set new directional indicators for aesthetic education in higher education institutions and bring new development opportunities. However, several pressing issues need to be addressed, including inadequate understanding of aesthetic education, insufficient faculty strength in aesthetic education, and neglect of integrating aesthetic education with information and network technologies. Innovating the development pathways of aesthetic education in higher education institutions through the leverage of intelligent media technology aligns with the national directives on aesthetic education and is a core requirement of aesthetic education work in the new era.

Intelligent media refers to an intelligent media ecosystem based on technologies such as mobile internet, big data, virtual reality, cloud computing, and human-computer interaction. This ecosystem can facilitate real-time multi-party operations and offers a superior user experience compared to other network carriers.

2. The Realistic Challenges of Integrating Intelligent Media Technology into the Reform of Aesthetic Education in Higher Education Institutions

2.1. Insufficient Emphasis on Aesthetic Education

Despite the increasing importance of aesthetic education in universities in recent years, it remains in a weaker position compared to moral, intellectual, and physical education. Some universities treat aesthetic education merely as art education and the rote memorization of aesthetic theory. The materials used in aesthetic education are often detached from practical application, limited in variety, and misaligned with the aesthetic views of contemporary college students. They lack integration with traditional Chinese culture and art, and fail to engage students emotionally.[1] Many universities offer aesthetic education as elective courses, with incomplete curricula and little emphasis on aesthetic practice activities, relegating aesthetic education to the margins of university education. This poses a significant obstacle to integrating intelligent media into aesthetic education reform. These factors reveal a fundamental undervaluation of aesthetic education in universities, which hinders the innovative development of integrating intelligent media in aesthetic education reform. The universities' understanding of aesthetic education is biased, leading to a disconnection from reality and causing them to lag behind technological advancements when applying intelligent media as a new network medium.

2.2. Insufficient Application of Information Technology in University Aesthetic Education

University aesthetic education faces a shortage of specialized teachers and inadequate teaching capabilities. Many aesthetic education instructors are art department teachers who lack specialized knowledge in aesthetic education and have limited ability to apply new technologies. Intelligent media, which is based on mobile internet technology, artificial intelligence interaction, and virtual reality technology, represents a complex and diverse ecosystem that is the latest development trend. This places high demands on the teaching level, innovation ability, and information technology application skills of university aesthetic education teachers. Therefore, for a faculty with rigid thinking and insufficient innovation capability, the integration of intelligent media into the reform of university aesthetic education poses significant challenges. Additionally, the insufficient funding for university aesthetic education hinders its innovative development. Firstly, establishing an intelligent media platform requires a big data resource center, big data intelligent analysis center, big data component services, virtualization cloud platform, and big data operation system, as well as an intelligent information creation and dissemination platform and user service platform, all of which are costly. Secondly, the operation and startup of the platform require professional teams and substantial financial investment. Thirdly, while mature intelligent media platforms are currently dominated by commercial media, the technology for building intelligent media platforms for aesthetic education is not yet mature and urgently requires the assistance of professional talent[2].

2.3. The "Information Cocoon" Effect Leading to Rigid Thinking in Aesthetic Education

Currently, intelligent algorithm technology has not yet achieved true sophistication. Behind the promising prospects of intelligent media technology lie significant issues, such as the "information cocoon," the proliferation of vulgar content, and the infringement of user privacy. Intelligent media filters information based on collected user data and information tags, utilizing powerful algorithms to distribute content to users. However, these algorithms lack humane standards of positive values, making it impossible for intelligent filtering systems to completely eliminate harmful information. Consequently, some content may diminish significance, blur historical facts, overly entertain, or

include obscene and vulgar elements. Furthermore, the personalized recommendation feature of intelligent media means that users receive information primarily based on their preferences, leading to monotonous and homogenized content. Cass R. Sunstein noted in "Republic.com" that "the internet allows people to receive information they like, while it tends to exclude information they dislike, resulting in the reception of 'narrowed' information."This "narrowed" information easily traps students in an information bubble that caters solely to their personal tastes.

3. Strategies for Advancing the Integration of Intelligent Media Technologies in Higher Education Aesthetic Education Reform

3.1 Enhancing the Art Education Literacy of Teachers and Students

Aesthetic education teachers play a pivotal role in the process of aesthetic education, thus universities must prioritize enhancing their digital literacy and capabilities in aesthetic education. "Digital literacy encompasses not only essential digital skills required for living, learning, and working in a digital society, but also digital thinking and values". Contemporary university students pursue individuality and freedom, favoring vivid images, audio, and video content—characteristics well-aligned with intelligent media. However, entrenched in outdated and rigid teaching methods, many university aesthetic education instructors exhibit reluctance towards integrating emerging technologies into their teaching practices. This not only diminishes the emotive impact of aesthetic education on students but also hinders the collaborative development of new technologies within aesthetic education classrooms. Therefore, universities must ensure that aesthetic education teachers acknowledge the influence of technology, enhance their capacity to utilize intelligent media technologies, foster internet-oriented thinking, understand the aesthetic preferences of learners, and promote the digitalization, networking, and intelligentization of aesthetic education classrooms. Universities should provide opportunities for aesthetic education teachers to learn emerging technologies, intensify the promotion of intelligent media technologies and development trends, and incorporate the fusion of intelligent media methods and innovative aesthetic education practices as key criteria in assessing teaching effectiveness. "Establishing digital aesthetic education reform projects and research topics, establishing internal and external exchange platforms, and overall enhancing teachers' capabilities in utilizing digital technology to innovate aesthetic education" . Given that students occupy a central position in aesthetic education, universities must also equip them with strong digital literacy skills to discern diverse information on the internet and to acquire aesthetic education resources[3]. Additionally, universities must enhance their aesthetic taste, reject inferior and shallow artistic works, refuse to seek entertainment that seeks pure sensory stimulation, and improve their health information literacy to ensure that intelligent media methods are applied to universities' aesthetic education.

In the system of aesthetic education in higher education institutions, teachers are the implementers of aesthetic education, while various levels of party and administrative cadres, counselors, the Youth League Committee, school publicity organizations, and other relevant departments serve as the organizers and managers of aesthetic education work. On one hand, administrators of aesthetic education must profoundly understand the significance of integrating intelligent media into the reform of aesthetic education at the leadership level, strengthening top-level design, and promoting the empowerment of aesthetic education through intelligent media technology. On the other hand, aesthetic education in higher education institutions needs to enhance its systematization and coordination, strengthen internal connections, and consolidate redundant departments to achieve an integrated educational effort within the institution, thereby avoiding mutual constraints between educational and managerial forces.

3.2 Integrating High-Quality Art Education Resources

Aesthetic resources constitute the foundation of aesthetic education. Intelligent media employs advanced algorithms to search for aesthetic resources on the internet, capturing hyperlinks and storing

them. Universities draw upon the organizational mechanisms of global digital libraries, utilizing unified metadata to categorize and classify aesthetic resources, thereby facilitating understanding of their origins by designers. Collaboratively with relevant enterprises, cultural institutions, other universities, and governmental bodies, universities construct a network platform for aesthetic resources—the Aesthetic Intelligent Media (AIM) platform. The interactive experience and engagement on the AIM platform exceed traditional MOOC platforms, which predominantly facilitate one-way knowledge dissemination. The platform's "algorithmic recommendation" mechanism distributes information based on user profiles and resource tags, categorizing resources by their origin (e.g., Chinese Aesthetic Network, Public Aesthetic Galleries), category (e.g., visual arts, music), keywords (e.g., Feng Zikai cartoons, Jingdezhen ceramics), and update time (e.g., 1 hour ago, 20 minutes ago). Given the potential for creating "information bubbles," advocating for a "diversified recommendation system" integrates metrics such as content influence, dissemination effectiveness, timeliness, and user satisfaction into personalized recommendation mechanisms. Filtering and correction mechanisms serve as vital safeguards against the infiltration of inappropriate information into educational contexts. Rigorous screening filters are essential to exclude low-quality and vulgar aesthetic resources, while correction mechanisms within personalized recommendation systems optimize the accuracy of information based on student interactions, supplemented by institutional oversight to assist in algorithmic audits of platform information.

Furthermore, universities should advance the integration of dual-track curriculum forms in aesthetic education, fostering a digitally and intelligently constructed mobile aesthetic platform. Inviting professional aesthetic educators to conduct online courses on platforms, such as Tencent Classroom, which aggregates numerous high-quality educational institutions and educators, offering a variety of premium online learning courses. Leveraging new technologies such as artificial intelligence, cloud computing, and big data in intelligent media, universities can introduce aesthetic videos and high-quality artistic audiovisual content. For instance, documentaries like "Rediscovering Sanxingdui" and "I Am Your Porcelain" on platforms like Bilibili present viewers with the cultural richness of Sanxingdui and Jingdezhen porcelain, enriching the aesthetic appreciation process with insights into traditional Chinese culture. In addition to integrating existing network resources, universities should engage outstanding creators to produce exceptional artistic works, derivative short videos, and other content types, offering students diverse high-quality materials. These creators may include artists, school art teachers, and talents recognized in aesthetic education, all subject to strict review processes to ensure the quality of aesthetic content.

Beyond the recommendation systems of intelligent media platforms, thoughtful interactive design is equally crucial. An aesthetic education platform should be driven by rich interactive design, providing appropriate haptic or audio feedback in response to user actions to satisfy students' aesthetic needs. The platform should guide students in exploratory learning by incorporating game mechanisms to capture their attention, allowing them to fully exercise their imagination and creativity. Reward systems should be designed to reflect different stages of learning progress, offering virtual badges or tangible bookmarks as incentives.

By integrating artificial intelligence, virtual reality (VR), and augmented reality (AR) technologies, virtual interactive scenes can be crafted on mobile platforms to provide users with immersive experiences. Users can engage in activities such as drawing and voice interactions within these virtual environments, interacting with the visuals, narratives, and characters presented. The China Central Television (CCTV) program "Poetic and Picturesque China" exemplifies this approach by combining AR technology with live performances to vividly recreate the serene soundscapes and babbling brooks depicted in the painting "Sound of Pine Soughing in Myriad Valleys," offering viewers a novel and immersive visual and auditory experience.

3.3 Establishing a Robust System for Ensuring Art Education

Constructing smart media platforms for art education at universities necessitates strengthened network supervision to guide art education towards a constructive transformation with technology,

mitigating ethical and legal issues during this transition. Legal frameworks constitute the fundamental pillar supporting reforms in art education. Currently, national legislation concerning smart media technologies continues to evolve, yet overall, the legal protection system related to these technologies remains incomplete. Therefore, legislative bodies and educational authorities should promptly introduce laws and regulations empowering digital technologies in education, enhancing network supervision and penalties for online offenses, restraining illegal activities, conducting regular platform content reviews, intensifying copyright protection for art education resources, and creating a secure and clean online environment.

Furthermore, from an educator's perspective, universities should establish monitoring and feedback mechanisms. University administrators must ensure effective oversight and governance, fostering timely communication and feedback on teaching progress in art education, thereby constructing a collaborative and interactive educational environment. From a student's viewpoint, universities should establish a feedback and evaluation system integrating process assessment, outcome evaluation, and feedback collection within the educational process.

4. Guiding Philosophies of Smart Media Technology Integration in Higher Education Artistic Reform

Regardless of the approach taken, higher education artistic reform should steadfastly adhere to the fundamental educational principle of nurturing individuals. This principle emphasizes the integral role of artistic education in shaping well-rounded personalities and cultivating healthy minds. At its core, education aims to foster holistic development, encompassing moral, intellectual, physical, aesthetic, and practical aspects ("Five Developmental Educations"). The essence of education lies in nurturing individuals, with moral education as its cornerstone.[4] Numerous national policy documents underscore the pivotal role of "school-based artistic education" in the fundamental task of moral education. Therefore, the integration of smart media technologies into higher education artistic education must also prioritize the cultivation of moral character.

One of the fundamental aspects of 'student-centered education' is personalized teaching tailored to the diverse personality traits of students. This aligns with a significant advantage of smart media technologies, namely leveraging big data and machine learning techniques to deliver precise and effective content based on individualized user needs. However, these advantages hinge upon the establishment of user personas. User personas are abstract, standardized models that depict user demands, integrating information such as online browsing history, behavioral characteristics, and preferences[5]. Typically encompassing demographics, social behaviors, and other relevant attributes, user personas vary in focus across different platforms. For instance, content-centric algorithmic news platforms like 'Today's Headlines' emphasize analyzing user reading habits, including duration, sharing frequency, and content collection, as well as data from various social media profiles and even device types. This detailed understanding of user interests and preferences across diverse social strata and cultural backgrounds enables personalized information delivery, thereby enhancing information aggregation efficiency and achieving precise content dissemination. The guiding principle of 'student-centered education' manifests in the integration of artistic education with smart media technologies, wherein precise user personas are crafted for university students, catering to their aesthetic preferences and achieving targeted artistic education.

Additionally, arts education aims to cultivate individuals by educating them in a subtle and unobtrusive manner, emphasizing the influence of beauty on students. It advocates an educational approach that combines enjoyment with instruction, rather than mechanical impartation of artistic knowledge. The concept of beauty in arts education encompasses natural beauty, social beauty, and artistic beauty. Virtual reality and mobile technology can present these forms of beauty to students through different sensory experiences. Furthermore, the evaluation mechanism in arts education differs from the primarily knowledge-based testing in professional courses. Arts education evaluation standards focus more on individualized performances and assess students primarily through

observations during the learning process [6]. Integrating smart media technologies into arts education allows for intelligent analysis and comprehensive evaluation of students' reactions and insights while appreciating artworks in their daily lives. This approach encourages students to recreate and innovate after completing their coursework, thereby stimulating their creativity and innovation.

References

[1] Zhou Xian, 2022. What is Aesthetic Education and Why Aesthetic Education Matters. Wen Yi Zheng Ming, 90–97.

[2] Yang Jie, 2020. Analysis of Current Bottlenecks and Issues in Higher Education Aesthetic Education Work. Journal of Shandong Normal University (Social Sciences Edition) 65, 127–140.

[3] Shen Di, 2022. Communication Strategies for Aesthetic Education Activities in Universities in the Era of Intelligent Media. Chuan Mei, 88–90.

[4] Wang XiaoKui, 2020. Research on Practical Paths of Aesthetic Education in Universities. Si Chuan Xi Ju, 156–158.

[5] Xie QiuShui, 2023. The Value, Reality, and Implementation Paths of Digital Technology Empowering Aesthetic Education in Universities. Research on Ideological Education, 131–136.

[6] Guo Ying, 2020. Layout and Development Path of Intelligent Media. Ren Min Lun Tan, 140–141.