



# Study on the Training of Innovative Advertising Designers in Higher Learning Institutions in the Context of Artificial Intelligence

Peng Jun

Wuhan Polytechnic University, Wuhan (430048)  
56187126@qq.com

**Abstract. Purpose:** This paper aims to review and analyze the training of innovative advertising designers in higher learning institutions in the context of artificial intelligence (AI). **Methodology:** In light of the characteristics of AI-powered intelligent advertising design and the challenges in the development of innovative talents in advertising design in higher learning institutions, the implementation and significance of reforms in talent development in relation of advertising design are discussed. **Findings:** AI encourages new forms of advertising design and prompts advertising designers to develop digital creativity with science and technology, leading the higher learning institutions to take a new look at the education of advertising designers. **Conclusion:** In the context of evolving AI, higher learning institutions are shifting from the traditional mode to an AI-powered mode in training advertising designers. Development of AI-powered teaching, commercial projects, new teaching tools, and creative thinking ability are required for students. This paper provides creative insights on the training of creative advertising designers in higher learning institutions.

**Keywords:** Key word: AI; higher learning institution; advertising design; innovative talent

AI reverberates across all applications in technology, industry, and individuals' life, work and study. It also affects advertising by supporting innovative communication methods and precise advertisement injection directed to the target audience, and achieving rational distribution of advertising resources. AI is revolutionizing the advertising industry in a way never seen before. Traditional advertising modes are giving way to new AI-powered ones, and the concepts and modes of AI-powered advertising lead the higher learning institutions to train innovative advertising designers who are more professional and keep up with the needs of the times.

# 1 Characteristics of AI-powered intelligent advertising design

## 1.1 Intelligent tools

AI applications, including big data, deep learning, and machine learning algorithm, give rise to intelligent advertising design tools<sup>[1]</sup>. On the one hand, an AI platform with a large resource library uses intelligent algorithms and models to efficiently generate the images required for advertising design according to the input instructions, which is a fully automatic process. On the other hand, professional AI image generators are powerful. For example, StableDiffusion (SD), a highly logical and open source software, generates photo-realistic images, and Midjourney (MJ), which is not open-source but is widely used, generates almost flawless images in a very fast, meticulous and logical way, and its functions are improving. Noteworthy is that AI-generated images need to be improved repeatedly by inputting instructions describing the main elements to be included, including the style (e.g., beautiful, cartoon-like, or look vintage, etc.), emotions (e.g., sadness, or joy, etc.), the personal characteristics of the figures (e.g., handsome or young, etc.), and other elements to be strengthened or weakened, depending on the images generated. Desirable images are usually produced after repeating such improvement process (as shown in Figure 1).



Figure 1 AI-generated images of a child

Another tool is ChatGPT, a language model developed by OpenAI. It uses the Transformer architecture and is capable of understanding and generating human-like text based on context. In particular, it is trained on vast amounts of text data, so it can generate responses in all aspects in an interactive way and in line with humans' com-

mon sense, cognition, needs, and values. In addition to conversations, ChatGPT is also able to generate promotional video scripts, advertising copies, translations, and codes, etc.

## 1.2 Integrated advertising design and testing

AI platforms combine consumers' data, related advertising resources, and program controlled advertisement creation and production. In contrast to the traditional interconnected procedures of "investigation, creative design, production and feedback", an AI platform only needs input instructions and requirements for the style and key words to generate and design creative advertisements. For example, the key visual identity for the 2023 Shenzhen Design Week, which is composed of an irregular smart pivoting ring, is created by the designers with the support of AI. It's a borderless digital model that extends infinitely, symbolizing infinite possibilities and continuous innovation. The ring's purple color represents the color of the city's flower, bougainvillea, signifying passion and perseverance. The ring embodies the spirit of Shenzhen, a City of Design, of exploring the unknown, seeking innovation, and being committed to sustainable development (as shown in Figure 2).



Figure 2 Visual identity of 2023 Shenzhen Design Week



Figure 3 Outdoor advertisement of Meituan (1)



Figure 4 Outdoor advertisement of Meituan (2)



Figure 5 Outdoor advertisement of Meituan (3)

AI-powered image generation technology makes it possible to efficiently complete advertising design in a short time in large quantities. The user only needs to input information about the style and dimensions, and AI will complete material analysis, image matting, color combination and other time-consuming and labor-intensive activities of advertising design, generating multiple advertising proposals needed by the user in real time. For example, Meituan recently launched a series of AI-generated outdoor advertisements at bus stations of Shantou, Guangdong, attracting the attention of many consumers (as shown in Figures 3, 4 and 5). These outdoor advertisements are composed of the beast dating backing to the Jurassic Period, male white-collar worker, and other figures enjoying a feast of delicious food of various kinds around the theme of "saving money". The illustrations used, including distinguishable cartoon characters and real food ingredients, are exaggerated, interesting, and impressive. Such AI-generated advertisements are manually improved before being launched. AI is useful in the advertising industry because it is strong in analyzing and creating marketing materials in a more efficient way. For example, there are many AI-based promotional video editing tools which automatically complete video and audio editing, captioning and other tedious operations to save time and increase efficiency for the editors. What's more, AI understands the most updated information online and the user's needs via text analysis, acquires the user's data and sends it to the AI-powered data analysis platform so as to provide the products and services needed according to the multi-dimensional characteristics of the user<sup>[2]</sup>. It automatically edits videos in line with its forecast of the user's interest and preferences, changing the way promotional videos are made and edited to some extent. In addition, AI supports intelligent monitoring of effectiveness of advertising. The ultimate goal of advertising is to achieve good market response, which needs to be monitored in a scientific way. AI-

powered advertising monitoring systems are already available for management and tracking of advertisements placed in various channels, and reporting, which improves the effectiveness of advertising monitoring<sup>[3]</sup>.

## **2 Challenges to the training of innovative advertising designers in higher learning institutions in the context of AI**

### **2.1 Lack of AI related theoretical education**

Proper positioning lies at the core of training talents in advertising in the era of AI. The objectives of training advertising talents in higher learning institutions need to be clarified in line with the rapid changes. Firstly, some jobs of advertising designers, including logo design, website design, ad design, and other repetitive and less creative activities, are completed by efficient and cost effective intelligent advertising platforms. Advertising designers need to break through the restrictions of traditional modes, and proactively adapt to the intelligent modes. Secondly, advertising designers should dominate the whole process of advertising design, including the generation of creative ideas and marketing strategies, when combining software with human thinking for ad creation. The reason is that the AI-powered intelligent platform cannot control creative ad design and ad quality. The AI platform completes tasks of collecting and sorting out materials and product data, and advertising designers should focus on creativity, process management and decision-making during advertising design. Thirdly, big data becomes an important productive factor in offering intelligent advertising service. In the process of intelligent ad creation, big data lies at the core of analyzing objective data of consumers and implementing creative advertising programs. Fourthly, new AI companies are aggressive competitors in the advertising industry, and the whole industrial chain is expanding both upstream and downstream. Advertising agencies, the main market player in the advertising industry, are faced with many difficulties, prompting them to implement organizational reforms and establish AI departments for better business development. At present, inter-disciplinary talents in advertising design and production trained at most higher learning institutions cannot keep up with the needs of social development in the era of AI, and the educational objectives in relation to thinking training, learning ability, and creativity of students in the context of AI are not well clarified.

### **2.2 Lack of AI platforms for teaching**

Talent training is crucial for responding to fierce competition in the industry against the backdrop of AI. However, teachers in higher learning institutions are not professional enough when teaching advertising design. The main reasons are as follows. Firstly, the teachers do not have the competency and insight required for using AI to capture attention of students, and they lack all-round understanding of new features of AI-powered advertising, so they cannot achieve innovative teaching of advertising design. Secondly, the teachers are not good at using AI platforms and technology to

efficiently carry out targeted advertising research, information collection and AI-related practices required for the development of hands-on ability of students. Thirdly, the construction of network infrastructure in higher learning institutions lags behind, making it hard to use AI resources in the teaching of advertising design. The teachers also fail to include AI-powered ad creation in teaching activities, leading to poor teaching effectiveness and the failure to help students develop creativity in the context of AI. Fourthly, teachers in higher learning institutions pay too much attention to theoretical education during instruction, and students are expected to be competent for basic advertising design tasks rather than to develop hands-on abilities. In addition, as new knowledge of AI is overlooked in education, students majoring in advertising cannot keep up with the new needs of industrial development.

### **3 Response measures for training innovative advertising designers at higher learning institutions in the context of AI.**

#### **3.1 Enhanced teaching of AI and better knowledge sharing**

Firstly, AI should be included in the teaching plan, and courses on AI, including the use of common AI tools like StableDiffusion and Midjourney, need to be offered to respond to social needs and improve hands-on abilities of students majoring in advertising. Secondly, the teachers in higher learning institutions need to motivate students to learn independently. Considering the limitations of courses on AI, the teachers should encourage students to discuss frontier issues about AI, engage in independent learning by using professional online resources, and develop a better understanding of AI applications in advertising design. Thirdly, higher learning institutions should recruit more teachers specialized in AI to help students engage in professional researches on AI applications, acquire knowledge in AI, understand the principles of AI application, and enable them to efficiently and accurately combine AI with advertising design. Fourthly, leaders in AI-powered advertising who are well aware of the urgency of AI applications should be invited to give thematic lectures to use real examples to help students understand the significant role of AI in advertising and motivate students to develop new mindsets in advertising design.

#### **3.2 Combination of AI platforms and commercial projects**

Firstly, higher learning institutions should set up teams composed of experienced experts to engage in the research on AI-powered advertising design. For example, WPP, a British advertising and public relations service provider and the world's largest advertising agency, has used AI and automated tools for ad creation over many years, and it owns a successful creative team using AI as an important tool in advertising. Developing research teams is meaningful for training talents specialized in AI applications, including AI perception and AI image generation, in advertising. Developing experimental bases for teaching AI applications in advertising is also important for creating conditions for the application and promotion of AI-generated advertise-

ments. Secondly, teachers and students in higher learning institutions should be encouraged to participate in commercial competitions of AI-powered advertising to help students better understand theories, improve aesthetics in design, keep up with the latest trends in commercial advertising, and know about the works of their peers<sup>[4]</sup>. AI is an emerging strategic technology changing the future and an important force driving a new round of scientific and technological revolution and industrial change. AI competitions are useful for fostering innovation, entrepreneurship, industry collaboration, talent development, and application promotion, and they can effectively motivate students majoring in advertising to engage in AI-driven creative processes. By learning from experts, students can gain a profound understanding of the applications and prospects of AI in advertising. This helps address gaps in their own knowledge and make them interested in studying AI-powered advertising.

### **3.3 Development of new teaching tools and inter-disciplinary thinking**

Firstly, the teachers should fully leverage AI and integrate it into classroom teaching to transform abstract textual theories into concrete images or videos, allowing students to intuitively grasp the knowledge of advertising courses. By flexibly presenting real-world updated AI application cases during the classroom instruction, the teachers can capture students' attention, improve their alignment with cutting-edge technologies and enable them to stay updated on the forefront of AI-related achievements<sup>[5]</sup>. This approach fosters forward-thinking mindset and creative thinking ability among students majoring in advertising, and enables them to develop the capacity and willingness for independent learning of AI. Secondly, advertising designers are crucial for prosperity of the advertising industry. As the transformation of the advertising industry relies on excellent talents specialized in AI-powered advertising, higher learning institutions must shoulder the responsibility in nurturing advertising talents who keep up with the times. Thirdly, the content of advertising courses should keep up with the changes brought about by AI to enhance students' adaptability in their professional careers. As explorations of applications of AI in the advertising industry are being made, the teachers in higher learning institutions should proactively adopt AI as a teaching tool. Demonstrating AI in the classroom is the most direct method of enabling students to personally perceive the impact of AI on people's lives. This approach encourages students to apply AI to creative advertising cases and contributes to the cultivation of an outstanding and innovative pool of advertising talent.

### **3.4 Development of creative thinking and problem-solving ability**

Firstly, cultivating aesthetic taste is important for students majoring in advertising. With the support of AI, each student can input instructions according to which images will be generated by the AI platform, but the student must have the skills to make judgment and discernment to find the one that aligns with aesthetic taste and brand identity. Secondly, problem-solving abilities of students majoring in advertising need to be enhanced. Using design thinking for advertising is a user-centered approach that addresses problems through creativity. Students, through methods like investigation

and analysis, should be able to comprehend the authentic needs of the client and propose advertising design plans. To this end, students need to have a deep understanding of the client's behaviors and core needs to formulate optimal solutions. Thirdly, creativity and imagination of students majoring in advertising should be emphasized. Students need to fully unleash their imagination and creativity in advertising projects and offer unique creative advertising works to fulfill the demands of clients. The AI platform should serve as an aid for students to channel their advertising creativity and imagination. While AI generates numerous design proposals, students need to improve their own thinking processes to better understand and meet the client's needs and requirements for ad experience.

## 4 Conclusion

In conclusion, AI and digital revolution bring new momentum for the advertising industry, and new challenges for nurturing advertising designers. Whether advertising designers trained by higher learning institutions are high-quality innovative talents affects both the scope and extent of progress in creative advertising. Therefore, higher learning institutions need to develop better educational objectives, foster a cross-disciplinary mindset of integrating AI and advertising, drive innovation in the development of advertising specialty, improve modern teaching models, and develop innovative thinking abilities for students in the field of AI applications, so as to help students develop new competences and abilities required for AI-powered advertising design and promote prosperous development of China's advertising industry.

**Acknowledgement.** Funding programs: Higher Education Research Project of Wuhan Polytechnic University in 2022 (Project No. 2022GJKT004). Exploration and Practice of Cross-Disciplinary Training of Advertising Talents in the Context of New Liberal Arts Development (Project No. 2021353), a provincial-level teaching research project of higher educational institutions in Hubei Province in 2021.

Research on Training of Innovative and Entrepreneurial Talents in Advertising Design at Higher Learning Institutions from the Perspective of the "Internet Plus" Approach (Project No. 220501913200414), a university-industry collaborative education project of the Ministry of Education in 2022.

Author: Peng Jun (born in 1971), male, associate professor at Wuhan Polytechnic University and a supervisor for master's students, mainly engages in the research on visual communication design. Contact number: 15927570863

## References

1. Cheng, Y. T. The Manifestation, Impact, and Reflection of AI-powered Advertising Design [J]. PR Magazine, 2022, (5):135.
2. Tang, J., & Li, Y. Innovation of Advertising Communication in the Context of AI [J]. View on Publishing, 2019, (17): 78.
3. Lu, B. F. Innovation of Advertising Communication Mode in the Context of AI [J]. Media, 2019, (2): 89.

4. Zhao, P. Training of Creative Advertising Talents in the Context of AI [J]. View on Publishing, 2021, (6): 90.
5. Du, E., & Wang, H. Y. Analysis of AI and Advertising Education [J]. China Newspaper Industry, 2020, (2): 102.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

