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## Reform and Innovation: Reflections on the Data Advertising Talent Cultivation Model Postprint

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### Abstract

Talent cultivation is the fundamental mission of advertising education. The development of big data has brought about changes in advertising operation models, highlighting new requirements for advertising talent development. Through teaching reform practices, the OBE (Outcome-Based Education) philosophy is established, with universities and industry jointly developing curricula to construct an open teaching system. In terms of teaching content, “data literacy” is incorporated into the objectives of advertising talent cultivation, and the teaching method of “integration of industry and education, collaborative cultivation” is implemented, reflecting the innovative characteristics of the data-driven advertising talent development model. The substantive development of advertising talent cultivation is enhanced, exploring and creating an educational model that combines theory and practice under the principle of “student-centered learning, applying what is learned.”

### Full Text

## Reform and Innovation: Reflections on the Data-Driven Advertising Talent Cultivation Model

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**Abstract:** Talent cultivation is the foundation of advertising education. The development of big data has transformed advertising operation models, highlighting new requirements for advertising talent cultivation. Through teaching reform practices, we should establish the OBE (Outcome-Based Education) philosophy of “output-oriented education,” collaboratively develop curricula between universities and industry, and construct an open teaching system. In terms of

teaching content, “data literacy” should be incorporated into the objectives of advertising professional talent cultivation, and teaching methods such as “integration of industry and education, collaborative cultivation” should be implemented to reflect the innovative characteristics of the data-driven advertising talent cultivation model. We must strengthen the connotation construction of advertising professional talent cultivation and explore and create an educational model that combines theory and practice under the principle of “student-centered learning, learning for practical application.”

**Keywords:** advertising talent cultivation; reform; innovation; big data; OBE philosophy

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President Xi Jinping has emphasized the need to “promote the implementation of the national big data strategy, accelerate the improvement of digital infrastructure, and advance the integration and open sharing of data resources,” and to “create a multi-level, multi-type big data talent team.” [1] The rise of the digital society has brought tremendous changes to the social communication ecosystem, with digitalization becoming a new driving force for modern social development. The “Proposal of the CPC Central Committee on Formulating the 14th Five-Year Plan for National Economic and Social Development and the Long-Range Objectives Through the Year 2035” adopted at the Fifth Plenary Session of the 19th CPC Central Committee explicitly proposed accelerating digital development. The influence of big data has penetrated all industries, also bringing major transformations to the advertising industry. How to actively adapt to the digital era, address the disconnect between advertising professional talent cultivation and industry development, strengthen students’ data thinking awareness, and enhance data analysis and utilization capabilities has become an urgent problem to be solved in the current teaching reform of advertising majors.

## 1. Changes in Advertising Information Communication Methods Brought by Big Data

Traditional advertising information communication relied on newspapers, magazines, radio, television, and other traditional media, where advertisers purchased media advertising slots and traffic for advertising placement. To maximize communication effects, integrated media communication methods were generally adopted. However, this one-way linear communication mode made it difficult to accurately measure the communication effects of advertising information. The

arrival of the big data era enables precise consumer targeting through data analysis. Advertising operation models have shifted from traditional media slot and traffic purchasing to direct audience purchasing, mass communication models have transformed to digital communication models, and advertising effectiveness evaluation has shifted from vague to visualized, precise, and real-time.[2]

On one hand, advertising placement and effectiveness evaluation models have changed. Whether in Europe, America, or China, online advertising and digital advertising placement have firmly occupied the vast majority of the entire advertising media system. The advertising communication environment has moved from traditional offline to online, from physical time and space to network virtual time and space.[3] The information encoding methods of advertising in the digital era have changed, shifting from focusing on formal characteristics in the mass communication era to “information flow advertising” and “de-symbolized advertising” becoming mainstream trends in online advertising. Advertising placement has moved toward personalization, evolving from purchasing advertising display slots to purchasing individual attention, with effectiveness evaluation becoming faster and more accurate.

On the other hand, obtaining data samples has become more massive. In addition to being an important background factor affecting the transformation of the advertising industry, the digital technology revolution has also changed service models within the advertising industry as a working method.[4] The 47th “Statistical Report on China’s Internet Development” shows that as of December 2020, China’s internet user population reached 989 million, with an internet penetration rate of 70.4%. China’s total internet user population accounts for about one-fifth of global internet users, with nearly one billion internet users forming the world’s largest digital society.[5] The development of internet digital technology has promoted consumption upgrading and economic and social transformation, bringing deep integration across all social fields. Through data collection and analysis, advertisers, agencies, and media can grasp more real-time, comprehensive, and continuous consumer behavior data, achieving precise targeting of target customers and targeted push.

## 2. New Requirements Highlighted in Advertising Talent Cultivation

At present, the application of big data and data processing technology in advertising activities has greatly improved advertising effectiveness. This also means the gradual change of leading roles in advertising development: from traditional advertising professionals to professionals mastering big data technology, making advertising development focus not only on creativity but also on data technology guidance.

## 2.1 New Industry Demands on University Advertising Talent Cultivation

The “2020 White Paper on China’s Big Data Industry Development” shows that China’s big data industry will reach 824.22 billion yuan in 2021. Chinese big data enterprises continue to strengthen investment and R&D, with smart terminals, big data platforms, and data visualization becoming key layout areas for big data enterprises. In 2019, the demand for big data talent in the internet field accounted for 57.2%, with enterprises beginning to emphasize the cultivation of innovation capabilities and gradually increasing demand for high-level big data talent. To adapt to market demand, in the past three years, the number of new big data-related majors in Chinese universities has ranked at the top of the list of new majors. The establishment of big data-related majors is developing toward refinement and integration.[6] Big data technology has also profoundly changed the competitive landscape of China’s advertising industry, with the share of digital advertising growing larger. In 2019, internet advertising accounted for more than 50% of the overall advertising market. In 2020, China’s internet advertising annual revenue reached 497.161 billion yuan, a 13.85% increase over 2019,[7] making internet advertising the main force in the digital advertising market.

Regarding data talent cultivation, Professor Huang Jin proposed two aspects: theoretical teaching and technical teaching. In theory, the content could cover big data concepts, typical big data application examples, key big data technologies and challenges, big data storage and management technologies, and big data analysis and mining technologies. In technology, it could consider explaining the entire process of big data from collection, processing, and storage to result formation through cloud computing, distributed processing technology, storage technology, and perception technology development.[9] Huang Jin’s research has certain universality. However, considering that advertising majors have weak science foundations and lack knowledge in statistics and computer programming, such teaching content design is obviously not targeted. We need to tailor teaching content according to the characteristics and professional needs of advertising majors. Therefore, reform should proceed step by step from four aspects: educational philosophy, curriculum system, teaching content, and teaching methods.

## 2.2 Problems in Current Advertising Talent Cultivation

The “2020 China Digital Marketing Talent Development Report” survey shows that as an important supplier of digital marketing talent, universities still cannot fully match industry demand in terms of curriculum proportion and faculty strength for digital marketing direction. 70.1% of university teachers believe that “lack of digital marketing practice platforms and opportunities” is the main problem and challenge in advertising professional teaching; 67.7% believe faculty strength is weak; 63.4% believe curriculum setting does not keep pace with the times and has weak practicality; and 62.2% believe advertising textbook content is too outdated. The direct result of these problems is that graduates’

experience cannot fully meet enterprise needs (Figure 1 [Figure 1: see original paper]).[8] In terms of advertising textbooks, the quality of existing teaching materials about internet and big data technology is uneven. Regarding faculty, advertising professional teachers need to further improve their skills in data processing and data analysis technology, urgently needing to supplement and improve professional talents proficient in practical operations. In terms of teaching methods, traditional advertising thinking can hardly adapt to the rapid changes brought by modern new media technology, requiring strengthened interactive teaching methods, enhanced cultivation of students' hands-on practical abilities, and improved student enthusiasm. Thus, the arrival of the digital era is both an opportunity and a challenge for advertising majors, which overall still lack effective and scientific development models.

### **3. Reform Paths for Big Data Advertising Talent Cultivation**

Currently, new information, new knowledge, and new technology have not been fully incorporated into advertising talent cultivation. The setting and development of new media and digital marketing courses still need strengthening, and there is considerable room for theoretical and practical teaching research. Exploring the cultivation system model for advertising majors' data analysis and application abilities will make educational teaching concepts clearer and cultivation methods and means more targeted. Through teaching reform practices, we can effectively establish students' big data thinking and strengthen their ability to use data analysis to solve problems.

#### **3.1 Educational Philosophy Reform: Establishing the OBE Philosophy of “Outcome-Based Education”**

From the essence of advertising education, as an educational philosophy, it determines both the fundamental purpose of advertising education and the teaching orientation and entire teaching system design. Traditional advertising education philosophy adheres to the thinking mode of “cultivating specialized talents for the advertising industry.” In the digital era, advertising professional education needs solid foundations, enhanced technology, strengthened professionalism, and emphasized practice.[10] Therefore, for cultivating compound digital advertising talents, we must “be based on advertising yet transcend advertising” and establish the OBE (outcome-based education) philosophy of “output-oriented education.” The OBE educational philosophy changes the traditional cultivation model from school to industry through reverse design. Taking practical tasks as the starting point of teaching, it emphasizes “integration of learning and application” and “practical output,” based on which teachers formulate the entire teaching plan. It first determines professional cultivation objectives according to external industry and social needs, then formulates cultivation standards, and finally arranges the curriculum system and teaching design. The OBE educational philosophy attaches greater importance to talent positioning, professional

capability characteristics, and professional output services. It constructs an educational philosophy of “knowledge-ability-quality,” with the talent cultivation system always centered on learning outcomes.[11]

Based on the OBE educational philosophy and combined with the characteristics and requirements of digital talent cultivation for advertising majors, on one hand, we must achieve “promoting learning through application.” Teachers should combine basic knowledge to help students master data application in advertising practice. By forming competition teams within courses and conducting practical training simulating advertising company operations, we can “promote learning through competition,” thereby stimulating students’ interest in data analysis and application and improving autonomous learning ability. On the other hand, centered on the OBE output-oriented educational philosophy, big data advertising talent cultivation can construct students’ digital technology professional practice ability through workshop-based practical teaching. Taking “process + results” as the evaluation system and “cultivating advertising majors’ data application ability” as the center, we design the cultivation objectives of workshops. Universities and industry associations, enterprises, etc., can establish long-term stable cooperative relationships and form experienced mentor teams. According to course content, we arrange appropriate teaching locations and forms, establish workshops for the cultivation system of digital technology professional practice ability, thereby forming a distinctive advertising talent cultivation model with a complete system and advanced educational philosophy.

### **3.2 Curriculum System Reform: Collaborative Course Development and Construction of an Open Teaching System**

The curriculum system design is the cornerstone for achieving cultivation objectives. In digital talent teaching, we need to closely integrate theoretical teaching and practical teaching, both summarizing regular theoretical knowledge from rich practical cases of advertising operations and using advertising theory to guide students’ marketing practical training. The “2020 China Digital Marketing Talent Development Report” survey shows that 81.1% of teachers believe the curriculum system is the direction for current advertising education to continue improving. Therefore, we must reconstruct the curriculum system, strengthen curriculum construction and reform, increase professional curriculum settings for digital communication and digital marketing, and expand students’ learning autonomy.

First, for practical professional courses, universities and industry should utilize their respective resource advantages to jointly develop courses, compensating for the weakness of insufficient practicality in university teaching. Through joint course development by industry and universities, we can cultivate outstanding advertising talents for the advertising industry.[12] We can combine current digital technology development to set up special content for core advertising courses such as advertising market research, new media marketing,

and advertising management, thereby exercising students' data marketing and data application abilities. Second, we should construct an open teaching system, strengthen co-construction and sharing, and establish an open professional curriculum construction and talent cultivation system. We should build effective cultivation methods and operation mechanisms such as professional co-construction, teacher exchange, business communication, and resource sharing, jointly offer core courses, compile characteristic textbooks, share construction achievements, formulate joint cultivation plans, and explore teaching reform paths and methods for digital advertising talent cultivation.

### **3.3 Teaching Content Reform: Incorporating “Data Literacy” into Advertising Professional Talent Cultivation Objectives**

Traditional education is discipline-oriented, following the principle of professional setting according to discipline division. Its education model tends to solve scientific problems that are definite, linear, and static, with knowledge structure emphasizing the systematicness and completeness of discipline knowledge systems.[13] First, the biggest problem in university advertising talent output is that students cannot effectively apply what they have learned to practice. Therefore, advertising education also needs to emphasize the “effectiveness” of courses. For advertising majors, we can increase teaching content on internet advertising and computational advertising. For example, “digital marketing communication methods” can be used as special teaching content, integrating data mining, data analysis methods, and the application of data analysis in precision marketing to strengthen practical teaching and enhance students' data literacy and practical ability. Additionally, facing the transformation of old and new media functions, advertising education must become innovation-led under the digital background, deeply explore the teaching content of core courses, and achieve close connection with the industry.

Second, we must have a “cross-boundary” mindset. Classroom teaching plays a very important role in university advertising education and is the main channel for talent cultivation. Cross-boundary thinking requires teachers to change traditional teaching models in the teaching process, fully utilize new media technologies such as MOOCs and micro-courses, and flexibly use relevant pictures or videos of classroom teaching discourse and service content, enabling students to understand abstract knowledge more intuitively, thereby facilitating the further development of advertising education.[14]

### **3.4 Teaching Method Reform: Integration of Industry and Education, Collaborative Cultivation**

On one hand, we should construct a “dual-teacher” talent system. Promoting school-enterprise cooperation in talent cultivation model reform, relying on the “university + company” model, we should strengthen the mutual employment of teachers from both sides, integrate student learning, internships, and apprenticeships, and research effective models for school-enterprise joint cultivation of

applied majors. We should jointly develop professional courses with industry enterprises, especially practical training characteristic textbooks, compile professional course textbooks in cooperation with industry, encourage universities and enterprises to jointly build laboratories, and conduct project cooperation. We should establish a “resource sharing, win-win cooperation” school-enterprise cooperation platform, deepen the reform of school-enterprise cooperation and industry-education integration talent cultivation models, and prepare for school-enterprise cooperation talent cultivation bases, implementing mutual dispatch and visit mechanisms for experts and scholars between universities and enterprises and industrial institutions.

On the other hand, in terms of teaching methods, we should implement more flipped classroom teaching with students as the classroom leaders. Under teachers’ guidance, students actively explore and discover new knowledge, using mastered knowledge and methods to simulate solutions to practical problems. Through deepening practice, we can identify the difficulties and key points in cultivating digital advertising talents, continue to improve the cultivation system, and through surveys of students’ employment and work situations, strengthen feedback on employment cultivation. We should strive to form a talent cultivation system with open systems, interconnected channels, and diverse choices.

#### **4. Innovative Features of the Data-Driven Advertising Talent Cultivation Model**

To address the shortage of digital advertising talents, some well-known domestic universities such as Peking University, Communication University of China, Xiamen University, Wuhan University, and Shenzhen University have taken the lead in this reform, breaking inherent thinking, actively exploring innovation in talent cultivation models, and committed to cultivating compound advertising talents that rise to the challenge.

##### **4.1 Theoretical Research + Practical Platform**

Given the practical and applied characteristics of advertising majors, while adhering to in-depth theoretical teaching research, we should strengthen practical teaching links. Not only should students participate in big data laboratory platforms, but we should also strengthen connections with external advertising companies, enabling students to intern at enterprises and understand and participate in relevant work.

In 2015, the “Advertising Research” course of the Advertising Department of the School of Journalism and Communication at Peking University first introduced Tencent’s Guangleitong big data marketing platform. In 2017, the course was renamed “Creative Communication Management,” adopting a big data marketing communication practical teaching approach. Under the theoretical framework of the new digital marketing communication model “Creative Communication Management,” it introduced and integrated resources from ad-

vertisers and advertising technology platforms, adjusting and reforming advertising professional education and teaching. It gradually formed a systematic digital marketing practical teaching model based on internet big data platforms, strengthening students' hands-on operation ability, data analysis ability, technology application ability, communication management ability, and academic research ability.[15] This practical teaching method keeps pace with changes in the advertising industry, breaking the previous situation where theory and practice were disconnected in traditional advertising education, truly achieving "learning for practical application."

#### **4.2 Emphasizing the Cultivation of Data Thinking Ability and Application Skills Training**

Big data is more of a way of thinking and a philosophy. Its emergence impacts people's traditional thinking patterns. We should fully utilize the professional advantages of team teachers to classify, organize, and comprehensively analyze data materials, highlighting the important role of data in teaching research, thereby deepening the understanding of digital talent cultivation connotation. We should cultivate students to actively use big data, gain insights from data, and make decisions and take actions based on big data, enhancing students' big data thinking awareness. According to the applied characteristics of advertising majors, we should strengthen practical teaching, promote students' transformation from thinking to action, and actively and consciously use big data to analyze and solve problems.

In 2019, with the promotion and support of the China Advertising Association, the Advertising School of Communication University of China and Huxiao Digital Business School adopted the "university + industry association co-construction" model to build a digital business communication major. The Advertising School of Communication University of China is responsible for basic theoretical courses and educational administration, while Huxiao Digital Business School is responsible for practical combat courses and innovation and entrepreneurship guidance. Huxiao Digital Business School, together with the Huxiao Super Expert Group, continuously launched the "frontier practical courses" series with industry experts entering universities, providing a platform and courses for the Advertising School to cultivate efficient and professional digital marketing talents. This prevents university talent cultivation from being closed and disconnected, closely integrating it with social needs.

#### **4.3 Integration of Creativity and Digital Technology**

The deep integration of digital marketing content creativity and digital technology brings about the systematic reconstruction of advertising talent professional capabilities in the new era. Facing the tremendous changes in content creativity and technology communication brought by digital marketing, as well as the requirements for students' practical abilities in digital marketing, the advertising major at Shenzhen University has explored a new system for undergraduate

teaching and talent cultivation mechanism for advertising majors built around two themes: “industry-education collaboration and creative practice.”

On one hand, through school-enterprise cooperation, it integrates and reforms the modularization of professional core courses and establishes good industry-university-research cooperation relationships with enterprises. The integrated digital marketing communication teaching new system is realized through practical platforms inside and outside the classroom, achieving the cultivation goal of industry-university-research cross-boundary collaboration. On the other hand, with a three-level practical system of high-level discipline competitions, integrated large assignments, and graduation design as the carrier, it explores a new mechanism for cultivating digital marketing creative talents through progressive practical teaching methods. The talent cultivation innovation of Shenzhen University’s advertising major not only achieves the integration of classrooms, laboratories, and industry internship bases but also deepens the reform of the digital marketing communication teaching system, providing beneficial reference for the reform of creative, innovative, and entrepreneurial talent cultivation models for advertising majors in China.[16]

Talent cultivation is the foundation of advertising education. Today, with the rapid development of the internet and big data, advertising thinking is penetrating multiple industries. Advertising education should be based on advertising yet transcend advertising. By reforming the advertising talent cultivation model, we should build a more open talent cultivation system, emphasize the combination of creativity and digital technology, and establish a collaborative education mechanism between schools and industry enterprises. We should mobilize students’ enthusiasm, initiative, and creativity to form a teaching service system centered on students’ autonomous development. We should strengthen the connotation construction of advertising professional talent cultivation and explore and create an educational model that combines theory and practice under the principle of “student-centered learning, learning for practical application.”

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