

Interdisciplinary Talent Training Model of New Media Art Major at Xi'an University: A Literature Review

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ABSTRACT: *With the rapid development of the new generation of information technology represented by the Internet, big data and the Internet of Things, the development of new media art has reached a height beyond the reach of any art in the past. In the context of the high popularity of media technology, many local universities in China have established new media arts majors. The new media art major is also an art category with strong timeliness. The rapid development of modern science and technology provides unlimited space for the development of the new media art major. Therefore, the talent training of new media art should keep up with the pace and trend of the development of the times. The main purpose of this study is reviewing the literature about interdisciplinary talent training model for new media arts major at Xi 'an University. A literature review can address research questions with a power that no single study has. It can also help to provide an overview of areas in which the re-search is disparate and interdisciplinary.*

KEYWORDS: interdisciplinary, talent training, model, new media, art

INTRODUCTION

Focusing on the core theme of the development of interdisciplinary talent training mode of new media art major at Xi'an University, this research conducts a comprehensive and large amount of data collection. After reading, analyzing, summarizing and sorting out relevant literature, understand the current research definition, current situation and development of this field. This research mainly summarizes from the following five aspects: first, interdisciplinary research, second, talent training model research, third, interdisciplinary talent training research, fourth, new media art research, fifth, research on new media art education in colleges and universities.

Interdisciplinary

Interdisciplinary this term first proposed by the famous psychologist Woodworth in 1926, the term interdisciplinary is also called cross connection discipline in academic circles, which refers to the interconnection between two or more different disciplines, from the simple exchange of ideas to the

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concepts, methods, procedures, epistemology, terms and organizations of education and research in a larger field (J. A. Jacobs & Frickel, 2009; Welch, 2017).

Interdisciplinary definition

The purpose of interdisciplinary is mainly to realize the integrated research on problems by surpassing the previous classified research methods. Most of the more promising emerging disciplines in the world are interdisciplinary. In recent years, a large number of scientists who use interdisciplinary methods or engage in interdisciplinary research and cooperation have won the Nobel Prize. In terms of its depth, the interdisciplinary research itself also reflects a new model of contemporary scientific exploration.

The origin and development of interdisciplinary

In English-Chinese Dictionary understand the word "interdisciplinary" as involving more than two disciplines. Foreign scholars divide interdisciplinary into three historical stages. The first period was junior interdisciplinary activity between World War I and World War II; The second period was a large-scale interdisciplinary activity from World War II to the 1960s. The third stage is the emergence of specialized and universalized interdisciplinary activities and research from the late 1960s to the present. The term interdisciplinary first appeared in the proceedings of the Social Science Research Council of the United States in the 1920s, when the council explicitly stated that its function was to promote comprehensive research between two or more societies. In 1926, Columbia University professor Woodworth was the first to openly use the term "interdisciplinary" and pointed out that the council has the responsibility to promote interdisciplinary research between different disciplines. At that time, outside of the council, the term "interdisciplinary" was not commonly used in academia, but rather "collaborative research". In 1937, interdisciplinary entered the dictionary. In the 1950s, the term "interdisciplinary" began to be commonly used in scientific and educational circles. By the 1960s, it was derived from "interdisciplinary theory", "interdisciplinary" and other specialized terms, and IDR (interdisciplinary research) and other abbreviations related to interdisciplinary.

The concepts of interdisciplinary

Chinese scholar Liu Zhonglin defines the term "interdisciplinary" from a broad perspective and believes that "interdisciplinary" has three meanings: interdisciplinary, cross connection discipline and the subject of interdisciplinary. Interdisciplinary mainly refers to the research or activities integrating theories and methods of different disciplines; cross connection discipline refers to the interdisciplinary group containing many interdisciplinary disciplines; the subject of interdisciplinary mainly refers to a new discipline studying interdisciplinary laws and methods (Ma, 2011; Welch, 2017). According to the history and current situation of interdisciplinary development, scholars understand interdisciplinary science as the theory, principles and methods of interdisciplinary practice, interdisciplinary research and guide the development of interdisciplinary practice, namely interdisciplinary science (Newell, 2013). Foreign scholar Petrie believes that interdisciplinary disciplines is different from multiple disciplines and does not simply bring multiple disciplines working groups together to carry out their work. The goal of interdisciplinary disciplines is to integrate the perspectives of different disciplines (Johnson, 2007; Petrie, n.d.; Pharo & Bridle, 2012). In 1970, the OECD defined interdisciplinary as the interconnection between two or more disciplines, involving not only the simple exchange of ideas, but also the connection between concepts, terminology, methodologies and organizations of different disciplines (OECD-CERI,1972). Klein defines "interdisciplinary" as integrating the knowledge of multiple disciplines, answering and solving

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more complex and broader problems that a single discipline cannot deal with from the perspective of different disciplines (Laursen & O'rourke, n.d.; Musil & Association of American Colleges and Universities., 2001). Berger, Interdisciplinary refers to the interaction between two or more disciplines, specifically to the interaction of concepts, methods, processes and educational institutions among disciplines (Franks et al., 2007). Jacobs, defines interdisciplinary as a comprehensive approach of multiple disciplinary methods and languages (H. H. Jacobs, 1989). Brewer, understanding interdisciplinary learning as a means to solve practical problems, mainly through the combination of different disciplines (Carmichael, 2018; Chettiparamb, 2007). No matter what perspective the existing literature focuses on interdisciplinary discussion, their common point is to emphasize the integration of knowledge and methods between different disciplines. This study defines "interdisciplinary" as the interaction between two and multiple disciplines, not the specific disciplines, but the interdisciplinary process of breaking the boundaries of disciplines.

Development of interdisciplinary study in higher education

Interdisciplinary discipline refers to the phenomenon of cross-integration formed by the interconnection and cooperation between various discipline and fields (Xu et al., 2022). that interdisciplinary education is a way to improve the comprehensive quality of colleges and universities, give full play to the discipline advantages of colleges and universities, and is also an effective way to improve students' comprehensive quality and social competitiveness. This is parallel to the efforts of the China education aiming for the internationalizing of their local higher education institutions and transforming these institutions into 'high-class' or 'first-class' education institutions. (Huang et al., 2021) have also supported the essential of interdisciplinary education as a platform for personnel training.

Though the transformation of the higher education in China has becoming vast, the development of interdisciplinary education is still lagging behind as compared to other developed countries and due to this, the universities and colleges are highly urged to encourage their teachers and lectures to actively participate in interdisciplinary research projects and make more attempts and breakthroughs to break disciplinary barriers, so as to truly implement the goal of vigorously developing interdisciplinary education (Li et al., 2011). This proposal also has been supported proposed that discipline interaction has become an irreversible international trend. The discipline development of foreign famous universities is a new way through interdisciplinary establishment.

Chen, Wang, and Tian (2022) somehow have suggested that the reform of undergraduate education in China in the new period should be guided by comprehensive ability and lay stress on the development of interdisciplinary education model. Lei (2018) also has stated that inspirations from the interdisciplinary institutions of well-known foreign universities have its own significant influence on the construction of "Double First-class" universities in China. Zheng (2019) strongly imposed that interdisciplinary education is an important measure of higher education reform. It is a general trend for universities to carry out interdisciplinary talent training. He further discussed that the cultivation of interdisciplinary talents has become the general trend of higher education reform, especially the cultivation of students' ability to solve problems with interdisciplinary knowledge is of great importance.

Talent training model

Definition of talent training model

Zhong Binglin elaborated on the "talent training" and the "talent training model" respectively and discussed the constituent elements of the talent training model from a broad perspective. "Talent training is the basic function and fundamental task of a university, as well as the core content of the connotation construction of a university. Broadly speaking, talent training model including personnel training objectives and specifications, professional setting and construction, curriculum system and teaching content, teaching methods and teaching methods, teaching evaluation and quality control, including training objectives, training content, training methods and training conditions, talent training elements (B. Wang, 2020) ". "higher vocational education across transition" in the talent training model has the following definition: "talent training model refers to a certain education thought as the instruction, in order to achieve some specifications of talent training goals and develop the education teaching organization style and operation model, is some kind of education training target, training process, training way, training methods such as comprehensive summary, simply is 'what people' and 'how to cultivate people' problem (Chen & Schmidtke, 2017; Liu et al., 2013; Peng & Jiang, 2013)".the concept of talent training model: "The so-called 'talent training mode' refers to what kind of knowledge, ability and quality structure is constructed for the educated, and how to achieve this structure ". This definition includes not only the standard problem of talent training, but also involves the realization problem of talent training (Cai, 2022). talent training model in universities and analyzes the components of its elements."University talent training model is the training subject in order to achieve specific talent training goals, in a certain education concept guidance and certain training system guarantee design, composed of several elements of systematic, purposeful, mediation, openness, diversity and imitation characteristics of the process of operation model and organization style. It is mainly composed of eight elements: talent training concept, specialty setting mode, curriculum setting mode, teaching system system, teaching organization form, hidden curriculum form, teaching management mode and education evaluation mode (J. Wang, 2018) ".This definition starts from the connotation of "talent training" and "the characteristics of the talent training mode", and emphasizes that the talent training model is only the design and construction of the talent training process, and accurately grasps the extension and connotation of the talent training mode. Although scholars from different aspects and perspective, the "talent training model" formed a different understanding and views, however, for talent training model is composed of multiple elements of complex system, is to achieve specific talent training goals, is the specific operation mode in the process of talent training basic reached a consensus. Therefore, the talent training model is a relatively stable education and teaching organization paradigm throughout the whole process of talent training, according to the specific talent training goals and norms, under the guarantee of organization, system and technology. Talent training model is the most important and complex system in talent training. The innovation of talent training model is to update or reorganize its constituent elements.

The proposed of talent training model

Talent training model is the basic problem in the field of higher education. With talent training, there is talent training model. However, it took Chinese universities, academic circles and educational administrative departments to propose and discuss the talent training model for nearly 20 years, especially in recent years. The concept of "talent training model" put forward by colleges and universities was first seen in Wen Yulin's article "Reform the Talent Training Mode, Set majors according to the Discipline", which is about how to reform the talent training model of higher engineering education. After that, some universities and practitioners continue to discuss the training

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model and reform of various talents of medicine and economics, but it is not clear what the "talent training model" is, and the grasp of its connotation is relatively vague. Due to the need of higher education practice, the theoretical workers also gradually began to pay attention to this problem, and try to define its connotation. Liu Mingjun clearly defined this concept for the first time in "On the University Educational Environment", and put forward that the talent training mode refers to " the education and teaching style selected or conceived for the realization of certain educational goals under certain conditions of running schools." Education administrative department for the first time to the connotation of " talent training mode " direct expression, is in 1998 the Ministry of Education issued the file on deepening the reform of teaching, meet the needs of the 21st century, pointed out that " talent training model is the school for students to build knowledge, ability, quality structure, and the way to realize this structure, it fundamentally stipulates the talent characteristics and centrally embodies the education thought and education idea."

Interdisciplinary talent training

Definition of interdisciplinary talent training

Cheng-Jun & Xiao-Fang defined interdisciplinary talent training as follows: "Interdisciplinary talent training is a new educational concept that reflects social needs, and its fundamental purpose is to cultivate interdisciplinary talents with thick foundation, wide caliber, high quality, strong adaptability and innovative potential" (Cheng-Jun & Xiao-Fang, n.d.). This definition regards interdisciplinary talent training as a new educational concept, and proposes that the goal of interdisciplinary talent training is to make students become compound talents with high comprehensive quality. Qin defines the concept of interdisciplinary talent training from the perspective of the practical and appropriate differences of the interdisciplinary talent training objectives. In his opinion, interdisciplinary talent training does not entirely refer to the cultivation of interdisciplinary talents, but to the cultivation of senior specialized talents with innovative spirit and practical ability, and with interdisciplinary knowledge structure and background through interdisciplinary education (Qin et al., 2023). That is to say, the basic goal of interdisciplinary education is to cultivate interdisciplinary talents, but all talents cultivated in educational practice are not necessarily interdisciplinary. Cultivating innovative talents with a wide range of knowledge and excellent practical ability is also the educational goal of interdisciplinary talent training, explained the basic connotation of interdisciplinary talent training, how to use interdisciplinary means, methods and approaches; the cultivation of interdisciplinary talents is an educational concept, with broad academic vision to meet the needs of the 21st century (P. Zhang & Wang, 2015). From the perspective of undergraduate education in universities, interdisciplinary talents should be talents with broad basic theories and broad knowledge cultivated through certain educational modes, basic theories, knowledge and skill methods of two or more disciplines, and full of interdisciplinary consciousness and innovative spirit. the relationship between interdisciplinary talent training and interdisciplinary research and interdisciplinary education. " Interdisciplinary research requires interdisciplinary talents, and interdisciplinary talents are also cultivated in the research process. Interdisciplinary education is the main channel and practical activity of interdisciplinary talent training. "Interdisciplinary, as a method and means of cultivating talents, involves the construction of teaching organization and teaching management system such as credit system and elective system. The purpose of talent training is to cultivate innovative top-notch talents with interdisciplinary background, and the mode of interdisciplinary talent training needs to be constantly explored in educational practice. As a new educational concept reflecting social needs, interdisciplinary talent training plays a positive role in promoting the deepening of educational reform. The "interdisciplinary talent cultivation" discussed in this institute refers to the whole educational process of cultivating interdisciplinary innovative talents

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with broad academic vision and broad basic knowledge by integrating two or more disciplines. It includes the following three meanings: 1. As an educational concept, interdisciplinary talent training has clear training objectives and norms; 2. Teaching content, methods and means implemented in the education process in order to achieve interdisciplinary talent training goals; 3. Teaching management and evaluation system suitable for interdisciplinary talent training.

The cultivation of interdisciplinary talents training

The cultivation of interdisciplinary talents has become the general trend of higher education reform, especially the cultivation of students' ability to solve problems with interdisciplinary knowledge is of great importance. Based on the research on the cultivation model of interdisciplinary talents in other world-class universities, (Shi et al., 2023) exposed that China's interdisciplinary talents training model are clearer through the direction of reform such as by breaking the subject barrier, improving the quality of the personnel training, reforming and implementing better teaching method, and diversify and increase the investment in interdisciplinary education.

Lu (2021) also stated that interdisciplinary talent training conforms to the characteristics of discipline development, also can make the new media art students 'comprehensive ability, compared in the field of learning, interdisciplinary training model can not only broaden the students' academic vision and knowledge structure, but also can cultivate students' rigorous logical thinking ability. Zhang and Lei (2019) discussed on the training of engineering interdisciplinary talents as an important content in realizing the systematic reform of higher engineering education. This indicates the essential of interdisciplinary education in preparing the students or new talents with better knowledge and skills for future.

The cultivation of interdisciplinary talent training model is beneficial for the future of the talents or students as according to (L. Zhang et al., 2022) in their study, the exploration of the talent training mode is of great value and practical significance in promoting construction of new agricultural science and the revitalization of rural talents. This implies the significance of the talent training, especially the interdisciplinary talents training in gathering new talents that can produce better and greater outcomes for the nation's future. As discussed by Wang, He, Li and Zhang (2019), the cultivation of interdisciplinary talent training requires systematic improvement of the talent training mode in the emerging of interdisciplinary fields

Lyu et al., (2019) and Yue et al. (2022) have highlighted that talent training in Chinese domestic universities cannot meet the national demand for interdisciplinary talents and it requires vast reformations and upgrading of the interdisciplinary education. Thus, this indicates the need of the cultivation of interdisciplinary education and interdisciplinary talent training as supported by the promotion of interdisciplinary education is needed in cultivating compound talents, promoting knowledge to inspire creativity and building wisdom campus to deepen the learning experiences. The cultivation of interdisciplinary talent training and education enables the medium of cross-border collaboration with international cooperation through a lifelong learning platform.

New media art

Definition of new media art

For the definition of new media art, the art theory circle has not formed a unified understanding. New media art also does not have an exact definition, but is just a concept relative to the traditional art form.

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New media art appeared in the 20th century and refers to contemporary art that uses new media technology to produce, modify, or disseminate it. Including video art, digital art, interactive art, Internet art, virtual art, sound art, and the use of robots, biotechnology, 3D printing technology and animation technology of new technologies such as creation of art, and these are with traditional art form (painting, sculpture, architecture, etc.). Because, new media art is the product of the combination of modern art and new media technology, art and technology complementary contributed to the vigorous development of new media art, and the boundary of contemporary art has gradually blurred, the development of science and technology energy and immeasurable, as a result, the form of new media art in constantly changing, this may be the academic definition of new media art there is no consensus on the main reason.

The importance of the new media art

In the relevant discussion of new media art, Zhang Zhaohui's view represents a mainstream understanding of new media art in the art theory circle. He will be "media" understood as "media", and, from the west and "media art" called comprehensive media (that is, artists with all traditional painting, sculpture, business and technology materials engaged in art creation and exploration) of traditional understanding, the "new media art" interpreted as "artists trying to combine cutting-edge technology and pioneer art thinking, explore new art space and a new way of perception of the world". For this definition, from the development of "new media art" itself, it can indeed accurately describe its main characteristics; we can also find that the main focus of this definition is to use new technology as an artistic medium for artistic expression, at the same time, the adoption of new technology will constantly update its connotation and type. Video installation art, for example, is the representative of the early new media art, its art media is mainly cameras, video recorder and television, and with the development of computer digital technology, now video installation art more early video and the late computer effects, computer and video processing technology quickly become a new supplementary media. For another example, with the development of the Internet and mobile information technology, a variety of media interaction technologies contribute to the emergence of new new media art forms, so that the works themselves not only contain a variety of media and interaction technologies, but also often need to let the audience participate in the interaction to promote the real completion of the works, and even evolved into a kind of artistic activity. With the intervention of the Internet, a new medium, the real value of art works has given greater play.

Thanks to the progress of new technology, new media art has blurred the natural boundary between artists and non-artists in traditional art. With the intervention of science and technology, "concept" becomes the primary feature of new media art works, and new media art becomes an artistic creation driven by "ideas". Moreover, due to the characteristics of new media art being easy to copy, its communication value is not only in entering the art gallery, but also in the new way of presentation and the connection and interaction with the audience. It can be seen that technology and communication have a great influence on the value orientation of new media art.

If the new media art, as a new art form, its influence is still limited to the field of pure art, then in the field of practical art, the new media art design is surging and has the potential to surpass the traditional design. The real influence of new media on life naturally promotes the vigorous development of new media art design that focuses on application. More than ten years ago, new media art design came on stage. Now, it has quickly occupied the center of the big stage of art design.

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At the same time, new media art further blurs the boundary between "pure art" and artistic design, making it integrate and transform into each other. From the amazing display of the new media picture scroll at the opening ceremony of the 2021 Beijing Olympic Games to the impressive new media art display in the venues of the 2021 Shanghai World Expo, the new media art perfectly combines technology and art, giving the public more opportunities to contact art and enjoy art in a new way of communication. Today, we can not only see at the scene of the art exhibition those who focus on concept expression of new media art creation, we are the third body in the animation, games, new media stage performance, interactive website, eBooks, electronic magazine, mobile phone APP and other kinds of new media for us to create different from the previous visual life. In short, new media art is closely combined with the development of contemporary science and technology. Between technology and communication, it gives full play to the unique advantages of vision and subtly affects our visual living environment.

New media art education in higher education

Current situation of new media art education in higher education

According to incomplete statistics, there are more than 100 undergraduate colleges and more than 1,000 junior colleges and vocational colleges in China with new media art or related majors, basically covering the existing categories of new media art. Because the starting point of talent training is different, the understanding of the professional name of "new media art" is also different, resulting in many specific professional direction, such as digital media art, digital media art, film and television new media art, new media art, digital art, digital art, information art... among them, "new media art" this professional name, due to the early convention and its own inclusiveness, become the most widely used professional name. The "Department of New Media Art Department (Dean) Forum" jointly hosted by the Office of Academic Degrees Committee of The State Council and the Department of Degree Management and Graduate Education of the Ministry of Education is the recognition of the title of "new media art". Whether in the pure art discipline that focuses on artistic creation, or in the art design discipline that focuses on the applied field, most of the professional names are classified under the "new media art", and then set different professional directions.

In the aspect of "pure art" education, the new media art education of China Academy of Art is undoubtedly in the forefront. In 2021, China Academy of Art took the lead in establishing the New Media Art Center, which pioneered the construction of new media art system in China. In 2021, the center developed into the new media art department in China; In 2021, cross-media art established a new media art center-media art, for international exchange and display of cross-media art. Xu Jiang, president of China Academy of Art, described the School of Cross-media Art as: it is the most cutting-edge discipline cluster of China Academy of Art. It will be the first real "experimental art college" in China, a college with media experiment as the engine to carry out contemporary art education.

In order to meet the development needs of the cultural and creative industry, more colleges and universities will begin to set up departments that focus on new media art and design after 2021. Such as the central academy of fine arts design institute has "digital media art professional", tsinghua university academy of fine arts has "information art design", communication university of China animation institute has "digital media art professional", the capital normal university academy of fine arts has "new media art design professional", xi'an academy of fine arts printmaking department has "film and television new media art professional", and so on. Due to the differences in training objectives, the professional courses of these departments have their own characteristics, but most of them take

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animation, digital imaging, photography, interactive media art and other mainstream courses. Taking the curriculum of New Media Art Design of the School as an example, its basic courses include basic modeling, digital image system, basic photography; professional core courses include audio-visual language, animation modeling, image composition, experimental short film creation, interactive interface, lens creation, multimedia art, channel Logo, interactive media, etc.; professional elective courses include ink animation, MV creation, mobile phone animation, game design, etc.

As a new discipline, colleges and universities of new media art discipline is an interdisciplinary, interdisciplinary, although developing rapidly, but due to the short time, lack of teachers, need interdisciplinary cooperation teaching, such as objective reasons, is still in the exploration stage, did not form a mature discipline construction system.

The development of new media art major in higher education in China

According to Peng (2021) new media art major has been defined as a complex of interdisciplinary and interdisciplinary knowledge which it leads the reform of the traditional art and design education system. Peng (2021) also suggested that the future development of new media art education should make positive changes based on adhering to the essence of "interdisciplinary" and "creative loop". The discipline of new media art and design has strong science and technology, artistry, and creativity. Its development is not only a cultural development, but also drives the development of our cultural and creative industry and plays a good role in promoting the economic development of the country (Lyu et al., 2019; Yue et al., 2022).

Promoted that the vigorous development of new media art has become the most colorful landscape in contemporary art and design. With the development of the times, the ubiquitous new media art is changing our visual world, which is the inevitable direction of art development, and a phenomenon that education should pay attention to. also highlighted that new media art major has become the new focus of talent training in colleges and universities, and new media art courses have been added to basic art education.

Chen Yue (2022) has argued that the curriculum setting of new media art design should be an organic integration of different professional courses. The connotation of different courses should be deeply discussed and integrated into a new curriculum system. The rapid emergence of new media has significantly affects the education system especially the higher education as according to Sun (2020) the only way for the development of higher art and design education is through the integration between the disciplines.

CONCLUSION

Through the vast discussions by scholars in previous studies, the development of higher education has showed progress and diversity especially in the interdisciplinary education. Scholars have widely and strongly discussed on the essential of the interdisciplinary education in enhancing the cultivation of the interdisciplinary talent training in which by strengthening this idea, the betterment of the future talents will be secured and provide better opportunities for greater development of the nation. The results of previous studies also found that the new media art was incorporated into China's university education system but 20 years or so, New Media Art remains as a specialty under the art discipline or design discipline under the guidance of the professional catalogue issued by the Ministry of Education, Although strict professional division may partly contribute to in-depth research in a direction or field,

yet, it is obvious that the existing talent training system is not suitable for the actual needs of comprehensive talent quality training, so need to construct a brand-new talent training model suitable for new media art major.

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