ESSENTIAL SKILLS CULTIVATION FOR ART DESIGN EDUCATION IN COLLEGES AND UNIVERSITIES UNDER HEILONGJIANG PROVINCE, CHINA

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ABSTRACT

The objectives of this research were: To examine the components of essential skills in Art Design Education in Colleges and Universities under Heilongjiang Province; and to propose the guidelines to cultivate the essential skills in art design education in colleges and universities under Heilongjiang Province. The research was a mixed methodology research, including qualitative research and quantitative research. The population of the research consisted of 45 college administrators and 833 instructors in 11 colleges and universities under Heilongjiang Province, with a total of 878. The sample size was determined by Krejie and Morgan tables (1970), and obtained by stratified random sampling technique, totaling 300. The key informants were composed of 16 key informants, including senior administrators of art and design education in colleges and universities, professors of art design major in colleges and universities, graduates of art design major, head of the personnel department of the art and design-related enterprises, obtained by purposive sampling method. The instruments used for data collection were a semi-structured interview form, a five–point rating scale questionnaire, and a focus group discussion form. The statistics used for the data analysis were frequency, percentage, mean, Standard Deviation and Exploratory Factor Analysis, as well as the content analysis was employed.

The research findings revealed that: (1) there were eight components of essential skills cultivation in art design education in colleges and universities under Heilongjiang

Province which consisted of aesthetic appreciation skills, design thinking skills, creative thinking skills, critical thinking skills, collaborative skills, self-study skills, social skills and comprehensive practical skills; and (2) there were total of 18 guidelines of essential skills cultivation in art design education in colleges and universities under Heilongjiang Province which consisted of three managerial guidelines for component of aesthetic appreciation skills and design thinking skills, two managerial guidelines for component of creative thinking skills, critical thinking skills, collaborative skills, self-study skills, social skills and comprehensive practical skills.

Keywords: Essential Skills Cultivation, Art Design Education, Heilongjiang Province

1. Introduction

In recent years, China's economic development and cultural prosperity have promoted the continuous development and change of art and design education. As an important part of the cultural and creative industry, art and design is becoming a new driving force for China's economic development. In 2014, The State Council issued the Opinions on Accelerating the Development of Modern Service Industry and Promoting Economic Transformation and Upgrading, which put forward the goals and measures for vigorously developing the cultural and creative industries. Among them, art and design education is regarded as an important part of the cultural and creative industry, and the government began to increase the investment and support for art and design education. Take the growth of students as the bull's eye, consolidate the position of the talent training center, face the major needs of national (Research Group of the Ministry of Ed， 2019), regional and industry development, follow the pulse of The Times, open the actual urgent channel of front-line talents, and take the road of talent innovation and training (Central Committee of the Communist Party of China, 2021). Art design education in colleges and universities must follow the national development plan, and the talents trained by art design education in colleges and universities must be able to serve the society and serve the regional economy where the university is located. Therefore, the development of higher education in art and design has also received more and more attention.

The essential skills of art and design education in colleges and universities have always been the focus of educators, especially in this era of rapid science and technology, as the continuous development and iteration of science and technology have brought

about the changes of economic and industrial structure, but also constantly affected the social demand for art and design talents. Art design talents as the main force of cultural creative industry, to promote the harmonious development of cultural creative industry economy has an irreplaceable role, social demand for art design talent changes, this prompted college art design educators reflect on education of students basic skills, art design professional education on the one hand should be based on the overall development needs, on the other hand also need to further strengthen the students' professional innovation ability and professional skills. This is also a challenge for art and design educators. Talent training is the primary task of higher education, and it is also an eternal topic of higher education reform. How to cultivate high-end creative talents with market competitiveness and promote economic development has become the main task of current educators. This requires the development of technology while improving aesthetic appreciation, and art design, as a subject between art and technology, also needs to improve students' ability to adapt to the trend of social talent demand.

From the national social and economic development strategy, from the implementation of the fourteenth of the People's Republic of China for the national economic and social development and 2035 vision outline of deployment, examine the historical stage and international experience, we should see that Chinese design development exists: organization promotion mechanism is not perfect, design education is not mature, design theory lack of research, design industry system is not perfect. Large-scale rapid development of higher art education makes the quality of art education and educational conditions become the practical problem of concern, how to ensure the teaching quality of scale, adjust the professional structure of professional development, and finally, to realize the scientific development of higher art education, also presents the gap between reality and goal. As the researcher works as an art and design professional teacher, it is highly concerned that the talents cultivated by the university can master the basic skills with high quality, whether they are engaged in design work, design research work or design education work, they can be self-reliant and serve the local economic development.

In conclusion, researcher plan to research on design theory and industrial policy, personnel training and education mechanism, organize the research and development of design methods and design tools, organize design academic research; strengthen talent

training and echelon construction; guide the design methodology, and strengthen and improve the service ability and level of comprehensive design.

2. Research Questions

What are the components of essential skills in Art Design Education in Colleges and Universities under Heilongjiang Province?

How to cultivate the essential skills in Art Design Education in Colleges and Universities under Heilongjiang Province?

3. Research Objectives

To examine the components of essential skills in Art Design Education in Colleges and Universities under Heilongjiang Province.

To propose the guidelines to cultivate the essential skills in Art Design Education in Colleges and Universities under Heilongjiang Province.

4. Research Method

4.1 Research Design

The research methodology was mixed methodology, including qualitative research and quantitative research. The quantitative data was collected through a survey questionnaire distributed to administrators and instructors of 11 colleges and universities of Art Design Education in Heilongjiang Province. Descriptive statistics was used to classify and recognize the basic properties of samples. In addition, percentages and Standard Deviations was used for data analysis. Content analysis techniques will be employed to analyze the qualitative data. The findings from data analyses was integrated to develop the managerial guidelines for cultivate the essential skills in Art Design Education in Colleges and Universities under Heilongjiang Province.

4.2 Population and Sample

Population consisted of administrators and instructors in Art Design Education in Colleges and Universities under Heilongjiang Province. The researcher determined the sample size with Krejcie and Morgan's Table (1970). The sample was administrators and instructors, a total of 300 people, using stratified sampling techniques.

4.3 Research Instruments

Step (1) Qualitative research: semi-structured interview form.

Step (2) Quantitative research: five-point rating scale questionnaire.

Step (3) Qualitative research: focus Group Discussion form.

4.4 Data Collection

The steps for data collection will be as follow: Request permission to collect data for research from Bangkokthonburi University to 11 colleges and universities in Heilongjiang Province, then carry out data collection with the selected samples by sending questionnaires to the coordinator teachers who will help for collecting data with the selected samples.

4.5 Data Analysis

The data for this research of demographic variables were analyzed by descriptive statistics, frequency, and percentage. The variables for essential skills in Art Design Education were analysed using descriptive statistical methods; mean, standard deviation (S.D.). Exploratory Factor Analysis (EFA) was used to analyze the components of essential skills in Art Design Education in colleges and universities under Heilongjiang Province.

5. Research Results

There were eight components of essential skills cultivation for art design education in colleges and universities under Heilongjiang Province which consisted of aesthetic appreciation skills, design thinking skills, creative thinking skills, critical thinking skills, collaborative skills, self-study skills, social skills and comperhensive practical skills.

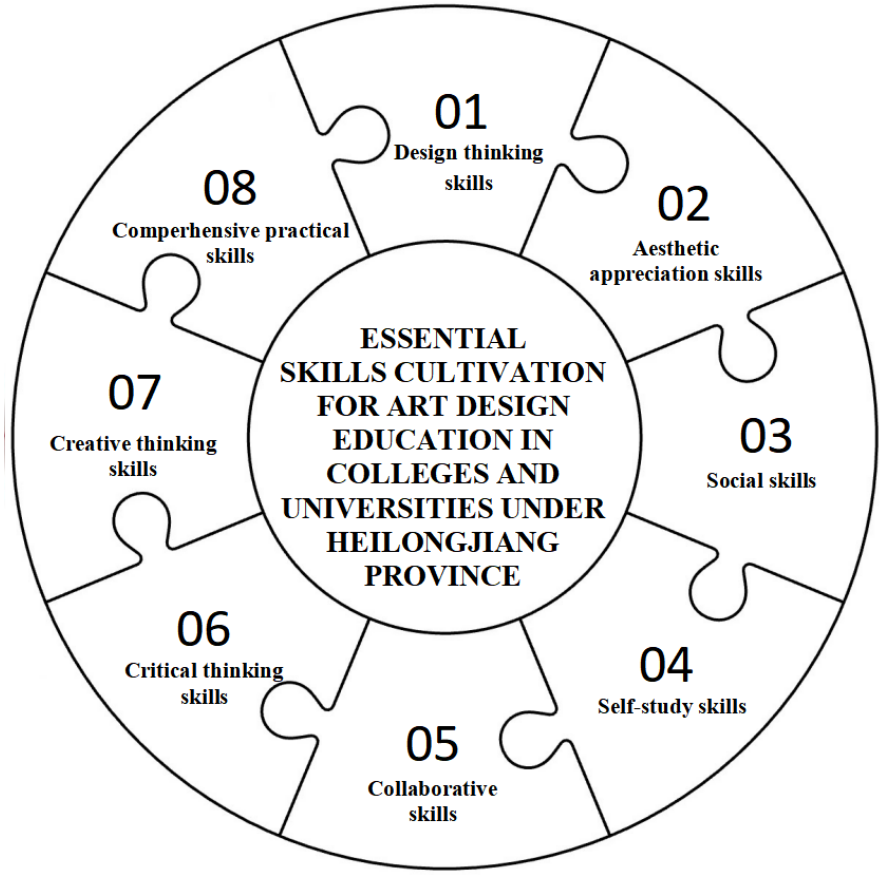

Figure 1 Shows the components of cultivation of essential skills for art design education in colleges and universities under Heilongjiang Province

Table 1 Shows Data Analysis Result on Questionnaire: Eigenvalues, Percentage of Variance, Percentage of Cumulative Variance

Components	Rotation Sums of Squared Loadings		
	Eigenvalues	Percentage of Variance	Percentage of Cumulative
1	12.443	15.362	15.362
2	8.239	10.172	25.534
3	6.818	8.417	33.951
4	5.814	7.178	41.129
5	5.691	7.026	48.155
6	4.954	6.117	54.272
7	3.306	4.082	58.354
8	2.613	3.226	61.580

From Figure 1 and Table 1 shows the number of components of essential skills cultivation for art design education in colleges and universities under Heilongjiang Province. It was found that there were eight components with an Eigenvalues greater than 1. When rotating the axis, it explained a total variance of 61.580 percent, but considering the selection criteria, components with factor loading at 0.60 or higher. There were more than 1 Eigenvalues and more than 3 or more variables that described components.

The components that met all 8 criterias when the axis was rotated, component I had a maximum Eigenvalues of 12.443, it can explain the total variance of 15.362 per component. Component 2 had a maximum Eigenvalues of 8.239, it can explain the total variance of 10.172 per component. Component 3 had a maximum Eigenvalues of 6.818, the total variance can be explained by 8.417 percent. Component 4 had a maximum Eigenvalues of 5.814, it can explain the total variance of 7.178 percent. Component 5 had amaximum Eigenvalues of 5.691, explaining the total variance of 7.026 percent. Component 6 had a maximum Eigenvalues of 4.954, explaining the total variance of 6.117 percent. Component 7 hada maximum Eigenvalues of 3.306, explaining the total variance of 4.082 percent. Component 8 hada maximum Eigenvalues of 2.613, explaining the total variance of 3.226 percent. Other components had an Eigenvalue and the ability to describe it, all variance gradually decreased accordingly, and the components that met certain criteria were components 1-8, it was found to be able to explain a total variance of 61.580.

It explained that the components of essential skills cultivation for art design education in colleges and universities under Heilongjiang Province consisted of eight components:

Component Ⅰ “Design Thinking Skills”;

Component Ⅱ “Aesthetic Appreciation Skills”;

Component Ⅲ “Social Skills”;

Component Ⅳ “Self-study Skills”;

Component Ⅴ “Collaborative Skills”;

Component Ⅵ “Critical Thinking Skills”;

Component Ⅶ “Creative Thinking Skills”;

Component Ⅷ “Comprehensive Practical Skills”.

There were total of 18 guidelines of essential skills cultivation in art design education in colleges and universities under Heilongjiang Province which consisted of three

managerial guidelines for component of aesthetic appreciation skills and design thinking skills, two managerial guidelines for component of creative thinking skills, critical thinking skills, collaborative skills, self-study skills, social skills and comperhensive practical skills.

6. Discussion

The discussion will be presented as follows:

6.1 Discussion about major findings of objective 1

The first objective of the study was to examine the components of essential skills in Art Design Education in Colleges and Universities under Heilongjiang Province. The major findings revealed eight components of essential skills cultivation: aesthetic appreciation skills, design thinking skills, creative thinking skills, critical thinking skills, collaborative skills, self-study skills, social skills and comperhensive practical skills.

These components in the research findings were important in building the management of essential skills cultivation in Art Design Education in Colleges and Universities under Heilongjiang Province. The improvement of the skill level of these 8 components can promote the development of the local cultural industry, enhance the local brand image and cultural soft power, and inject more innovative and creative resources into the local economic development and urban construction. It can improve the education and teaching level and professional reputation of colleges and universities, attract more students with potential and talent to apply for related majors, and play a positive role in improving the quality of learning seedlings, and strive for more educational resources and support for schools. Graduates have professional quality and innovation ability, which will enhance the core competitiveness of students, so as to meet the needs of employers for art and design talents. Therefore, it is of great significance to improve the eight essential skills cultivation in Art Design Education in Colleges and Universitiesof local governments, colleges and universities and employers.

These findings were consistent with previous studies conducted by Liu Ben (2022:428) attach importance to practical teaching and curriculum setting, truly strengthen students' basic, professional, developmental and professional abilities, and cultivate high-quality art and design talents with solid theoretical foundation, exquisite skills and sustainable competitiveness. Also,the findings were in the same direction with Li Haixiang (2014:137) The education and teaching of art and design major in colleges and universities can be completed with high quality and high standard, so as to cultivate more

comprehensive art and design talents with professional, technical and practical characteristics for the society. Moreover, from the research of Li Zhixiao (2020:135) Art education has the role of comprehensive education, cultivating students' ability of information analysis, innovative design expression, critical thinking and design practice. From the perspective of essential skills cultivation, the eight components in the research results are an important part of the construction of essential skills of art design education in colleges and universities in Heilongjiang Province, and play a vital role in improving students' core competitiveness.

6.2 Discussion about major findings of objective 2

The second objective of the study was to propose the guidelines to cultivate the essential skills in Art Design Education in Colleges and Universities under Heilongjiang Province. This validation result was slightly different from the components of objective 1. This validation result was slightly different from the components of objective 1. The guidlelines put forward a more comprehensive and practical way to realize the essential skills cultivation for art design education in colleges and universities under Heilongjiang Province.

Essential Skill Cultivation for Art Design Education in Colleges and Universities under Heilongjiang Province, there were total 18 managerial guidelines: Consisted of (1) Organize lectures and workshops on design thinking skills, teach the theory and practical operation methods of design thinking skills, as well as the classic case analysis, and exercise students' design thinking and problem-solving ability; (2) Regularly organize students to participate in actual design projects and virtual design projects, so that students can apply what they have learned, and exercise their ability to actively solve problems and innovative thinking; (3) Students are encouraged to conduct interdisciplinary study and project cooperation with students of different majors, and stimulate students' design thinking and cross-border thinking through the communication and collision of different disciplines; (4) Courses such as basic aesthetic education, art history and cultural background knowledge are offered to enable students to master different art schools and styles and enhance the aesthetic depth of art design; (5) Organize various art and design communication activities irregularly to cultivate aesthetic perception and understanding ability; (6) Artists and designers are invited to communicate and discuss art design and creation with students to cultivate aesthetic expression and creative ability; (7) Create

art and design societies and art and design teams to promote face-to-face communication between students; (8) Organize students to participate in social practice activities to improve their social skills and interpersonal skills; (9) Provide various learning resources and guidance to facilitate students to study independently and design research; (10) Organize and guide students to make personal learning plans and goals, cultivate the ability of self-management and self-learning, and provide learning guidance and guidance; (11) Organize a variety of team design projects and competitions, so that students can learn to cooperate and coordinate with others, and improve the efficiency and results of teamwork; (12) Provide training in team communication and conflict resolution for students to learn effective communication and problem-solving skills; (13) Regularly organize students to debate their academic views, provide training and practical opportunities in critical thinking skills, and cultivate students' critical thinking and analytical skills; (14) Organize students to conduct popular art and design case analysis from time to time. Through case analysis and discussion, students can learn to critically analyze and evaluate art works; (15) Organize regular creative thinking training camps to help students develop their thinking, stimulate their creativity, and cultivate their observation, association and imagination; (16) Set up a full-time open laboratory to continuously improve the creative thinking ability through practice and feedback; (17) Provide interdisciplinary comprehensive practice projects, so that students can better apply the theoretical knowledge learned to the practical design, and exercise the thinking width and comprehensive ability of practical operation; (18) Provide more internship opportunities, provide practical guidance and support, so that students can continuously improve their sense of social responsibility and comprehensive practical ability in the practice process.

These findings were consistent with previous studies conducted by Li Na and Liu Xiaoyue (2022:116) the training of art and design talents needs to better combine the curriculum planning, classroom teaching, practice and other contents, explore and deepen the project teaching method to innovate the practical talent training mode. Also,the findings were in the same direction with Xiong Jianxin and Zheng Jun (2007:170), artistic creation should conform to the current aesthetic appreciation, change the previous thinking and positioning mode, draw on the experience of predecessors, and broaden the boundary of creation. Modeling is to satisfy the beautiful thinking and the rich imagination

of form implication. Moreover, from the research of Cui Yong and Du Jingfen (2019), modeling is a kind of comprehensive visual presentation of artificial "isomorphism". Through the connection and communication of rich imagination and realistic images, the cognitive thinking paradigm is interpreted with composed and full composition and distinct subject graphics. And it was found that cultivate a wide range of cultural interests, combine creative thinking methods to make design full of connotation; and encourage students to explore and seek different design forms to try, experience, think and summarize corresponding to Zhao Huixin (2011:89). Finally, the research of Yu ying (2013:56), build a cross-directional curriculum system platform. In order to break through the boundary of art and design students' course selection, it is convenient for students to choose courses for self-study, so as to realize the regional function of the university to serve the society.

Therefore, the 18 guidelines in the research findings were important in guiding the essential skills of art design education in colleges and universities in Heilongjiang Province. This validation result was slightly different from the components of objective 1. The guidlelines put forward a more comprehensive and practical way to realize the essential skills cultivation for art design education in colleges and universities under Heilongjiang Province.

7. Recommendations

Based on the research findings, the following recommendations were proposed in three key aspects:

7.1 Recommendation for Policies Formulation:

Colleges and universities have set up innovation and entrepreneurship practice centers to encourage students to carry out innovative projects and entrepreneurial practices, and to strengthen practical teaching with innovation and entrepreneurship projects. Provincial education administrative departments promote the cooperation between the school of Art and Design and the local handicraft industries, encourage the joint projects of art and design majors and related industries, and promote the commercialization and industrialization of art and design works. Provincial education administrative departments help universities to establish scientific art design education evaluation mechanism, including teaching evaluation system and evaluation and feedback of students' basic skills, so as to encourage teachers and students to continuously improve

and improve. Strengthen international exchanges and cooperation in art and design majors, the government can encourage students to participate in international art and design competitions, exhibitions and exchange activities, and provide financial and resource support.

7.2 Recommendation for Practical Application:

To facilitate the development of essential skills in art and design education , the following strategies can be explored:

1) The integration of teaching resources. The development of network technology and AI technology makes various education and teaching platforms, software and resource databases spring up in an endless stream. In this era of resource explosion, the effective resource integration is not simply the addition, but the subtraction of scientific screening. In particular, colleges and universities need to assist students to plan the use of various resources in class and after class, which is twice the result with half the effort.

2) Role transformation of teachers and industry tutorial system. Teachers in the school are not only the function of teaching, but also the function of accompanying, guiding and inspiring students. Art and design majors need personalized talents to give students free space, give students the opportunity to explore freely, and help students give full play to their potential. As mentors, professionals in the same industry not only provide technical guidance and practical experience sharing, but also help students understand industry trends, market demands and business logic behind them, so as to guide students' performance and development in practical application.

3) Mutual migration and mutual support of basic skills. Throughout the study, we found that there are many skills supporting each other, there are overlapping subvariables between the two skills, and some skills have the characteristics of mutual migration. This shows that various skills are not separated. In the process of cultivating basic skills in art and design education, we need to pay attention to comprehensive cultivation. Progressive teaching can be used to gradually guide students to master more advanced and complex skills from easy to difficult to ensure that students can steadily improve themselves in the process of their skills training.

7.3 Recommendation for Further Research:

In order to comprehensively identify the components of essential skills in art and design education in colleges and universities in Heilongjiang Province and develop more scientific cultivation guidelines, researcher recommend the following:

(1) Comparative study: Cross-school and cross-regional comparative study is conducted to explore the differences and influencing factors of the basic abilities of college students majoring in art and design majors in different schools and regions.

(2) Long-term tracking research: Conduct long-term tracking research to track the performance and development of college students majoring in art and design in practical application. Through the investigation and analysis of the employment situation and career development trajectory of the graduates, we can understand their basic ability and development direction required in the practical work.

The best practices and experiences can be found out through the comparative analysis of the curriculum, teaching methods and practical opportunities of different schools. Through the investigation and analysis of the employment situation and career development trajectory of the graduates, we can understand their basic ability and development direction required in the practical work.

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