The Effectiveness of Academic Management in Digital Media Art Major in The Universities Under Zhejiang Province

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Abstract

The objectives of this research were: (1) to study the components and indicators of effectiveness Academic Management digital media art major in the universities under Zhejiang province; (2) to verify the model of confirmatory factor effectiveness of Academic Management digital media art major in the universities under Zhejiang province. (3) to propose the guideline to improve effectiveness of Academic Management digital media art major in the universities under Zhejiang province.

The research method was a mixed method, including qualitative research and quantitative research. The sample was 278 administrators and teachers.The researcher determined the sample size with Krejcie and Morgan's table (1970) and obtained by the stratified random sampling technique. The 10 key informants mainly included 5 teachers and 5 administrators from 5 well-known representative digital media art major universities under Zhejiang province 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 response rate of questionnaires was 100%. Statistics used for data analysis included frequency, percentage, mean, Standard Deviation, Confirmatory Factor Analysis, and content analysis was employed.

The research findings revealed that; (1) There were five components and 15 key indicators of the Effectiveness Academic Management in Digital Media Art major in the universities under Zhejiang Province, which consisted of 1) Teaching Quality and Assessment 2) Academic Curriculum Design and Quality 3) Academic Research and Innovation 4) Academic Resource Management and 5) Faculty Resources; (2) Model validation of five components were founded and model fit with empirical data for all indicators, and (3) There were total 5 key guidelines of the Academic Management model in Digital Media Art major in the universities under Zhejiang Province.

Keywords: Effectiveness of Academic Management Model; Digital Media Art major; Universities under Zhejiang Province

Introduction

In the 21st century, the rise of digital media art had not only revolutionized the way we created and interacted with art, but also marked a new era in the integration of art and technology. As noted by Meng Xiangbin (2023), this revolution had begun at the end of the 20th century, and with Negroponte's (2017) in-depth discussion of the Information Age and the future of digital technology, the field of digital media art had undergone revolutionary development driven by technological innovation since the 1990s. Higher education institutions in North America and Europe had established relevant academic programs to officially recognize and institutionalize digital media arts education. At the same time, since 2006, China had put forward the vision of becoming an "innovative nation" and implemented a series of policy measures aimed at cultivating talents in the field of digital media arts. By 2024, 230 universities in China would offer digital media arts majors, with higher education fueling the rapid growth of digital media arts majors. Zhejiang Province, as the representative province of digital regional economy and advanced technology in China, had become the representative region of this study. However, the academic management of digital media art major in Zhejiang Province was faced with many challenges. Was academic management effective? How to use academic management strategies to balance the development needs of local economies for digital media art professionals? Birnbaum (1989) mentioned that academic management extended beyond the boundaries of internal organizations to facilitate relationships between educational institutions and external stakeholders, ensuring that social needs and student aspirations were effectively met. In the field of digital media arts, teaching, research, and student support must be the cornerstones of management. Li Zhang (2019) delved into the nuances of professional teaching and academic management in digital media arts, emphasizing the importance of quality education and proper allocation of resources. With the increasing contribution of digital media arts professionals to China's economic growth, the critical role of effective academic management in raising the level of specialization in the field cannot be ignored.

This study discussed the effectiveness of academic management of digital media arts majors in the academic management of a university in Zhejiang Province to understand the most critical efficiency factors in academic management and provided a basis for the formulation and evaluation of academic management standards. In addition, the study provides insight into trends in the digital media arts profession in the digital age.

Research Objectives

1.To study the components and indicators of effectiveness Academic Management digital media art major in the universities under Zhejiang province.

2.To verify the model of confirmatory factor analysis effectiveness of Academic Management digital media art major in the universities under Zhejiang province.

3.To propose the guideline to improve effectiveness of Academic Management digital media art major in the universities under Zhejiang province.

Research Methodology

1. Population and sample

Population consisted of 1,056 who were Administrators and Teachers. They came to 12 universities of effectiveness management in Zhejiang province, which are classified according to the scale and professional skills of universities. The sample size was 278 teachers and administrators with a stratified random sampling technique. The key informants consisted of 9, who are professors, experienced teachers, and some experienced managers drawn from universities with digital media art majors in Zhejiang Province. The key informants were 9 experts in a centralized group discussion to guide and confirm the model.

2. Research instruments

The researcher used a two-part questionnaire; Part 1: General information (5 items), and Part 2: Variables on effectiveness effectiveness of academic management in digital media art major in the universities under Zhejiang Province (five-point rating scale) (75 items).

The instrument starts from step (1) as a questionnaire. Content validity and reliability were used to evaluate the quality of the questionnaire. For content validity, it was checked by 5 experts and analyzed using index item objective congruence (IOC), and the item value between 0.60-1.00. For reliability, Cronbach's Alpha was used for analysis at 0.969.

3. Data collection

Data collection was done by the researcher, who made contact with key informants and identified themselves. The questionnaire was sent by email. The steps of data collection were as follows:

Step 1: Applied to the BTU Faculty of Education for permission to continue research and to conduct research under the directed procedures and research plan.

Step 2: The sample had been directly informed of its content scope and research objectives, and had received a formal permission letter from the university to the sample, allowing them to conduct and collect data from faculty under a letter of approval issued by the relevant authority.

Step 3: Distributed questionnaires online at the same time.

4.Data analysis

The data of demographic variables were analyzed by descriptive statistics; frequency, and percentage. The variables influencing variables of effectiveness management were analyzed by descriptive statistics; mean, and Standard Deviation (S.D.). The components of the model of the effectiveness of academic management in digital media art majors in the universities under Zhejiang Province were analyzed by Confirmatory Factor Analysis (CFA) to reduce irrelevant variables.

Research Results

Section 1: Result of Content Analysis for Research Objective 1

The researcher reviewed the literature and found 115 variables from the interviews of key informants. The researcher combined the content analysis of the literature review and the analysis of semi-structured interviews with experts, removed variables with the same content, and a total of 85 variables were identified.After the expert IOC certification, variables with a score of less than 0.6 were removed, Finally, with 5 components and 75 variables, 75 variables will be used for questionnaire distribution. And prepared a research instrument as a five-point rating scale questionnaire.

Section 2 : Result of Data Analysis for Research Objective 2

According to statistics, there are about 1,056 digital media art major teachers and administrators in 12 universities in Zhejiang Province. In this survey, researcher distributed 278 questionnaires and recovered 278 questionnaires as the final questionnaire results.

Part I: Result of Data Analysis on Questionnaire: Demographic Information

By analyzing the distribution and structural characteristics of universities in Zhejiang Province, the researcher selected 278 personnel from universities in Zhejiang Province to conduct a questionnaire survey including 166 Females (59.71%), 127 people aged 35-44 accounted for 45.68%, 198 master's degrees, accounting for 71.22%, 157 people Years of working experience 6-10 years accounted for 56.47%,234 teachers accounting for 84.17%.

Part II Result of Data Analysis on Questionnaire: Confirmatory Factor Analysis

Table 1 Results of the coefficient of variation table of the questionnaire

Indicators	Arithmetic Mean ($\bar{x}$)	Standard Deviation (S.D.)	Skewness (Sk)	Kurtosis (Ku)	Coefficient of Variation (CV)	Level
fr1	3.81	1.02	-0.30	-1.09	26.82	high
fr2	4.16	0.97	-0.72	-0.78	23.41	high
fr3	4.12	0.96	-0.66	-0.76	23.20	high
fr4	4.15	0.95	-0.80	-0.45	22.82	high
fr5	4.14	0.95	-0.71	-0.65	22.90	high
fr6	4.19	0.91	-0.67	-0.79	21.67	high
fr7	4.14	0.90	-0.70	-0.52	21.79	high
fr8	4.13	0.92	-0.76	-0.39	22.32	high
fr9	4.10	0.98	-0.65	-0.82	24.00	high
fr10	4.12	0.96	-0.72	-0.63	23.23	high
fr11	4.16	0.94	-0.79	-0.49	22.69	high
fr12	4.15	0.95	-0.75	-0.58	22.94	high
fr13	4.14	0.93	-0.66	-0.73	22.44	high
fr14	4.17	0.93	-0.74	-0.60	22.35	high
fr15	4.14	0.94	-0.72	-0.59	22.71	high
fr16	4.09	0.96	-0.66	-0.70	23.40	high
fr17	4.17	0.91	-0.77	-0.41	21.77	high
fr18	4.16	0.94	-0.75	-0.58	22.52	high
fr19	4.12	0.97	-0.75	-0.58	23.62	high

Indicators	Arithmetic Mean ($\overline{x}$)	Standard Deviation (S.D.)	Skewness (Sk)	Kurtosis (Ku)	Coefficient of Variation (CV)	Level
fr20	4.14	0.96	-0.75	-0.60	23.19	high
acd1	3.88	0.99	-0.33	-1.04	25.41	high
acd2	4.22	0.91	-0.76	-0.66	21.64	highest
acd3	4.23	0.90	-0.84	-0.43	21.35	highest
acd4	4.18	0.91	-0.80	-0.41	21.87	high
acd5	4.20	0.90	-0.76	-0.52	21.40	highest
acd6	4.22	0.93	-0.91	-0.29	22.13	highest
acd7	4.17	0.90	-0.73	-0.49	21.51	high
acd8	4.19	0.92	-0.79	-0.49	21.91	high
ara1	3.85	0.96	-0.45	-0.75	24.99	high
ara2	4.21	0.93	-0.90	-0.26	22.04	highest
ara3	4.23	0.90	-0.98	0.09	21.21	highest
ara4	4.20	0.92	-0.86	-0.28	21.79	highest
ara5	4.18	0.93	-0.89	-0.21	22.25	high
ara6	4.19	0.92	-0.83	-0.32	21.86	high
ara7	4.17	0.94	-0.93	-0.12	22.59	high
ara8	4.19	0.91	-0.85	-0.29	21.79	high
ara9	4.17	0.92	-0.83	-0.31	22.04	high
ara10	4.23	0.87	-0.85	-0.20	20.61	highest
ara11	4.22	0.94	-1.00	-0.03	22.32	highest
ara12	4.18	0.96	-0.90	-0.30	22.89	high

Indicators	Arithmetic Mean ($\overline{x}$)	Standard Deviation (S.D.)	Skewness (Sk)	Kurtosis (Ku)	Coefficient of Variation (CV)	Level
ara13	4.18	0.94	-0.82	-0.44	22.42	high
ara14	4.19	0.90	-0.83	-0.27	21.50	high
ara15	4.18	0.90	-0.79	-0.37	21.46	high
ara16	4.15	0.93	-0.85	-0.24	22.41	high
ara17	4.23	0.88	-0.84	-0.27	20.80	highest
tqa1	3.82	1.00	-0.33	-1.01	26.23	high
tqa2	4.18	0.91	-0.81	-0.34	21.70	highest
tqa3	4.14	0.96	-0.75	-0.60	23.16	high
tqa4	4.18	0.92	-0.73	-0.64	22.06	high
tqa5	4.17	0.92	-0.82	-0.34	22.11	high
tqa6	4.21	0.91	-0.81	-0.48	21.66	highest
tqa7	4.19	0.97	-0.85	-0.49	23.08	high
tqa8	4.21	0.95	-0.88	-0.38	22.54	highest
tqa9	4.16	0.93	-0.73	-0.60	22.36	high
arm1	3.83	1.00	-0.32	-1.03	26.14	high
arm2	4.14	0.94	-0.72	-0.61	22.58	high
arm3	4.20	0.88	-0.66	-0.74	20.83	highest

arm4	4.17	0.94	-0.78	-0.50	22.52	high
arm5	4.14	0.97	-0.75	-0.63	23.33	high
arm6	4.16	0.90	-0.74	-0.43	21.56	high
arm7	4.16	0.94	-0.74	-0.61	22.62	high
arm8	4.14	0.94	-0.72	-0.62	22.80	high
arm9	4.17	0.96	-0.84	-0.44	23.02	high
arm10	4.17	0.93	-0.76	-0.54	22.21	high
arm11	4.14	0.93	-0.73	-0.53	22.51	high
arm12	4.21	0.91	-0.89	-0.21	21.64	highest
arm13	4.16	0.93	-0.76	-0.52	22.33	high
arm14	4.14	0.90	-0.75	-0.35	21.76	high
arm15	4.15	0.95	-0.71	-0.69	22.87	high
arm16	4.15	0.97	-0.75	-0.65	23.40	high
arm17	4.14	0.97	-0.77	-0.58	23.53	high
arm18	4.25	0.90	-0.87	-0.36	21.15	highest
arm19	4.15	0.94	-0.74	-0.59	22.75	high
arm20	4.18	0.94	-0.84	-0.39	22.54	high
arm21	4.18	0.95	-0.81	-0.53	22.70	high

From Table 1, it was found that overall, the mean value of the five components involving 75 variables ranged from 3.81 to 4.25, the standard deviation ranged from 0.87-1.02, the skewness ranged from -1 to -0.3, and the kurtosis ranged from -1.09 to 0.09. The coefficient of variation is between 20.61 and 26.82. It shows that respondents have slightly different evaluations of each index. Indicators with high average values include Engaging external educators (arm18), Academic curriculum design and evaluation (acd3), and Academic databases and ara3 online resources), with an average of 4.25, 4.23, and 4.23, respectively. The mean of all variables is greater than 3, and the kurtosis and skewness are between ±2 and ±3, which meets the criteria.

Table 2 The KMO test and the Bartlett's test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.839
Bartlett's Test of Sphericity	Approx. ChiSquare	4592.4
	df	105
	Sig.	0.000

The results of KMO test in the following figure show that the value of KMO is 0.839. Meanwhile, the results of Bartlett spherical test show that the p-value of significance is 0.000 * * *, which is significant at the level, the null hypothesis is rejected, the correlation is variable, the factor analysis is effective, and the degree is suitable.

Confirmatory factor analysis is used to test whether the relationship between factors and test items conforms to the designed research model, so most empirical papers will use confirmatory factor analysis to test the fit of the data and the model.

Convergent validity means that items or tests measuring the same underlying trait fall on the same factor dimension, and there is a high correlation between the measured values of the items or tests. Average of variance extracted (AVE) and composite reliability (CR) were calculated according to the standardized factor load of each item of potential variable. The higher the combined validity, the higher the latent variable consistency. The higher the internal consistency of the dimension, the more convergence; The average variance extraction represents the average ability of potential variables to explain observed variables. The higher the AVE, the stronger the potential variables' ability to explain observed variables, and the higher the convergence validity. When CR in the study is greater than 0.7 and AVE is greater than 0.5 (0.36-0.5 is the acceptance threshold), it indicates that it has good convergence validity.

Table 3 Convergence validity analysis for each variable

	Latent and observable	Standardized Factor loading	S.E.	C.R.	A.V.E.	p	R²
	comp1	0.602	0.069	9.578	0.871	0.000	0.363
	-fr1	0.995					
	-fr9	0.903					
	-fr19	0.899					
	comp2	0.657	0.061	8.777	0.855	0.000	0.431
	-acd1	0.988					
academic	-acd3	0.886					
management	-acd4	0.897					
	comp3	0.629	0.06	8.879	0.848	0.000	0.395
	-ara1	0.979					
	-ara10	0.883					
	-ara12	0.897					
	comp4	0.694	0.062	8.334	0.855	0.000	0.481
	-tqa1	0.999					

-tqa3	0.89					
-tqa7	0.881					
comp5	0.625	0.065	9.041	0.870	0.000	0.391
-arm1	0.982					
-arm16	0.906					
-arm17	0.908					

Discriminant validity refers to the low correlation or significant difference between the potential traits represented by a dimension and the potential traits represented by other dimensions. If the Chi-square value difference is larger and reaches a significant level, it indicates that there is a significant difference, and the discrimination validity is higher. The evaluation condition is that the internal correlation of each dimension is greater than its correlation with other dimensions, and the items with small correlation coefficient of observed variables in the dimension that does not meet the conditions and lower correlation coefficient than the external dimension are eliminated.

Table 4 Discriminant validity

|	fr1	fr9	fr19	acd1	acd3	acd4	ara1	ara10	ara12	tqa1	tqa3	tqa7	arm1	arm16	arm17
fr1	1														
fr9	.898	1													
fr19	.893	.821	1												
acd1	.418	.373	.368	1											
acd3	.331	.299	.290	.875	1										
acd4	.320	.273	.284	.885	.809	1									
ara1	.355	.302	.355	.350	.270	.311	1								
ara10	.284	.248	.258	.342	.285	.301	.864	1							
ara12	.343	.314	.349	.310	.230	.267	.878	.798	1						
tqa1	.410	.303	.350	.465	.397	.378	.477	.401	.384	1					
tqa3	.314	.234	.265	.418	.351	.350	.379	.334	.275	.889	1				
tqa7	.344	.227	.326	.399	.317	.332	.401	.334	.337	.880	.797	1			
arm1	.387	.299	.284	.429	.320	.386	.411	.363	.361	.398	.322	.340	1		
arm16	.364	.295	.276	.411	.302	.368	.342	.306	.317	.309	.242	.235	.888	1	
arm17	.302	.216	.208	.359	.271	.328	.358	.312	.306	.343	.281	.294	.890	.830	1

Note: The correlation coefficients of the 15 indicators are statistically significant at < .01.

From Table 4, it can be seen that the internal correlation of each dimension is greater than that of other dimensions, indicating that there is a clear degree of differentiation and a good conclusion of differentiation validity can be drawn.

The results of Pearson Correlation Coefficient analysis of the model. Indicators of academic management in the digital media art major. It was found that 15 indicators were statistically significantly positively correlated at .01 ($p < .01$), the highest correlation coefficients are fr1 and fr9 with 0.898, while the lowest correlation coefficients are acd3 and ara12 with 0.230. Overall, the correlation coefficient of the matrix is between 0.2 and 0.9, indicating that there is no multicollinearity effect in the model in this study.

After measuring the initial model and modifying the structural model, the final model has a good fit and corresponding model fitting index are obtained as follows:

Figure 1: CFA model under the standardized estimates
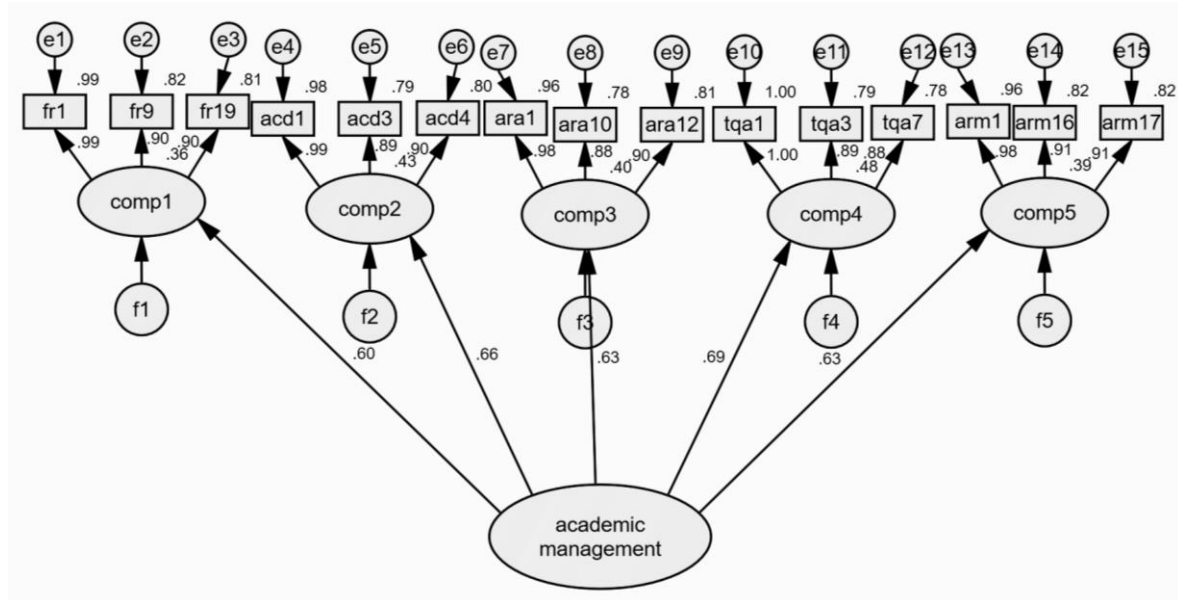
Chi-square=133.600;df=85;P=0.001;GFI=0.941;

AGFI=0.917;TLI=0.987;CFI=0.989;RMSEA=0.045;

Table 5 Show the rank order of Squared Multiple Correlations

Components	Squared Multiple Correlations R2	Rank order	% Explain
comp4 Teaching Quality and Assessment	0.481	1	48%
comp2 Academic Curriculum Design and Quality	0.431	2	43%
comp3 Academic Research and Innovation	0.395	3	40%
comp5 Academic Resource Management	0.391	4	39%
comp1 Faculty Resources	0.363	5	36%

From the Table 5 in these components that important listed in the following rank order were the ranking is as follows: the component 4 is Teaching Quality and Assessment, the component 2 is Academic Curriculum Design and Quality, the component 3 is Academic Research and assessment Innovation, the component 5 Academic Resource Management, the component 1 Faculty Resources. The standardized factor loads are 0.694, 0.657, 0.629, 0.625 and 0.602, respectively.

The effectiveness academic management model of digital media art major in the universities under Zhejiang Province consist of five components and 26 key variables as follows:

Component 1 Teaching Quality and Assessment, it's the latent variable that consisted of 3 indicators:

Component 2 Academic Curriculum Design and Quality, it's the latent variable that consisted of 3 indicators:

Component 3 Academic Research and Innovation, it's the latent variable that consisted of 3 indicators:

Component 4 Academic Resource Management, it's the latent variable that consisted of 3 indicators:

Component 5 Faculty Resources, it's the latent variable that consisted of 3 indicators:

Section 3: Result of Data Analysis for Research Objective 3 :

A content analysis of the data from focus group discussions was performed. Based on the principle of freedom and voluntariness, the experts spoke freely in the discussion and proposed the direction of goal 3. According to the research results of research objective 2 , set guidelines for goal 3 for improving the effectiveness of academic management in digital media art majors in the universities under Zhejiang province. Respectively, for component 1, component 2, component 3, component 4, component 5, and to discuss the guidelines.

The researcher sorted out and analyzed the discussions of 9 experts and reached the following conclusions: In conclusion, there were a total of 24 guidelines, The final summary is summarized into one guideline for each component: (1)Establish and maintain an ecosystem for Digital Media Art faculty, including teacher training, competitive pay, research support, and enhancing major's reputation to attract outstanding faculty. (2)Develop an integrated curriculum ecosystem for Digital Media Arts, with clear design plans, research-driven culture, feedback mechanisms, international collaboration, and diverse courses to improve quality. (3)Create a disciplinary ecosystem for Digital Media Arts with technical support, conference and publication opportunities, industry collaboration, improved reputation, interdisciplinary integration, and focus on government funding for research and innovation. (4)Develop a teaching quality and evaluation system for Digital Media Arts with optimized curriculum, student engagement, innovative methods, updated resources, and teacher development to enhance education quality. (5)Create a comprehensive academic resource system for Digital Media Arts major, offering up-to-date software, high-quality tech, maintained labs, and extensive library resources for research and creativity.

Figure 2: The guidelines for improving the effectiveness of academic management in digital media art majors in the universities under Zhejiang province.
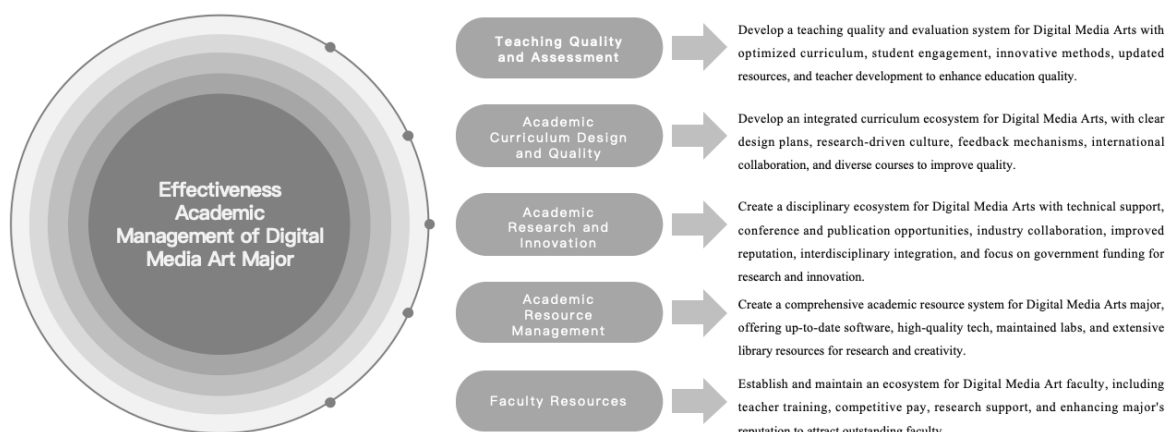
Discussion

Based on the research objectives, the discussion will be presented as follows:

Section 1 Discussion about major findings of objective 1:

In Section 1, Combined with literature review and semi-structured interviews with 10 key informants, the researcher constructs the dimensional framework of effectiveness of academic management in digital media art major in the universities under Zhejiang Province from five components: Faculty Resources, Academic Curriculum Design and Quality, Academic Research and Innovation, Teaching Quality, and Assessment and Academic Resource Management.

Component 1:Faculty Resources. It is a key variable for digital media arts major to achieve their development goals, directly affects the performance and influence of the profession, and has great significance for the development and social influence of the profession. The results of this study are consistent with the theoretical research results of Xue Feng (2022). In order to improve the academic effectiveness management of digital media art major in Zhejiang University, it is necessary to improve the practical application teaching strategies of digital media art teachers, such as improving the practical operation ability of teachers, hiring professional media personnel to teach, comprehensively improving the application efficiency of laboratories, and establishing teaching and training bases for teachers. According to the research of Yuan Yongbo (2023), it proves that digital media can improve students' cognitive and creative ability. Digital media can provide students with various opportunities to contact different forms of knowledge and enhance their understanding and appreciation of different perspectives. The importance of teachers' proficiency in using digital media to facilitate an effective teaching experience was also emphasized. Joseph's (2020) research identifies the critical role of academic leadership in advocating for and overseeing the quality of these institutions. Academic leaders are expected to contribute to the achievement of the institutional vision and mission, thereby effectively directing the quality management process. The research focus, research field and research objectives of this study are different from those of this paper.

Component 2:Academic Curriculum Design and Quality. It helps digital media arts major to provide high-quality education, meet the needs of the industry, develop students with practical skills and innovative capabilities, and enhance professional competitiveness. The results of this study are consistent with the theoretical or research findings of Shen Hao(2022), incorporating digital media principles and practices into the curriculum to improve students' learning and creative thinking skills. Educators need to adapt teaching methods and content to the modern digital environment. Such as improving student engagement, critical thinking and problem-solving skills. Finally, it is helpful to realize the goal of academic management of digital media art major of Zhejiang University. Ma Linzhu (2022) found that integrating design thinking and methods with other professional curriculum objectives in digital media arts is conducive to improving the quality of talent cultivation in this field. The importance of design thinking and methods as a core major to improve professional metacognitive ability and optimize metacognitive strategies. In addition, research by Wood (2019) has found that strict adherence to accreditation standards can inadvertently prioritize compliance over learning quality, potentially undermining core objectives. It highlights the importance of developing goal-driven courses that go beyond merely teaching basic knowledge and skills with the overall

goal of profoundly impacting students and reshaped their worldview. The research focus, research field and research objectives of this study are different from those of this paper.

Component 3:Academic Research and Innovation. To promote the advancement of the digital media arts profession, encourage students and faculty to conduct innovative research, expand the boundaries of knowledge, improve the quality of education, enhance the competitiveness of students, and enable the profession to constantly adapt to the rapidly evolving digital media field. The results of this study are consistent with the theoretical or research results of Wu Guanying (2021). Recognized the profound impact of digitalization on animation, media and virtual reality, while highlighting the potential of digitalization to promote creative expression and innovation. Together, these resources emphasize the importance of interdisciplinary collaboration and digital literacy skills development. Consistent with the findings of Ma Qian, Zhang Bing，digital media art is an applied major, and practical teaching plays a crucial role in the entire education system. The continuous development of design concepts, expressions and technologies put forward higher requirements for design talents. In order to improve the teaching quality, it is suggested to focus on the reform and development of professional courses, curriculum planning, adjustment of teaching strategies and continuous updating of practical teaching materials. In addition, through the research of Li Qiang (2020), it is found that the integration of digital media technologies can improve students' learning outcomes and promote innovation and creativity.

Component 4:Teaching Quality and Assessment. To improve the quality of education in digital media Arts major, ensure that students receive a quality education, upgrade their skills and knowledge levels, and help them succeed in the digital media field, while providing effective assessment mechanisms to monitor and improve learning outcomes. The results of this study are based on the theory or research of Gao Yingwei (2023). Regular assessments and feedback can help identify areas for improvement and enhance the overall learning experience for students, suggesting the use of digital tools and technologies such as computer software and animation to enhance students' learning experiences and practical skills. Students should be encouraged to work together, participate in practical projects, and develop their collaborative and problem-solving skills. The research direction is consistent with that of YuanYongBo (2023) . In addition, the findings of Salam(2023) highlight the critical role of management principles in coordinating educational activities, including planning, organization, control, and evaluation. Through the judicious application of these principles, the execution of educational work can be carried out in a planned, systematic and sustainable manner, ultimately meeting the rigorous quality benchmarks of higher education.

Component 5 :Academic Resource Management. Helps the digital media arts profession make the most of its resources, provides advanced facilities and technologies, supports teaching and research needs, promotes professionalism, develops outstanding students, enhances competitiveness, and advances the field of digital media arts. The relevant researches in this study are mainly empirical and case studies. Haydarova(2023) studies the role and educational recommendations of qualitative education and institutional cooperation in the teaching of animation in Uzbekistan. Higher education institutions in Uzbekistan have created new directions such as "Multimedia and Animation Design Art" and "Cartoon and computer animation" to meet the needs of the country's market. The study of Zhou Hao (2021) proposes a new method to improve the accuracy of predictive models in the context of Internet applications. The method utilizes advanced machine learning techniques to improve the accuracy of predictive models. In addition, Chen Qing (2021) research provides strategies for

the construction of digital media arts professional laboratories, highlighting the characteristics of the laboratory. Mutual understanding, professional vision, research focus, research field and research objectives are different from those in this paper. AI Hashimi(2019) research finds the use of digital tools and repurposing social media applications to support creative thinking. Multimedia based learning has the potential to transform key creative thought processes and activities associated with art, design and digital media majors.

Section 2 Discussion about major findings of objective 2:

Research Findings to confirm the effectiveness of academic management in digital media art majors in the universities under Zhejiang Province of five components consist of faculty resources、academic curriculum design and quality、academic research and innovation、teaching quality and assessment、academic resource management the 15 key variables of five components are founded and model fit with empirical data for all indicators. Researchers consulted a large number of documents through the literature analysis method and found a model have 5 components and 75 key variables.Through these variables, the data is processed and constructs a structural equation model.

First, the research method is based on the valid data obtained by the analytical instruments, with good validation results and good model results. Through the confirmatory factor analysis, five components of the effectiveness academic management of digital media art major in the universities under Zhejiang Province will be discussed, the result consistent with Ma Qian (2020).

Section 3 Discussion about major findings of objective 3:

There are a total of five guidelines: one for each component. The results of this study are the same as the components of Objective 1.Among them, the most important part of the academic management in digital media art majors in the universities under Zhejiang Province is: Teaching Quality and Assessment. Establish a comprehensive teaching quality and evaluation system, including optimizing curriculum design and content, promoting student participation and feedback, adopting diverse and innovative teaching methods, updating teaching materials and educational resources, and providing teacher training and development opportunities to continuously improve the quality of education in digital media arts.The results of the Ma Qian (2020) and Gao Yingwei (2023)study are consistent with the guideline. Digital media art is an applied subject. To improve the teaching quality, we should constantly update the reform and development of professional courses, curriculum planning, adjustment of teaching strategies, and practical textbooks.

Recommendation

Part I: Recommend for Policies Formulation

1. Optimize the quality and evaluation of education, improve work efficiency and management efficiency.

2. Improve the design and quality of academic courses

3. Continuous academic research and innovation

4. Conduct effective academic resource management

5. Optimize faculty resources and improve the treatment of faculty and staff

Part II: Recommendation for Practical Applications

1.Establish clear policies and norms to clarify the development direction and objectives of the major:

2. Provide teacher training to enhance teacher education and research capabilities.

3.Strengthen industrial cooperation, integrate practice and theory, and improve the quality of education.

4.Make regular assessments and adjust strategies according to the results.

5.Encourage students to participate in research and practice and cultivate innovative ability.

6.Establish an academic exchange platform to promote cooperation and resource sharing.

7.International development, attracting international talents and enhancing international influence.

8.Provide a variety of courses to meet the needs of students.

9. Promote collaboration within majors and promote interdisciplinary research.

10.Actively strive for financial support and improve resource guarantee.

Part III: Recommend for Further Research

1. Research and development of Faculty Resource

Future research should focus on a comprehensive analysis of faculty resources, staff satisfaction, and student perceptions, along with comparative studies of full-time and part-time faculty roles to enhance recruitment, retention, and professional development. This integrated approach will identify trends, best practices and areas for improvement in teacher planning, teaching efficiency, curriculum balance and the promotion of diversity, ultimately leading to a more effective and inclusive educational environment.

2. Research and development of Academic Curriculum Design and Quality

Future research should explore adapting course design to industry trends and technologies, evaluating and improving the effectiveness of courses through student engagement and achievement, developing interdisciplinary courses for a diverse academic experience, conducting graduate follow-up research for career impact insights, and evaluating various course evaluation methods. This integrated approach aims to optimize curriculum, teaching methods and course quality.

3. Research and development of Academic Research and Innovation

Future research should focus on surveying faculty research interests to promote diverse and innovative activities, research funding and opportunities for interdisciplinary collaboration, analyzing factors that influence research outcomes such as citations and industry partnerships, investigating challenges to interdisciplinary research, and examining intellectual property policies to effectively protect and share knowledge. This integrated approach aims to improve the quality, impact and innovation of research across disciplines.

4. Research and development of Teaching Quality and Assessment

Future research should aim to develop and evaluate an integrated teaching quality assessment system that includes classroom observations, student and peer feedback, and assessment of learning outcomes. It should also explore the effectiveness of teacher training, interdisciplinary collaboration, and innovative teaching methods, including online and technological tools, to improve the quality of education and respond to changing student needs.

5. Research and development of Academic Resource Management

Future research should focus on evaluating and improving resource allocation processes in academic departments to ensure transparency, fairness and efficiency, while exploring sustainability of resource management, optimizing the use of equipment and technical support, assessing return on investment, and understanding the impact of resource allocation on academic quality, research outcomes, and teaching effectiveness. This integrated approach aims to improve resource utilization and promote academic excellence.

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