The Eeffectiveness of Academic Administration in Digital Transformation of Art Design Major in Colleges and Universities under Liaoning Province

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ABSTRACTS

The objectives of this research were: (1) to examine the components for effectiveness of academic administration in digital transformation of Art Design Major in Colleges and Universities under Liaoning Province; and (2) to develop managerial guidelines for effectiveness of academic administration in digital transformation of Art Design Major in Colleges and Universities under Liaoning Province.

The research methodology was a mixed methodology research, including qualitative research and quantitative research. The population of the research consisted of 2193 who were administrators, professors, instructors of art design major in colleges and universities under Liaoning Province. The sample size was determined by Krejcie and Morgan's Table (1970), and obtained by a stratified sampling technique sampling method, totaling 325 samples. The key informants for in-depth interview consisted of seven key informants who were vice presidents of academic administration, professors and lecturers, and key informants for Focus Group Discussion consisted of nine deans of the colleges of art design. All key informants were obtained by purposive sampling method. The instruments used for data collection were a in-depth interviews form, a five-level rating scale questionnaire, and Focus Group Discussions form. The statistics used for 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 five components for effectiveness of academic administration in digital transformation of art design major in colleges and universities under Liaoning Province which consisted of academic quality management and talent training, academic administration organization and management, teacher team

construction and development, quality assurance and evaluation, and digital teaching resource management; and (2) there were total 32 managerial guidelines for effectiveness of academic administration in digital transformation of art design major in colleges and universities under Liaoning Province which consisted of nine managerial guidelines for component of academic quality management and talent training; eight managerial guidelines for component of academic administration organization and management; six managerial guidelines for component of teacher team construction and development; four managerial guidelines for component of quality assurance and evaluation; and five managerial guidelines for component of enhancement of digital teaching resource management.

Keywords: Eeffectiveness, Academic Administration, Digital Transformation, Art Design Major, Liaoning Province

1. Introduction

Twenty years had passed in the 21st century, and the economy, politics, culture, science and technology had achieved great development, and the human society has entered a new era of digitalization. With the deepening development of digital technology, the digitalization of all walks of life has swept the world. The change of digitalization has promoted the development of education. It has changed the traditional school management system and management mode, especially the academic management of the school was deeply influenced by digital transformation, and the academic management has changed from the traditional mode to the information management mode under digital transformation.

Academic administration refers to according to the law of teaching and academic development and the authority of knowledge, the process of organizing and coordinating others' academic activities and regulating and standardizing the limited academic resources and academic behaviors, so as to efficiently achieve academic goals. (Wang Xiaolong,2013:150-152 The Chinese government prioritizes digital education transformation, with broad support from various governmental levels. "China's Education Modernization 2035" by the CPC Central Committee and The State Council promotes education reform in the information age, emphasizing intelligent campuses and integrated teaching, management, and service platforms. The plan aims to modernize talent training, combining large-scale education with personalized approaches, innovating the education service industry, and establishing mechanisms for sharing digital resources and new education service supervision. The Ministry of Education issued the "Code for Digital Campus Construction of Colleges and Universities" in 2021, emphasizing information technology integration, supporting high-quality education development. In 2023,

the Department of Higher Education intensifies digital strategy implementation, driving digital transformation in higher education and enhancing a national smart education platform. The "Report on the Digital Development of World Higher Education" leads global digital reform, using the Digital Development Index of World Higher Education for evaluation and guidance. Local colleges and universities are encouraged to pilot digital reform, fostering collaboration in higher education's digital development. At this point, digital construction in Chinese higher education is at its peak, supported by robust national policies.In terms of Liaoning province, The Liaoning Provincial government issued and implemented the "14th Five-Year Plan" of Liaoning Province, pointing out to promote education reform in the intelligent era, build an integrated digital education service system, promote the construction of digital campus, promote the deep integration of information technology and education and teaching, and enhance the ability to guarantee network security.

However, The design of management system was not scientific enough, the design of management process was relatively simple, and the information of teaching quality monitoring was weak.(Liu Wei 2022:81-83) The relationship between power and responsibility of teaching quality management was not clear, the teaching quality management methods were outdated, and the performance appraisal mechanism of teaching quality management was not perfect.(Wang Ying 2021:183-185)Art and design majors, like many others, lag in technology integration and adaptable educational administration systems. A researcher reviewing a provincial key art and design school's website discovered the absence of a digital academic administration system. Instead, traditional networks and standard computers are in use, demanding immediate adoption of intelligent network education and management. Across Liaoning Province universities, issues like network resources, professional management platforms, and network environments are prevalent in digital academic administration for art and design majors. Urgent improvement is needed to enhance the effectiveness of digital academic administration for these majors in Liaoning Province.

Colleges and universities, for their development and survival, rely not only on first-class education but also on first-class management. Thus, academic administration, a vital pillar supporting their operation and growth, must lead the way in reform. The management mode for academic administration in higher education must shift from traditional to digital. This entails reinforcing academic quality management, optimizing digital academic resources, altering conventional administrative concepts, enhancing the organizational capabilities and functionalities in digital transformation, and optimizing management resources for academic administration in this digital evolution. Consequently, it is imperative to implement effective

strategies for academic administration during digital transformation. These strategies serve as the theoretical foundation and data-backed support for academic administration's digital transformation within art and design programs at universities in Liaoning Province. By identifying key factors influencing academic administration's digital transformation in university art and design programs in Liaoning Province, we aim to enhance management effectiveness.

The research analyzes the current state of digital transformation in art design majors across 21 universities in Liaoning Province, systematically examining quality administration, organization administration, and resources administration. Based on theories of Administrative Management, effective managerial guidelines were presented, benefiting talent training and improving art design abilities, employment rates, and government employment services. Ultimately, this research aims to solve existing problems in academic administration, enhance the abilities of art design major students, and provide an analytical basis for management decision-making and effective academic administration in Liaoning Province's colleges and universities

2. Research objectives

1. To examine the components for effectiveness of academic administration in digital transformation of art design major in colleges and universities under Liaoning Province.

2. To develop managerial guidelines for effectiveness of academic administration in digital transformation of art design major in colleges and universities under Liaoning Province.

3. Scope of research content

1. Effectiveness
   (1) Effective management theory
   (2) Academic effectiveness
   (3) Effectiveness of Academic Administration
2. Academic Administration Concepts and Theories
   (1) Academic Administration
   (2) Administrative Management theory
3. Digital Transformation
   (1) Digital Transformation Theories
   (2) Academic Administration in Digital Transformation
4. Art Design Major
5. Colleges and universities under Liaoning Province

4. Research Methodology

1. Population and sampling

In this research included key informants, population, and sample.

1. In-depth interview from seven key informants

This research involved 7 key informants from three universities in Liaoning Province, including an Associate Dean for academic administration, professors, and instructors from the Department of Art Design. These universities encompass both public and private institutions, offering comprehensive and specialized programs. Dalian University of Technology was a prestigious public university, while Lu Xun Academy of Fine Arts was renowned for its art design major. Liaoning Communication University represents private education in the region, excelling in art design. All three institutions had actively engaged in academic administration for digital transformation in recent years. The data was collected during interviews, employing purposive sampling method.

2. Research Questionnaire on population/samples

This research intended to conduct aquantitative research of the components for effectiveness of academic administration in digital transformation of art design major in 21 universities in Liaoning Province. Sample was obtained by stratified random method .From representative colleges and universities under Liaoning Province, population included professional instructors, educational administrators in art design major, totaling 2193. Sample size was determined by Krejcie and Morgan's table (1970), sample was 325. The questionnaire was used for data collection. Exploratory Factor Analysis (EFA) was employed to reduce the irrelevant variables.

3. Focus Group Discussion

Focus Group Discussion (FGD): Nine key informants for developing the managerial guidelines for the components for effectiveness of academic administration in digital transformation of art design major in colleges and universities under Liaoning Province. Nine key informants were the dean of the school of art design. All key informants were obtained by purposive sampling method.

2. Research Instrument

There were 88 variables from interview of key informants. The researcher has employed content analysis. As result, total of 88 variables were found and prepared as research instrument, a five-point rating scale questionnaire. The quality of instruments has been verified by content validity and reliability.

For the content validity of the questionnaire, the researcher has sent the questionnaire to seven experts for verification. The Item-Objective Congruence (IOC) was used to evaluate the items of the questionnaire based on the score range from - 1 to +1.0. The items that had scores lower than 0.6 were revised. On the other hand, the items that had scores higher than or equal to 0.60 were reserved. As a result, it was found that there were 77 items in the questionnaire.

For reliability of questionnaire was a way of assessing the quality of the measurement procedure used to collect data. The researcher has sent out 30 questionnaires to collect data from non-samples in order to consider a result of reliability. Cronbach's alpha coefficient on or above 0.70 means adequate reliability to determine the internal consistency or average correlation of items in a research instrument to measure reliability of the questionnaire. As a result, Cronbach's alpha coefficient was at .987 which could be used to describe the reliability of the questionnaire.

3. Data collection procedure

(1) The researcher had applied to the Faculty of Education for permission to continue the research and carry out the research in accordance with the guiding procedures and research plan.

(2) The sample was directly informed of the content scope and research objectives, and received an official permission letter from the university to the administrator, allowing them to conduct and collect data from instructors in accordance with the approval letter issued by the relevant authorities.

(3) After the administrator's permission was processed and confirmed, Researcher and instructors or college and university's coordinators agreed to distribute questionnaires online.

(4) The questionnaire was completed within 4 weeks or 30 days. The time for data collection was one and a half months.

4. Data Analysis

The data of demographic variables were analyzed by descriptive statistics; frequency, and percentage. The variables of academic administration in digital transformationt were analyzed by descriptive statistics; mean, Standard Deviation (S.D.). The components for effectiveness of academic administration in digital transformation of art design major were analyzed to reduce irrelevant variables.

Exploratory Factor analysis (EFA) reduces measurable variables to fewer latent variables that share common variance but were unobservable. These latent factors represent

hypothetical constructs, such as 'communication ability' inferred from oral presentation and interview scores. EFA was used to discover influencing factors and analyze variables that 'go together.' The goal was to find the smallest number of common factors explaining correlations. Common factors affect multiple surface attributes, while specific factors impact particular

5. Research Results

1. Demographic information

There were total of 325 respondents to the questionnaires; 154 females, 47.4 percent, and 171 males, 52.6 percent. In terms of age, 147 were aged 25 – 35,45.2%, and 149 aged 35 – 45,45.8%. The two age groups were about the same, accounting for 91% together. It shows that young and middle-aged were the main force of teachers and education administrators of art design in colleges and universities in Liaoning Province. In terms of educational background, only 11 respondents obtained bachelor's degrees, accounting for 3.4%. 267 respondents had master's degrees, accounting for 80.6%, and 52 respondents had doctor's degrees, accounting for 6%, indicating that the educational level was generally high. Work experience in terms, 12 people had worked for 1-5 years, accounting for 3.7%. In 6-10 years, there were 116 samples, accounting for 35.7%; in 11-15 years, 163 samples, accounting for 50.2%; There were 34 people with more than 15 years of working experience, accounting for 10.5%, indicating that most of them were teachers with rich work experience. In terms of Professional ranks and titles, teaching assistant had 32 people, accounting for 9.8%, 115 people in lecturer, accounting for 35.4%, associate Professor had 139 people, accounting for 42.8%, and professor had 39 people, accounting for 12%. That the intermediate and senior professional titles occupy the vast majority.

2. Exploratory Factor Analysis (EFA)

(1). KMO-Meyer-Olkin and Bartlett's Table

Table 1: KMO Meyer Olkin and bartlett's test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.929
Bartlett's Test of Sphericity	Approx. Chi-Square	36845.514
	df	3003
	Sig.	.000

(2). Data Analysis Result on Questionnaire: Eigenvalues, Percentage of Variance, Percentage of Cumulative Variance.

From Table 2 shows the number of components for effectiveness of academic administration in digital transformation of art design major in colleges and universities under Liaoning Province. It was found that there were 9 components with an Eigenvalues greater than 1. When rotating the axis, it explained a total variance of 74.027 percent, but considering the selection criteria, components with factor loading at 0.45. There were more than 1 Eigenvalues and more than 3 or more variables that described components.

The components that met all 5criterias when the axis was rotated, component 1 had a maximum Eigenvalues of 51.028, it could explain the total variance of 20.365 %per component, component 2 had a maximum Eigenvalues of 6.778, it could explain the total variance of 14.542 %per component, component 3 had a maximum Eigenvalues of 4.29, the total variance could be explained by 12.713 %, component 4 had a maximum Eigenvalues of 3.529 , it could explain the total variance of 11.688 %, component 5 had a maximum Eigenvalues of 2.48, explaining the total variance of 7.584 %, and 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 1-5, it was found to be able to explain a total variance of 66.893.

Table 2: Data Analysis Result on Section III of Questionnaire: Eigenvalues, Percentage of Variance, Percentage of Cumulative Variance.

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	39.802	51.028	51.028	39.802	51.028	51.028	15.885	20.365	20.365
2	5.287	6.778	57.806	5.287	6.778	57.806	11.343	14.542	34.907
3	3.346	4.29	62.096	3.346	4.29	62.096	9.916	12.713	47.62
4	2.753	3.529	65.625	2.753	3.529	65.625	9.117	11.688	59.308
5	1.934	2.48	68.105	1.934	2.48	68.105	5.916	7.584	66.893

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
6	1.308	1.677	69.782	1.308	1.677	69.782	1.497	1.92	68.812
7	1.159	1.486	71.268	1.159	1.486	71.268	1.43	1.833	70.645
8	1.081	1.387	72.654	1.081	1.387	72.654	1.335	1.712	72.357
9	1.071	1.373	74.027	1.071	1.373	74.027	1.303	1.67	74.027
Extraction Method: Principal Component Analysis.									

(3). The factor loading, variables described in each of the main components after rotating the axis.

First, researchers test the applicability of data and models to see whether the models used are reasonable. Referring to the previous research results, the goodness of fit of the research model and data in this paper is tested, and several key indicators are in line with the recommended values, indicating that the overall goodness offit of the theoretical model in this paper is good, and the model diagram is acceptable.

Table 3: Showed Components of Effectiveness of Academic Administration in Digital Transformation of Art Design Major.

Order	Components	Number of Variables	Factor Loading
1	Component 1	26	0.813-0.47
2	Component 2	16	0.845-0.483
3	Component 3	13	0.787-0.586
4	Component 4	13	0.768-0.537
5	Component 5	9	0.733-0.479
	Total	77	0.845-0.47

According to Table 3, there were five qualified components as follows; component 1 containing 26 variables that described component, factor loading between 0.813-0.47; component 2 containing 16 variables that described component, factor loading between 0.845-0.483; component 3 containing 13 variables that described component, factor loading between 0.787-0.586; component 4 containing 13 variables that described component, factor loading between 0.768-0.537; component 5 containing 9 variables that described component, factor loading between 0.733-0.479. The total number of variables that described the five components were 77 variables, factor loading between 0.845-0.47.

Table 4: Showed Components 1: Academic quality management and talent training

Variables	Statement	Factor Loading
Q37	Ensuring educators have necessary resources, materials, and support for effective instruction.	0.813
Q55	Assessing internal and external factors that influence strategic decision-making.	0.807
Q50	Tracking progress and ensuring alignment with the strategic vision and goals.	0.802
Q42	Implementing changes in curriculum and pedagogy to adapt to evolving educational needs.	0.791
Q56	Leveraging data to make informed decisions and measure progress.	0.789
Q54	Encouraging creative approaches and technologies to enhance the learning experience.	0.78
Q59	Nurturing continuous growth in teaching capabilities through training and mentorship.	0.774
Q57	Choosing relevant and effective resources to support curriculum delivery and student learning.	0.759
Q39	Measuring student performance and assessing the effectiveness of teaching methodologies.	0.747
Q52	Providing resources and opportunities for teachers to enhance their skills.	0.745
Q30	The process of admitting students and ensuring a smooth transition into the educational institution.	0.74

Variables	Statement	Factor Loading
Q45	Continuously improving the learning environment and support systems for students.	0.503
Q53	Creating a clear and inspiring long-term direction for the organization's future.	0.488
Q48	Involving educators, students, and relevant stakeholders in the curriculum design and management process	0.47
Q40	Supporting ongoing professional growth for educators through training and skill enhancement.	0.74
Q38	Employing diverse strategies to engage students and facilitate learning in the classroom.	0.713
Q47	Designing a purposeful educational framework to achieve specific learning goals.	0.712
Q43	Evaluating individual and collective student progress to guide instructional adjustments	0.702
Q41	Conducting educational research to inform and improve teaching practices.	0.687
Q51	Iteratively enhancing strategies based on evaluation results and lessons learned.	0.579
Q26	Gathering input from teachers to assess their needs, concerns, and suggestions.	0.573
Q49	Executing strategies and initiatives to turn plans into tangible actions and results.	0.554
Q44	Ensuring teaching standards align with educational goals and continuously monitoring improvement.	0.534
Q46	Establishing a system for students and teachers to provide input and drive improvements.	0.533
Q77	Offering resources and assistance to help students succeed academically.	0.512
Q25	Evaluating educators' performance and providing opportunities for career advancement	0.511
Variable Variance (Eigenvalues)		51.028
Percent of Variance		20.365

Table 5: Showed Component 2: Academic administration organization and management.

Variables	Statement	Factor Loading
Q62	Ability to guide and supervise effective teaching practice and decision-making.	0.845
Q66	Build partnerships for enhanced educational opportunities and growth.	0.805
Q69	Strategic allocation of resources strengthens teaching organization effectiveness.	0.804
Q70	Effectively conveying ideas and fostering collaboration among stakeholders.	0.77
Q68	Accountable management ensures successful teaching outcomes and objectives.	0.767
Q67	Engage stakeholders for input and commitment in educational initiatives.	0.762
Q72	Making well-informed and timely choices to drive transformation.	0.754
Q65	Optimize external funds for enriching teaching resources.	0.745
Q76	Providing opportunities for students to explore interests beyond the curriculum.	0.739
Q71	Effectively conveying ideas and fostering collaboration among stakeholders.	0.694
Q61	Building a cohesive and collaborative group of educators with diverse expertise.	0.687
Q58	Developing teaching material tailored to the curriculum's goals and objectives.	0.651
Q64	Shape a positive and inclusive school culture for all.	0.622
Q63	Collaborative decision-making fosters a cohesive educational environment.	0.592
Q74	Developing clear and measurable quality criteria and benchmarks.	0.483
Q60	Ensure the quality and quantity of newly introduced teachers.	0.535
Variable Variance (Eigenvalues)		6.778
Percent of Variance		14.542

Table 6: Showed Component 3: Teacher team construction and development.

Variables	Statement	Factor Loading
Q36	Providing opportunities for growth and promotion within the chosen profession.	0.787
Q27	Facilitating opportunities for students to gain practical experience and secure employment.	0.771
Q31	Motivating and inspiring students to actively engage in their learning journey.	0.762
Q29	Providing educators with skills to effectively incorporate digital resources into instruction.	0.746
Q28	Ensuring teaching standards align with educational goals and promoting excellence in instruction.	0.739
Q22	Providing educators with skills to effectively incorporate digital resources into instruction.	0.733
Q34	Building expertise and capabilities through education, training, and skill enhancement programs.	0.723
Q21	Incorporating teacher feedback into decision-making and improvement processes.	0.714
Q32	Defining clear goals and competencies for developing skilled professionals.	0.674
Q73	Encouraging creative solutions to address challenges in new ways.	0.623
Q33	Creating a structured roadmap for skill acquisition and career development.	0.622
Q75	Encouraging students to actively take part in classroom activities and discussions.	0.618
Q35	Fostering the acquisition of essential skills and knowledge for career success.	0.586
Variable Variance (Eigenvalues)		4.29
Percent of Variance		12.713

Table 7: Showed Component 4: Quality assurance and evaluation

Variables	Statement	Factor Loading
Q12	Examining data to identify trends, issues, and improvement opportunities.	0.768
Q14	Collecting data on processes and outcomes to ensure quality.	0.757
Q20	Gathering input from students to improve educational offerings and services.	0.746
Q11	Identifying the specific roles and expertise needed within an organization or industry.	0.717
Q19	Evaluating the impact of teaching methods on student academic progress.	0.706
Q10	Developing a comprehensive plan to achieve organizational objectives and competitive advantage.	0.683
Q17	Creating a structured framework for assessing and measuring quality.	0.68
Q23	Motivating and rewarding educators for outstanding performance and dedication.	0.668
Q18	Examining evaluation outcomes to make informed decisions for improvement.	0.665
Q16	Implement changes and measures to improve the quality of teaching assurance level	0.604
Q13	Assessing the effectiveness and relevance of the curriculum in achieving educational outcomes.	0.595
Q15	Sharing quality-related information with stakeholders and the public.	0.569
Q24	Ensuring curriculum content aligns with educational standards and guidelines.	0.537
Variable Variance (Eigenvalues)		3.529
Percent of Variance		11.688

Table 8: Showed Component 5: Teaching resource management.

Variables	Statement	Factor Loading
Q8	Keeping digital content current and up-to-date to reflect changing knowledge and trends.	0.733
Q2	Collecting and organizing existing digital resources for educational purposes.	0.693
Q3	Ensuring that digital resources are inclusive and usable by all learners.	0.655
Q5	Adapting digital resources to meet individual student needs and preferences.	0.617
Q6	Ensuring the accuracy, relevance, and effectiveness of digital educational materials.	0.588
Q1	Creating digital materials like videos, e-books, and interactive simulations for learning.	0.585
Q9	Iteratively enhancing the curriculum based on feedback and evolving educational needs.	0.56
Q4	Utilizing platforms to deliver, track, and manage digital educational content.	0.525
Q7	Encouraging students and teachers to provide input for resource improvement and optimization.	0.479
Variable Variance (Eigenvalues)		2.48
Percent of Variance		7.584

Based on the Exploratory Factor Analysis to extract variables to key component variables by Analyze the most likely conditions. The researcher summarized the 5 components as showed in Figure2.

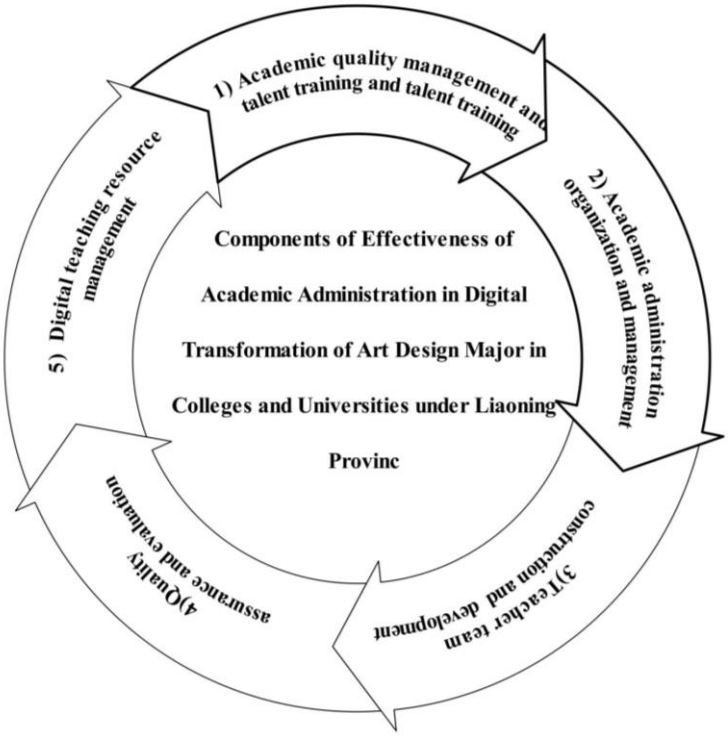

Figure 2 Showed the Components of Effectiveness of Academic Administration in Digital Transformation of Art Design Major in Colleges and Universities under Liaoning Province

6. Conclusion

1. Components of effectiveness of academic administration in digital transformation of art design major in colleges and universities under Liaoning Province Through qualitative research, quantitative research and factor analysis, it is concluded that there were 5 components of effectiveness of academic administration in digital transformation of art design major in colleges and universities under Liaoning Province, which are: (1) Academic quality management and talent training, (2) Academic administration organization and management, (3)Teacher team construction and development, (4) Quality assurance and evaluation,(5) Digital teaching resource management.

2. Managerial guidelines for effectiveness of academic administration in digital transformation of Art Design Major in Colleges and Universities under Liaoning Province consisted of 32 guidelines.

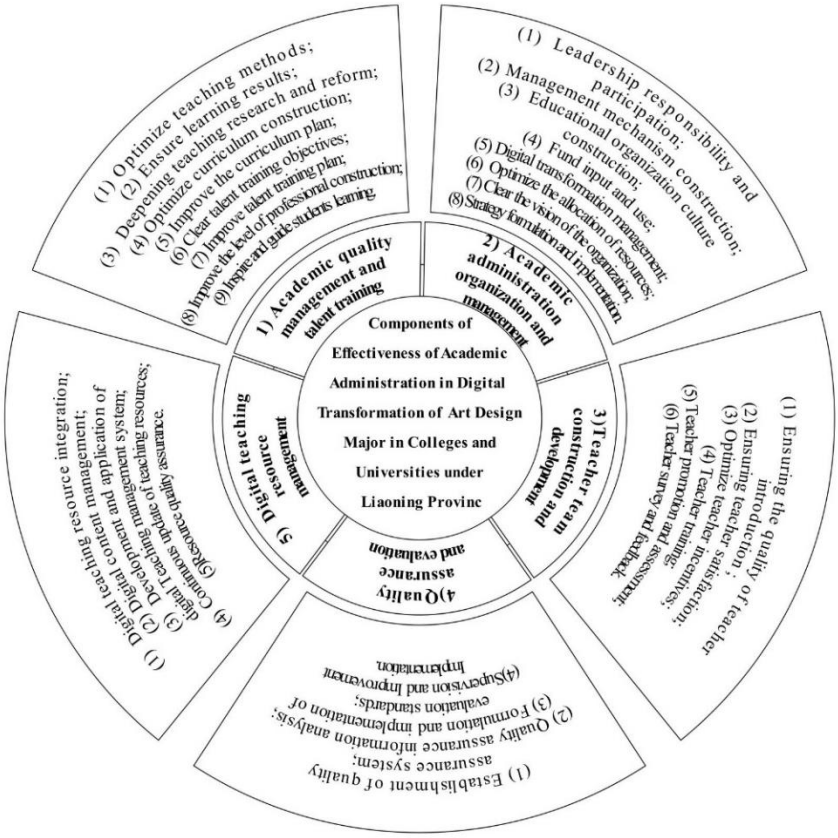

Figure 3: Showed the Components and Guidelines

7. Discussion

1. Discussion about Major Findings of Objective 1

There were five components for effectiveness of academic administration in digital transformation of art design major which consisted of Academic quality management and talent training, Academic administration organization and management, Teacher team construction and development, Quality assurance and evaluation, digital teaching resource management. Academic quality management and talent training establishes the foundational importance of academic quality management in art design education's digital transformation. It ensures that educational goals are met while equipping students with digital skills for the job market, benefiting society and The Times by producing adaptable graduates. Academic administration organization and management focuses on structurally efficient academic administration, streamlining decision-making and resource allocation. This agility aids the timely adoption of digital advancements, benefiting art design education.

Teacher team construction and development concentrates on faculty development, crucial for integrating digital tools into teaching, ultimately enhancing the learning experience for students. Quality assurance and evaluation emphasizes continuous

assessment and feedback for the transformation's effectiveness and overall education quality. Digital teaching resource management manages digital resources, ensuring access to tools, benefiting students and society with digitally proficient graduates.

This research finding was in accordance with the theories or research of Deng Wei (2022:78-80),it was found that intelligent education system was rich in connotation and in content, involving many elements such as system, teaching and environment. The teaching method was the key to lead the elements of the teaching mode and give full play to the educational function and value of the teaching environment. Under the background of intelligent education, promoting the reform of teaching methods could more effectively optimize the intelligent education system and improve the effectiveness of intelligent education. Corresponding to the research of Yang Lin (2023:73-76) which was found that the risks and challenges of digital transformation on the organizational management of universities should be addressed by strengthening the strategic planning of digital transformation, establishing the organizational structure adapted to the digital transformation, creating the organizational atmosphere that agrees with the digital transformation, and cultivating the organizational management with digital leadership. Yang Qin (2023:27-30) which was found that the three-dimensional digital literacy improvement mechanism of university teachers was composed of four dimensions of demand-oriented digital literacy map, incentive-oriented motivation mechanism, service-oriented guarantee mechanism and goal-oriented personalized improvement path.

2. Discussion about Major Findings of Objective 2

There were 32 managerial guidelines for the effectiveness of academic administration in the digital transformation of art design majors in colleges and universities provide a comprehensive framework to guide institutions through this complex process. Component 1 establishes the foundational importance of academic quality management in art design education's digital transformation. It ensures that educational goals are met while equipping students with digital skills for the job market, benefiting society and The Times by producing adaptable graduates.Component 2 focuses on structurally efficient academic administration, streamlining decision-making and resource allocation. This agility aids the timely adoption of digital advancements, benefiting art design education.Component 3 concentrates on faculty development, crucial for integrating digital tools into teaching, ultimately enhancing the learning experience for students. Component 4 emphasizes continuous assessment and feedback for the transformation's effectiveness and overall education quality. Component 5

manages digital resources, ensuring access to tools, benefiting students and society with digitally proficient graduates.

This research finding was in accordance with the theories or research of Wang Ying (2021:183-185) which was found that to improve the teaching quality of application-oriented universities from the perspective of constructing the relationship network of teaching quality management, making continuous innovation of teaching quality management methods, and improving and implementing the performance assessment mechanism of teaching quality management. Moreover, From the research of Chen Honghua (2021:3-5),it was found that by establishing a perfect teaching organization, constructing the three-level teaching process quality monitoring mechanism of school, college and department; establishing a student-oriented comprehensive evaluation system, conducting regular comprehensive inspection and objective evaluation of teaching quality; and continuously promoting teaching reform and management; encouraging teaching innovation and increasing learning challenges. These reform ideas and measures could enhance students' independent learning ability and ensure the realization of training objectives. Also, the findings were in the same direction with Fu Xu (2023:8-11) which was found that in order to realize the steady development, colleges and universities should adhere to the reform and development of education and teaching under the guidance of the intelligent management concept, and realize the digital, network, intelligent and diversified teaching reform.

8. Recommendations

1. Recommendation for Policies Formulation

(1) Digital Competency Framework: Develop a holistic framework specifying required digital skills and knowledge, integrated into the curriculum with clear learning outcomes. Policies should ensure faculty familiarity with this framework and guide digital learning objectives, supported by regular assessments for student progress.

(2) Innovation Culture: Encourage an innovative culture through policies that motivate faculty and students to explore new technologies and teaching methods. Support pilot programs and experimentation with digital tools, fostering interdisciplinary collaboration and creative technology integration in art design education.

(3) Digital Accessibility: Prioritize accessibility by setting guidelines for creating accessible digital content and tools. Policies should include training on accessibility best practices and assistive technologies for faculty and staff, along with regular audits to ensure compliance.

(4) Faculty Development: Establish policies that robustly support faculty development with funding opportunities for training in digital pedagogy and technology integration. Create workshops and peer communities for best practice sharing and incentivize faculty excelling in digital teaching and research.

(5) Data-Driven Decisions: Emphasize data-driven decision-making with guidelines for collecting and analyzing data on digital learning outcomes, student engagement, and tool effectiveness. Policies should outline procedures for using this data in curriculum updates, resource allocation, and faculty development.

In summary, these policy recommendations underscore the importance of a comprehensive digital competency framework, fostering an innovation culture, accessibility, robust faculty development, and data-driven decision-making. Implementation of these policies will enable institutions to navigate the challenges and opportunities of the digital era, ensuring that art design education remains relevant, competitive, and aligned with industry demands.

2. Recommendation for Practical Application

(1) Cross-Functional Task Force: Establish a task force involving various departments to formulate a comprehensive digital transformation strategy, ensuring policies are tailored to the unique needs of art design education.

(2) Faculty Development Roadmap: Create a structured faculty development roadmap for digital competencies, offering access to training, workshops, and encouraging incremental adoption of digital tools, reducing resistance to change.

(3) Digital Resource Sharing Platform: Implement a centralized platform for sharing high-quality digital resources and teaching materials. Encourage faculty contributions, promote resource sharing, and provide guidelines for resource evaluation.

(4) Quality Assurance Audits: Enforce policies for regular quality assurance audits of digital courses and resources, with systematic assessments and feedback loops for continuous improvement.

(5) KPIs and Data Analytics: Establish clear KPIs and employ data analytics tools for ongoing monitoring and assessment. Define key metrics and responsibilities for data-driven decision-making, enabling continuous improvement in digital education.

In summary, these practical policy recommendations emphasize interdisciplinary collaboration, structured faculty development, resource sharing, quality assurance, and data-driven decision-making. Implementation of these policies will help institutions adapt to the

digital age, maintain high-quality art design programs, and equip students with the skills needed for success while remaining focused on quality and innovation.

3. Recommendation for Further Research

(1) Validate Component Applicability: To enhance digital transformation credibility in art design education, research should verify component suitability across diverse institutions and programs, ensuring rational and scientific application.

(2) Tailored Policies: Implement customized policies to drive digital transformation in art design, aligning with unique program needs for practical and beneficial integration.

(3) Diverse Context Validation: Validate research findings in diverse academic settings to enhance generalizability, benefiting a wider range of art design programs.

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