

# Educational management guidelines in Art Universities under Liaoning Province

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## **ABSTRACT**

The objectives were 1) to study the current situation of art universities management and 2) to propose educational management guidelines for art universities in Liaoning Province, employing a mixed-method approach. The population of 1,992 teachers working during the 2022 academic year was drawn from the Lu Xun Academy of Fine Arts and the Shenyang Conservatory of Music. The sample was 322 teachers using Krejcie and Morgan's table, obtained through a simple random sampling. Fifteen key informants were selected through purposive sampling for in-depth interviews and 7 experts for focus group discussions to verify the proposed guidelines. The data collection instruments included a questionnaire with a five-point rating scale and a guideline confirmation form. Data analysis were descriptive statistics and content analysis. The results revealed that 1) the current situation of art university management included guidelines establishment for overall regulation and formulation of guiding programs; creation of interdepartmental cooperation mechanisms; and maintenance of dynamic and appropriate educational policy formulation, and 2) educational management guidelines included strengthening teacher training to build high-quality teaching personnel, innovate teaching methods, cultivate a sense of responsibility among teachers, and enhance teacher leadership. Ensuring the perfection of technology platforms and digital infrastructure, establishing reasonable teaching evaluation and reward mechanisms, and developing dynamic and balanced educational policies which coordination should be multidimensional. A collaborative teacher network should be established to facilitate the active sharing of teaching experience, promote a harmonious teacher-student relationship.

**Keywords:** Educational Management, Art universities, Liaoning Province

## Introduction

In 2020, the global outbreak of COVID-19 forced governments to re-evaluate the role of higher education, with a strong emphasis on online teaching, flexible learning systems, and student well-being (Zhou, Li, Wu, & Zhou, 2020). In China, the Ministry of Education responded by developing targeted policies, strengthening university governance, incentivizing educational innovation, and updating online teaching models to adapt to the digital era (Chen, et.al., 2021). As the education system transitions into the post-pandemic era, both teachers and students in art universities face significant challenges, especially in maintaining engagement, mental health, and effective teaching methods in online environments (Liu, Lin, Zhang, & Wang, 2022). Prior to the pandemic, the integration of information technology into education had already begun transforming pedagogical structures. This digital shift—accelerated by the pandemic—continues to redefine educational relationships, making information-based teaching an essential pathway for reform and modernization (Li & Yang, 2020).

The government has also placed greater emphasis on teacher training and educational quality assurance. As stated in the 2014 “Opinions on Deepening Educational Supervision Reform and Transforming

Educational Management Mode,” the state encouraged separating academic achievement from administrative assessment, promoting educational equity, and enhancing school management through systematic reforms (Ministry of Education of the People’s Republic of China, 2014). Scholar Wang Zhuli emphasized the need for a new education and teaching system, shifting from rigid, content-based instruction to a more flexible, student-centered approach, focusing on soft skills and learning outcomes (Wang, 2020). In art universities, this transformation is particularly crucial, as students’ learning is deeply influenced by creativity, emotional expression, and psychological stability. The pandemic intensified students’ mental health concerns and disrupted traditional learning environments, necessitating a reevaluation of teaching models and management strategies (Zhang, Xu, & Song, 2021).

This research is therefore significant in addressing the educational needs of art universities in Liaoning Province during the post-pandemic transition. By analyzing students’ psychological states, exploring artistic learning characteristics, and reconstructing teaching management frameworks, the study contributes to both theoretical and practical advancements. The development of educational management guidelines tailored to art universities not only helps improve teaching effectiveness but also

supports sustainable student development and educational modernization. The findings can inform policy-makers, academic leaders, and faculty members as they respond to the evolving demands of post-pandemic higher education.

### **Purposes**

1. To study the current situation of art universities management in Liaoning Province
2. To propose educational management guidelines for art universities in Liaoning Province.

### **Benefit of Research**

This research benefits art universities by providing practical guidelines to improve educational management in the post-pandemic era, supporting digital integration, student well-being, and teaching innovation, while aligning with national goals for education modernization.

### **Research Process**

Step 1: Study literature review and related research to identify the factors of art universities management in Liaoning Province. Create questionnaire and question for interview.

Step 2: Analyze from data collection both Semi-structured interview and questionnaire.

Step 3: Content analysis from focus group discussion to propose and verify the guidelines.

### **Population and Sample**

The population consisted of 1,992 teachers working during the 2022 academic year. The sample size was determined using Krejcie and Morgan's table and obtained through a simple random sampling method, resulting in 322 teachers. In addition, 15 key informants were selected through purposive sampling for in-depth interviews. Furthermore, seven experts were selected via purposive sampling to participate in focus group discussions to construct and verify the proposed guidelines.

### **Instruments**

1. Interviews in semi-structure
2. Questionnaires
3. Focus group

### **Data analysis**

Data collection included a questionnaire with a five-point rating scale. The statistical methods used for data analysis were frequency, percentage, mean, and Standard Deviation. The data from in-depth interviews and focus group discussions were analyzed using content analysis.

### **Conclusion and discussion**

#### **Conclusion**

1. The current situation of art universities management in Liaoning Province

1. The basic information of the Educational Management Questionnaire for art universities in Liaoning Province was collected from a total of 322 teachers. Among the respondents, 167 were male (51.90%) and 155 were female (48.10%), indicating a relatively balanced gender distribution. In terms of age, the majority—229 teachers (71.10%)—were under the age of 45, while 93 teachers (28.90%) were aged 45 or older. Regarding educational background, 131 teachers (40.70%) held a bachelor's degree, and 191 teachers (59.30%) held a degree higher than a bachelor's. For teaching experience, 186 teachers (57.80%) had less than 15 years of experience, and 136 teachers (42.20%) had 15 years or more. Concerning professional titles, 73 teachers (22.70%) were assistant lecturers, 157 (48.80%) were lecturers, 90 (28.00%) were senior lecturers, and only 2 teachers (0.60%) held the position of full senior lecturer. This demographic distribution provides a comprehensive overview of the teaching workforce involved in the study and supports the diversity and representativeness of the data collected.

2. The current situation of platform learning management in art universities in Liaoning Province ( $n = 322$ ) during the post-epidemic era was assessed across seven key indicators. The data reveal high levels of implementation in most areas, with the mean scores ( $\bar{x}$ ) and standard deviations (S.D.) reflecting overall positive perceptions from

respondents. The three highest-ranked items are: Item 6: "The period of epidemic era that the university set up the goals and plans to implementing in the teaching management" ( $\bar{x} = 4.18$ , S.D. = 1.05) ranked 1st. This indicates that universities were highly proactive in setting clear goals and plans for teaching management during the epidemic. The relatively high mean and moderate standard deviation suggest strong consensus and effectiveness in this area. Item 3: "The period of epidemic era that the university prepared and trained teachers for online teaching" ( $\bar{x} = 4.10$ , S.D. = 1.13) ranked 2nd. This reflects the universities' strong emphasis on capacity-building and ensuring that educators were equipped with the necessary skills for online instruction. And Item 7: "The period of epidemic era that the university derived and maintained in-depth cooperation with teaching platforms" ( $\bar{x} = 4.05$ , S.D. = 1.07) ranked 3rd. This shows a high level of institutional collaboration with online teaching platforms, ensuring infrastructure and support for effective virtual learning.

In contrast, the lowest-ranked item is: Item 4: "The period of epidemic era that teachers had high ability in self-management evaluation in online teaching" ( $\bar{x} = 3.35$ , S.D. = 1.18) ranked 7th, with only a medium level of implementation. This suggests that while universities supported online infrastructure and planning, teachers may have struggled with independently evaluating and managing

their teaching performance in virtual settings. The higher standard deviation also indicates varied experiences among respondents, reflecting inconsistencies in self-assessment capacity.

In summary, the findings show that art universities performed well in strategic planning, teacher training, and platform collaboration during the epidemic. However, there is a noticeable gap in individual teachers' self-management and evaluation skills, highlighting an area for improvement in future educational management development.

3. The findings show that the most important factor in improving educational management in art universities through educational leadership is the active provision of digital platforms with strong resources, capacity, and efficiency ( $\bar{x} = 4.52$ , S.D. = 0.980), followed by the promotion of innovative tools for effective online assessment and learning outcome measurement ( $\bar{x} = 4.45$ , S.D. = 0.944), and the creation of effective technology platforms and student service channels to support quality teaching management ( $\bar{x} = 4.44$ , S.D. = 0.913). These top-ranked items reflect the crucial role of digital infrastructure and support systems in post-pandemic education. In contrast, the lowest-ranked item, though still rated highly, was the ability of teachers to adopt diverse online teaching methods to achieve learning outcomes ( $\bar{x} = 4.39$ , S.D. =

1.071), indicating a need for further professional development and support to enhance teachers' digital competencies and instructional flexibility.

4. The researcher summarized the content obtained from the interviews, highlighting the top three themes based on frequency as follows: **1) Curriculum:** (1) Universities created content and curricula appropriate for online teaching within the teaching plans. (2) The current curriculum was considered reasonable during the epidemic period. (3) Universities implemented different strategies tailored to various types of professional courses during the epidemic era. **2) Teaching Form (Teaching Style):** (1) Teaching styles during the epidemic era focused on individual learning needs. (2) Teaching styles were able to support effective communication between teachers and students. (3) The teaching format allowed flexibility for future development and adaptation of best practices from traditional teaching. **3) Interactive Method:** (1) Teachers designed interaction methods that met the needs of both teachers and students during the epidemic. (2) The interactive methods received positive feedback from students. (3) The approaches were sufficient to simulate hands-on learning experiences in the online environment. **4) Assessment Methods:** (1) Evaluation methods during

the epidemic were adapted to be more scientifically rigorous. (2) Online evaluation methods were considered more effective than traditional approaches, (3) Appropriate evaluation tools and platforms were implemented for online teaching. **5) Technical Skills:** (1) Teachers' technical skills during the epidemic met the basic teaching requirements. (2) Classroom technology capacity was sufficient to meet management needs. (3) There was a recognized need for additional training to improve teachers' technical skills. **6) Teaching Experience:** (1) Teachers with extensive experience positively influenced online teaching. (2) Varied teaching experience supported more effective online instruction. (3) Teaching experience was critical for classroom management in the online context. **7) Training Situation:** (1) Universities provided relevant training courses for teachers in online teaching. (2) Institutions offered ongoing support for training related to digital education. (3) Necessary resources such as materials, platforms, and learning tools were provided to enhance online training opportunities. **8) Student Acceptance:** (1) Students accepted the online teaching formats implemented by universities during the epidemic. (2) Students adapted to subjects, materials, tools, and online learning platforms. (3) Students reported satisfaction and understanding of the

university's online teaching management.

**9) Learning Attitude:** (1) Students maintained a positive attitude toward learning. (2) University support services contributed to positive learning attitudes among both students and teachers. (3) Factors such as time, tools, and teaching format enhanced students' learning attitudes. **10) Course Feedback:** (1) Interactive teaching methods addressed both student and teacher needs, with successful learning outcomes reflected in course feedback. (2) Effective teaching methods improved the quality of feedback received. (3) Management mechanisms influenced the feedback and overall learning outcomes. **11) Educational Resources:** (1) Universities provided adequate technological platforms for online teaching during the epidemic. (2) Teaching resources were sufficient during the transition to online learning. (3) Innovative teaching resources were identified as necessary and should be further developed. **12) Environmental Adaptability of Teaching Materials and Equipment:** (1) the quality of teaching materials played a crucial role in effective management. (2) Updating teaching materials to ensure quality and course relevance was essential. (3) Reliable internet connectivity significantly impacted the effectiveness of online teaching.

Comparing the content of literature review, relevant research and in-depth interviews, establish a new guideline for focus group discussion with 7 experts, as shown in Table 1

**Table 1:** Educational Management of Art Universities in Liaoning Province

Item	Content Analysis to draft guideline		
	Input	Process	Outcome
1. Literature review and related research	1 Teaching resources and teaching materials	1. Implement policies to broaden access to diverse and high-quality teaching resources	1. Enhance resource capacity by resolving existing limitations
	2 Policy development for innovative educational strategies and methods	2. Strengthen the teaching environment via strategic initiatives	2. Forms of education adapted to the existing environment
	3 Policy for optimal class sizes and teacher training	3. Formulate policies to expand professional development and training opportunities for educators and staff	3. Enhance teacher and student competencies through targeted policies
	4 Increase student acceptance and engagement	4. Improve the feedback mechanism	4. Implement policies to overcome current resource constraints
	5 Technical equipment and hardware environment	5. Implement policies to improve technological infrastructure	5. Improve the hardware environment
2. In-depth interviews (15 administrators and teachers)	1 Educational Strategies and Methods	1. System and Mechanism Construction	1. Improve the guidelines
	2 Develop policies to optimize class size and ensure adequate teacher training and development	2. Improve training opportunities	2. Strengthening Teacher Capabilities
	3 Promote policies that foster student acceptance and active engagement in the	3. Promote the implementation of diverse feedback mechanisms through educational policy	3. Develop policies to enhance stakeholder satisfaction in the educational environment
		4. Implement policies to regularly revise and	4. Promote policy support for the

	learning process	modernize teaching	integration of
	4 Teaching resources	materials.	diversified learning
	and teaching	5. Upgrading and	and teaching resources
	materials	maintaining educational	5. Ensure sustainable
	5 Technical equipment	infrastructure and	provision and
	and hardware	technology	maintenance of
	environment		educational hardware
3.Focus group	1 Educational Strategies	1. Implement government	1. Improve the efficiency
discussion with	and Methods	policy support	of perfection
7 experts	2 Class capacity and	2. Improve networking	2. Improve teachers'
	training	opportunities	vision and ability
	3 Student Acceptance	3. Establish policies that	3. Feedback results are
	and Engagement	promote the use of	more reliable
	4 Teaching resources	diverse feedback	4. Teaching
	and teaching	methods to enhance	management has been
	materials	teaching and learning	strengthened through
	5 Technical equipment	effectiveness	effective policy
	and hardware	4. Incorporate new	implementation
	environment	technologies	5. Improve hardware
		5. Enterprise intervention	background reliability

## 2. Educational management guidelines for art universities in Liaoning Province

2.1 From Table 1. Summarize the content of literature review, relevant research and in-depth interviews, establish a new guideline for focus group discussion as below.

1) Promoting teacher-student cooperation and interaction shows that promoting teacher-student collaboration, interaction, integration, and enhancing communication received the highest recognition. In classrooms, teachers leverage mobile devices and applications

to foster a participatory learning environment. Outside the classroom, students utilize mobile devices for mobile learning, overcoming spatial restrictions and maintaining interaction with teachers and peers to ensure teaching content is relevant and effective.

2) Online teaching at Lu Xun Academy of Fine Arts and Shenyang Conservatory of Music. Most interviewees agree that these institutions have implemented diverse strategies to maintain online teaching quality in the post-pandemic era. The dedication and

professionalism of teaching staff have been positively evaluated by students. These strategies include appropriate online teaching training, employing multiple platforms and tools, increasing student engagement, and providing support. However, some concerns were raised regarding limitations in educational resources and equipment, affecting the perceived reliability of online education. Continuous improvement is needed, particularly addressing resource and equipment challenges.

3) Impact of management factors on educational administration in Art Universities, interviewees emphasize the need for flexible management responses to the pandemic, including relevant policy formulation and quality assurance mechanisms. Specific recommendations include developing new education management models, providing online education and training, and prioritizing mental health support. Enhancing education management quality requires multifaceted approaches: policy development, system and mechanism establishment, and attention to the mental well-being of faculty and students.

4) Key factors affecting education management in art Universities' fifteen factors were evaluated for their influence on educational management. Teaching methods, technological competence,

student acceptance, teaching experience, and training received the highest recognition. This underscores the critical role of online teaching formats and educational technology in managing art education post-pandemic. Additionally, student engagement and teacher professional development warrant focused attention.

5) Enhancing education management quality in art Universities suggestions to improve education management include establishing comprehensive online management systems, enhancing teachers' online teaching proficiency, increasing student acceptance, strengthening teaching resource development, and adopting innovative technologies. Improving education management quality requires integrated efforts across multiple domains.

6) Strengthening educational management in art Universities, interviewees highlight the need to reinforce technical infrastructure and hardware, educational strategies and methodologies, teacher capacity and training, student accessibility and engagement, and teaching resources. Effective improvement in education management necessitates balanced attention to both human and material resources.

7) Art Universities in Liaoning Province recommendations for include

developing clear online education guidelines, encouraging diverse online teaching methods, promoting innovative online assessments, focusing on teaching management and evaluation systems, and actively utilizing digital platforms to provide enhanced tools and learning resources. These guidelines offer valuable references for advancing education management quality in the region.

2.2 Guidelines for art universities in Liaoning Province from focus group discussion from seven experts as below.

1) *Coping Strategies at the Macro Education System Level.* The government established a full-time agency for overall planning and regulation and formulated guiding policies. To better address the epidemic's impact on teaching, the education department formed a dedicated epidemic response leading group responsible for policy formulation and implementation oversight. This team included diverse members such as education leaders, experts from various fields, communication technology specialists, parents, and student representatives. Responsibilities were clearly defined, and an open accountability mechanism was developed to help departments at all levels hold individuals or units accountable, thereby improving work efficiency. To ensure timely communication during the epidemic and to

facilitate “suspending classes while continuing learning,” the group formulated evidence-based guidelines. These guidelines covered macro-level education goals—such as students' right to education and basic online teaching conditions—and specific measures like teaching arrangements, student assessments, and examination schedules. The guidelines guided departments in creating specific action plans and optimizing resource allocation within limited timeframes.

A cross-departmental cooperation mechanism was established, pooling resources and efforts from multiple parties to enhance government functional departments' capacity. From the education system perspective, specific strategies were formulated according to actual conditions, such as school reopening timelines and online teaching resources. Following the national school closure directive, local education departments emphasized teacher training, cultivating high-quality professionals with necessary knowledge, skills, and ethics to ensure quality teaching management.

Educational policies were designed to be dynamic and context-appropriate. Coordination considered the diverse target groups and the unpredictability of the epidemic. Policy formulation aimed to balance interests among stakeholders and achieve optimal satisfaction.

2) *Suggestions at the Music School Level.* Teacher training was strengthened by providing free online training and regularly holding online seminars within subjects, allowing teachers to share challenges and solutions and discuss subject-specific online teaching methods. Since many teachers were unfamiliar with online platforms, schools supported training by providing software licenses and technical assistance for information-based teaching.

Universities' ensured the normal operation of technology platforms and improved digital infrastructure. Multi-school alliances were formed to explore innovative teaching programs. Art schools were encouraged to collaborate openly rather than operate in isolation, sharing intellectual resources multidimensionally.

Reasonable teaching evaluation and reward mechanisms were established, recognizing flexible and diverse teaching methods, scientifically designing mixed teaching ratios, and identifying teaching workloads. Student management was also emphasized, including timely homework completion, joint management participation with teachers, rewarding outstanding teachers and students, preventing teacher burnout, and avoiding student fatigue.

3) *Micro Level: Teacher Focus.* Teachers were encouraged to develop

information literacy, innovate teaching models, enrich content, and habitually use online resources to think critically and solve problems. They needed to understand online teaching environments and use new cyberspaces and platforms to design suitable activities and content to achieve teaching goals effectively. Teachers' sense of responsibility and leadership were enhanced. They acknowledged that teaching environment changes affected their roles and responsibilities. They were urged to attend especially to students with difficulties or special needs to ensure educational equity.

Teacher cooperation networks were built to encourage active sharing of teaching experiences. Cooperation was divided into deep professional collaboration and daily communication and coordination. These networks provided professional, psychological, and emotional support for teachers facing pressures and anxieties during the epidemic. Harmonious teacher-student relationships were fostered. Teachers guided students to establish correct values, enhanced humanistic care, and improved students' independent learning abilities.

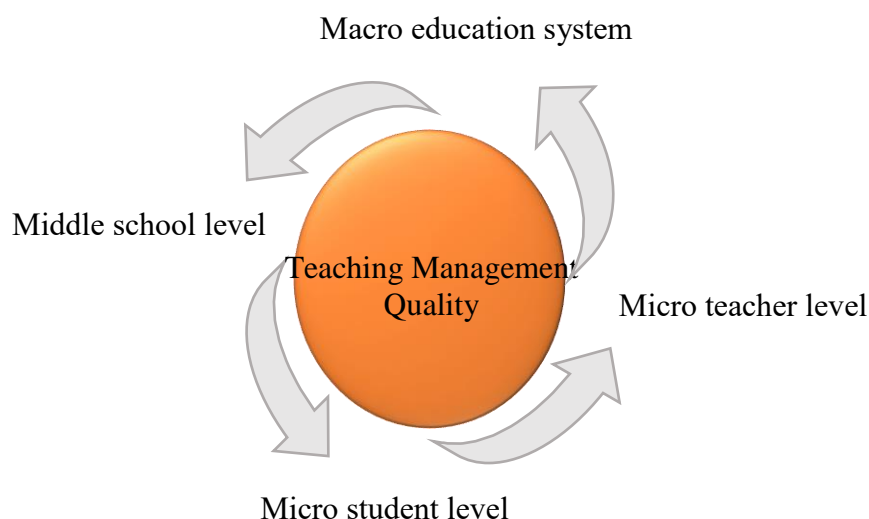
4) *Micro Level: Student Focus.* Students' information literacy, learning ability, and self-control laid a foundation for online courses. Post-epidemic blended teaching required independent learning and

communication skills. Students were expected to think critically, collaborate, analyze, speculate, and actively engage in online activities, developing scientific thinking and problem-solving skills using online resources.

This guidelines demonstrated that government, schools, teachers, and students were interconnected and mutually supportive. The government provided construction support; schools offered supervision and guidance; teachers delivered instruction; and student's maintained positive learning attitudes and mental health. The effective integration of these four components was essential to

improving education management in art Universities.

According to the key-guidelines in Figure 1. The government acts as a regulator and a key pillar in enhancing educational management included teaching management quality. Educational resource provision depended heavily on government support. This research, focusing on improving education management in Liaoning Province. Focus on Art Universities, proposed strategies based on a four-helix structure involving government, schools, teachers, and student.



**Figure 1.** The government acts as a regulator and a key pillar in enhancing educational management.

## Discussion

### 1. The current situation of art universities management in Liaoning Province

The results reveal that art universities in Liaoning Province effectively implemented strategic planning, platform collaboration, and teacher training during the post-epidemic period, highlighting the crucial role of institutional readiness. However, limitations in teachers' self-assessment and digital instructional capabilities point to a need for refined and adaptive teaching management models. This aligns with Liu (2011), who emphasized the significance of structured systems in vocational education to support teacher performance. Additionally, Min, Chen, and Zhang (2010) noted that adopting project management strategies enhances the adaptability of professional teaching, which supports findings related to tailored curricula and diverse teaching styles. The observed necessity for further technical training echoes findings by He (2020), stressing the role of applied teaching models of evolving educational demands. Furthermore, developing of multimedia-based environments, as suggested by Rao (2021), reinforces the need for continued integration of digital tools. Thus, a more systematic, technology-supported, teacher-oriented management for sustained educational quality.

### 2. Educational management guidelines for art universities in Liaoning Province

The findings demonstrate a comprehensive framework for improving education management in art universities, integrating government policy, institutional infrastructure, teacher professionalism, and student engagement. Promoting teacher-student collaboration and adopting innovative teaching formats aligns with Wang et al. (2020), who emphasize the benefits of mobile and collaborative learning in enhancing educational interactivity. The focus on dynamic policy formulation and quality assurance resonates with Li et al. (2014), who underscore innovation-driven educational governance. At the institutional level, strengthening teacher capacity and evaluation systems reflects the insights of Fu-Gen et al. (2010), highlighting the role of experimental teaching centers and training in improving education quality. The emphasis on digital infrastructure and resource integration supports Zhang (2019), who stresses the transformative impact of modern information technology on teaching management. Furthermore, the focus on refined management and teacher-student harmony echoes Jiang et al. (2010), advocating for multi-tiered, human-centered teaching models. Overall, these

findings underscore a holistic, stakeholder-driven strategy essential for managing post-pandemic art education effectively in Liaoning Province.

### **Recommendations**

Recommendation for policies formulation

1. Enhance teacher-student interaction, to promote policies that support mobile and blended learning to improve communication and collaboration.
2. Strengthen online teaching capacity, to provide ongoing training and technical support for online platforms to ensure teaching quality and engagement.
3. Develop flexible management systems, to establish adaptive education management models that include mental health support and quality assurance mechanisms.
4. Invest in infrastructure and resources, to allocate funding to upgrade digital infrastructure and teaching resources, ensuring equitable access.
5. Promote inter-University collaboration, to encourage alliances among art universities to share best practices, resources, and innovative teaching strategies.

### **Recommendation for Practical Application**

1. Implement digital teaching platforms, using reliable online systems to support curriculum delivery and student services.
2. Conduct teacher training programs, to provide regularly train educators in digital tools and innovative teaching methods.
3. Adapt curriculum for Online learning, developing redesign course content to suit learning outcomes.
4. Use interactive teaching techniques, to apply methods that simulate hands-on experiences and boost student engagement.
5. Establish feedback mechanisms, to create channels for ongoing feedback from students to improve teaching effectiveness.

### **Recommendation for Further Research**

1. Explore teachers' self-assessment Skills, to study methods to enhance educators' ability to evaluate and improve their online teaching performance.
2. Examine student learning attitudes, to investigate how digital learning environments influence student motivation and engagement long-term.
3. Evaluate Curriculum Adaptability, to analyze the effectiveness of curriculum adjustments for different art disciplines in online formats.

## References

- Chen, X., et.al. (2021). Transformation of higher education governance in China under COVID-19. *Asian Education and Development Studies*, 10(2), 142–156.
- Fu-Gen, et.al. (2010). Promoting the construction of experimental teaching demonstration center under innovation management mode. *Research and Exploration in Laboratory*.
- He, Y. (2020). Research on the teaching management mode of applied undergraduate talents in the new situation. *Advances in Higher Education*, 4(10).
- Jiang, X., et.al. (2010). 2-layer teaching management mode in higher vocational colleges promoted with refined management. *Journal of Chengdu Aeronautic Vocational and Technical College*.
- Li, A. et.al. (2014). *The reform and innovation research of teaching management mode about "excellent engineers education training program*. Guangdong Chemical Industry.
- Li, Q., & Yang, Y. (2020). The development of online education in China: Opportunities and challenges. *Education and Information Technologies*, 25, 2195–2210.
- Liu, M. Z. (2011). A study on the system and methods of teaching management in higher vocational education. *Academic Research*.
- Liu, S., Lin, X., Zhang, Y., & Wang, L. (2022). Online teaching adaptation in art education during COVID-19. *International Journal of Educational Research Open*, 3, 100174.
- Min, L. Chen, G. , & Zhang, G. (2010). Exploration and practice of the project management mode on the teaching of professional course design. *Experimental Technology and Management*.
- Ministry of Education of the People's Republic of China. (2014). *Opinions on Deepening Educational Supervision Reform and Transforming Educational Management Mode*.
- Rao, L. (2021). On the exploration of college english teaching management mode under computer multimedia technology. *Journal of Physics: Conference Series*, 1915(4), 042005.
- Wang, Z. (2020). Rethinking education management in the post-pandemic era. *Journal of Modern Education Studies*, 12(3), 35–42.
- Wang, J. et.al. (2020). Economic management teaching mode based on mobile learning and collaborative learning. *IEEE Access*, 8, 1-1.

- Zhang, J. . (2019). Reflections on the reform of teaching management mode in colleges and universities by modern information technology. *China Computer & Communication*.
- Zhang, Y., Xu, H., & Song, M. (2021). Psychological stress and learning adaptation among college students during the pandemic. *Frontiers in Psychology*, 12, 643957.
- Zhou, L., Li, F., Wu, S., & Zhou, M. (2020). School's Out, But Class's on, the largest online education in the world today: Taking China's practical exploration during the COVID-19 epidemic prevention and control as an example. *Best Evidence of Chinese Education*, 4(2), 501–519.