

EXPLORING THE EDUCATIONAL NEEDS OF IMPROVISATION ON THE ELECTRONIC ORGAN FOR ENHANCING THE COMPREHENSIVE MUSICAL LITERACY OF PROFESSIONAL STUDENTS

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Abstract

This study aims to explore the importance and practical significance of incorporating electronic organ improvisation into the comprehensive education of professional music students, particularly as a new initiative in music education reform and exploration by integrating improvisation into music performance courses. Through in-depth analysis and a series of innovative teaching experiments, this paper reveals the significant impact of improvisation skills on enhancing students' musical expression, creativity, and critical thinking. The results indicate that integrating electronic music technology into traditional music education is not only feasible but can significantly improve the quality of music education and cultivate musicians with a high level of comprehensive musical literacy. This study also examines the existing problems within the music education system, proposes targeted solutions, and provides a solid theoretical and practical foundation for electronic organ teaching based on holistic education theory, constructivism learning theory, Education 3.0 concepts, and behaviorism theory. Furthermore, the paper suggests directions for future research, aimed at further enhancing the effectiveness of music education through innovative and optimized teaching methods, meeting students' individual learning needs, and promoting interdisciplinary cooperation between music and other academic fields. This research emphasizes that integrating

improvisation into professional courses is not only a new reform and exploration in music performance education but also a key strategy for promoting the comprehensive development of students.

Keywords: Electronic organ, improvisation, comprehensive musical literacy, music education, teaching experiment research.

Introduction

With the development of the post-industrial era economy, relying solely on decontextualized learning to develop intelligence can no longer meet people's needs. We must consider broadening the concept of intelligence based on human characteristics and cultural elements (Channuwong et. al., 2024; Thongoum and Channuwong, 2024; Howard Gardner, 2012). The value of creativity should not be underestimated. In addition to the obvious importance of composition for the evolution of music, improvisation, listening, and other forms of generative music production allow learners to develop a specific set of tools. Engaging creatively with music enables students to develop skills in problem finding, solution testing, and evaluation, which are highly sought after by businesses in nearly every sector of the market. For music education, most importantly, these skills can lead to innovations that have a significant impact on the evolution of music and musical experiences (Lamsutthi et al., 2024; Michele Kaschub and Janice Smith, 2014). Education should not only be about appreciating how others use music to convey meaning but should also allow students to express their personal views and emotions by creating their own music. Music education should present music as a living art, capable of speaking urgently and vividly in our times, connecting students directly with their own lives and era, thereby making the study of music more personalized, vivid, and significant (Craig Resta, 2017). The curriculum reform goal for higher music conservatories' electronic organ programs is to cultivate music-related composite talents (Jie Feng, 2014). The construction of the curriculum system for electronic organ majors in professional institutions should not only address professional examinations but also adjust the curriculum structure from an overall perspective (Xia Liu, 2021). The electronic organ is a multifunctional, highly composite modern instrument (Zhiyuan Dai, 2023). The Chinese Ministry of Education, drawing on the latest research results domestically and abroad and learning from the successful experiences of art curricula in the United States, Australia, Canada, New Zealand, and the United Kingdom, has organically integrated music, fine arts, dance, drama (including traditional opera), dance, and film (including digital media arts) into one art course. This highlights the unity of the commonality and individuality of the arts, emphasizing the important role of overall musical literacy in the cultivation of music talents, forming a new trend, breakthrough, and journey in art curriculum reform (Compulsory Education Art Curriculum Standards, 2022).

In the field of contemporary music education, especially in the curriculum design of the electronic organ major, traditional teaching models have mainly focused on the cultivation of students' technical and performance skills. Although this technically oriented education method has achieved certain effects in imparting performance techniques, it neglects the important role of

the fields of music history, music theory, and music aesthetics is essential for helping students build a complete music knowledge system and deepen their understanding of music, which is often marginalized in the current education model. Moreover, the traditional "one-on-one" teaching model, while effective in the direct transmission of techniques, falls short in stimulating students' creative and critical thinking abilities and also fails to fully utilize the unique attributes and potential of the electronic organ as a diversified instrument.

Music improvisation, as an art form that can directly showcase individual creativity and imagination, plays an indispensable role in music education. It is not only a form of music performance but also a key teaching strategy for fostering students' innovative thinking. With its unique timbres and expressiveness, the electronic organ becomes an ideal tool for improvisation. This instrument, blending traditional and modern techniques, can simulate a variety of instrument sounds and create unique sound effects, offering a broad space for improvisational performance. This is significant for cultivating students' musical creativity and exploring new musical forms. As education reform deepens and the demand for innovative talents grows, it requires that music education, especially electronic organ courses in professional schools, not only teach techniques but also focus on fostering innovation abilities and comprehensive qualities. Introducing improvisation and other innovative teaching models not only serves as an attempt to break through traditional music education models but also effectively supplements the cultivation of students' innovative capabilities and comprehensive qualities.

Therefore, the future direction of music education should place greater emphasis on the integration of music education theory and the application of improvisation in teaching, aiming to cultivate musically talented individuals with an innovative spirit, comprehensive literacy, and critical thinking abilities. Through continuous exploration and innovation in electronic organ teaching experiments, music education can open new developmental paths, providing a solid foundation for cultivating music talents that meet the needs of the new era, thereby promoting the continuous innovation and development of music creation and expression methods

Research Objectives

1. Exploring the Educational Needs of Improvisation on the Electronic Organ in Enhancing the Comprehensive Musical Literacy of Professional Students.
2. Innovate Teaching in Electronic Organ Specialized Courses.
3. Evaluate the Effectiveness of Electronic Organ Improvisation in Enhancing Comprehensive Musical Literacy in Students.

Research Hypotheses

1. Electronic organ improvisation enhances students' Music Theory Knowledge.
2. Electronic organ improvisation improves students' Musical Expressiveness and Creative Expression
3. Electronic organ improvisation enhances students' Music Listening Skills
4. Electronic organ improvisation promotes students' Comprehensive Musical Literacy

5. Electronic organ improvisation enhances students' Learning Interest and Motivation
6. Electronic organ improvisation facilitates students' Collaboration and Communication

Among Students

Conceptual Framework



Figure 1 Research Conceptual Framework, Source: Ms. Hanxue 2024 p.1

Following this framework, this research begins with "defining research objectives and questions" and "establishing the theoretical foundation and background of the study". This is followed by "experimental design", which involves sample selection, data collection, and analysis methods. Next comes the "preparation phase", which includes the preparation of new teaching methods, courses, or tools, as well as the preparation of experimental materials and testing tools. Subsequently, the "experimental study" phase involves setting up experimental and control groups. Then, data is processed through "data analysis" to draw "conclusions and recommendations". Finally, the research findings are disseminated through "publication and sharing", and the practical effects of the study are verified through "follow-up and implementation". The entire process emphasizes a comprehensive research journey from theory to practice, and then to sharing and implementation, aiming to explore the teaching effectiveness of electronic organ improvisation in enhancing the comprehensive literacy of music students.

Literature Review

This article will focus on the teaching practice of electronic organ improvisation, a unique form, and review relevant literature to discuss its potential and impact on enhancing the musical literacy of professional students.

Electronic Organ

The electronic organ, also known as the "double manual," plays a key role in modern music teaching and performing arts. As a multifunctional instrument, it is not only suitable for solo performances but is also widely used in accompaniment, ensemble, and other forms, becoming a bridge connecting different disciplines in music education. In China, the teaching system of the

quality of the populace. Due to its rich expressiveness, it poses high technical and innovative capability requirements on performers in arrangement and performance. In summary, the in-depth study and application of the electronic organ not only promote professional development but also have a positive impact on social and cultural endeavors. (Xiang Ke, "Necessary Technical Research on the Application Value of the Electronic Organ," 2020).

In current teaching practice, the electronic organ, as a multifunctional instrument, is increasingly used in music teaching and performing arts. It can not only perform symphonic works in a symphonized ensemble but also provide accompaniment for other solo instruments and vocal majors, even acting as live music in stage plays and musicals. Especially in large ensembles, the electronic organ, through clearly divided collective performances, shows its unique musical effect and artistic charm. When the number of ensemble members increases, cooperation with the conductor not only enhances the overall performance but also more accurately restores the composer's original intention. With technological progress and social development, the teaching of the electronic organ continues to evolve, becoming an important way to cultivate diverse and comprehensive musical talents. The ensemble form of multiple electronic organs, with its fidelity to the original work and rich expressiveness, is becoming a focus in music education and stage practice, providing students with broader practical and developmental spaces. (Wang Qian, "Innovative Application and Exploration of the Electronic Organ in Symphonized Ensemble Forms," 2021).

Improvisation and Creativity

Improvisation plays a crucial role in the electronic organ, with its development presenting rich knowledge and content. Compared to classical music, improvisation in pop music and on the electronic organ shows more flexible and varied characteristics, capable of standalone performances or integration into band performances. In such performances, mastering melodies is particularly crucial, affecting the choice of speed, rhythm, and introductions. Performers need to conceive musical ideas or phrases in their minds to capture the most suitable melodies. Moreover, bass progressions form the foundation of harmony and can be enriched through various techniques such as alternating bass and chordal bass progressions. The use of polyphonic melodies can rescue monotonous melodies, enriching the harmony. In improvisation, the application of accents, melodic variations, and filling techniques can enhance the music's dynamics and expressiveness. The application of these techniques not only enhances the richness and diversity of improvisation but also provides valuable references for electronic band performances and music composition. Mastery of electronic organ improvisation requires an in-depth understanding and continuous practice of these elements to achieve artistic expression. (Li Leyou, "Exploring the Elements of Electronic Organ Improvisation," 2020)

Comprehensive Musical Literacy and Educational Theory

Regarding the development of a new round of industrial revolution, strengthening enterprises' participation in higher engineering education talent training and promoting a better integration of university education supply and industrial demand has become a consensus in the academic community. In recent years, industry-education collaboration projects targeting teaching content and curriculum system reform have rapidly developed in China and have become a necessary path to improve undergraduate education quality. Through content analysis and three-level thematic network analysis, this study comprehensively sorted out the innovative practices of the industrial sector at the micro-level in assisting universities to carry out teaching content and curriculum system reform and systematically summarized effective paths, analyzing challenges and

issues in collaboration. The study found that ways for enterprises to participate in higher engineering education mainly include creating teaching content reform communities, updating theoretical course implementation tools, strengthening teaching model reform communities, optimizing practical teaching implementation tools, creating new subjects for teaching and curriculum content, developing equipped teaching aids, deepening student internship and training communities, and breaking through traditional teaching boundaries. These collaboration models help improve the quality of teaching and curriculum content, making higher education more closely aligned with actual industrial needs. (Zhuang Tengting, Sun Qintao, "Enterprise Participation in Higher Engineering Education Teaching and Curriculum Content Reform: Paths and Challenges," 2024).

The Orff music teaching method is increasingly applied in college music education, aligning with the humanistic concept and respect for the originality of music that matches the goals of college music teaching. This teaching method emphasizes the integrated use of music, language, and movement, values the expression of emotions through primitive and simple music elements, and advocates creativity in teaching. Applying the Orff music teaching method in college music education helps students accumulate music knowledge, improve skills, and strengthen the sense of unity and cooperation. College music teachers can use this method to improve the quality of vocal music teaching, conduct solfège and ear training activities through body movement, and innovate teaching ideas to optimize teaching effects. Additionally, teachers can integrate national culture into music teaching at appropriate times to enrich students' musical experiences. In summary, the application of the Orff music teaching method in college music education is significant, effectively enhancing teaching quality and students' musical literacy. (Jiao Jiejie, "Discussion on College Music Teaching Based on the Orff Music Teaching Method," 2022)

Research Methodology

This study employs the Research and Development (R&D) methodology, combined with questionnaire surveys and interviews, aiming to deeply explore the educational needs of improvisation on the electronic organ in enhancing the overall musical literacy of professional students. The survey targets teachers and students specializing in the electronic organ at the Xinghai Conservatory of Music. By designing questions about electronic organ improvisation and students' overall musical literacy, it broadly collects participants' opinions and experiences, thereby quickly gathering a large amount of data to analyze general trends and patterns. Furthermore, the interviewees for expert interviews are selected from electronic organ professionals with profound knowledge and extensive experience in the field, whose insights are instrumental in deeply understanding aspects of improvisation techniques, teaching methods, and student development.

To comprehensively assess the impact of improvisation on the electronic organ on students' overall musical literacy, this study designs a teaching model that integrates the teaching of electronic organ improvisation into professional instruction. This model aims to leverage the advantages of the electronic organ as a modern electronic keyboard instrument to optimize teaching design, not only allowing students to develop performance skills through professional courses on the electronic organ but also fostering musical creativity and enhancing overall musical literacy. The research methods include:

Literature Analysis: Collecting and analyzing data on electronic organ overviews, improvisation teaching, comprehensive music literacy teaching, educational experimental research, music education theory, and related research literature to form the research foundation and theoretical framework.

Questionnaire Survey: Designing a questionnaire covering aspects such as learning objectives of the electronic organ major, cognition and experience of teaching content, cognition and experience of improvisation, and understanding of comprehensive music literacy. A total of 96 teachers and students from the electronic organ major at the Xinghai Conservatory of Music were approached, with 58 randomly selected to participate in the survey.

Expert Interviews: Conducting in-depth interviews with four electronic organ professors from the Xinghai Conservatory of Music, Sichuan Conservatory of Music, Xi'an Conservatory of Music, and Wuhan Conservatory of Music. The content revolves around topics such as the training positioning of electronic organ professionals, interpretation of improvisation, methods of cultivating students' comprehensive musical literacy, and professional teaching positioning.

By effectively combining quantitative and qualitative research methods, this study expects to provide empirical foundations for the application and development of electronic organ improvisation in professional music education, while also offering beneficial suggestions and strategies for promoting the advancement of music professions and the cultivation of professional talents.

Experimental group classification: 7 students in the experimental group (employing electronic organ improvisation teaching in the electronic organ major course). **Control group:** 7 students in the control group (not employing electronic organ improvisation teaching in the electronic organ major course).

$$\text{Formula: MR} \frac{Y1 \quad X \quad Y2}{Y1 \quad Y2}$$

Data Collection

Collect teaching content, forms, and techniques of improvisation for electronic organ majors to study and formulate teaching plans and schemes. Research students' attitudes towards, acceptance of, and learning outcomes from electronic organ improvisation through surveys and observations, exams, and assessments.

Total preparation time for the comprehensive musical literacy test is limited to 1 hour, with a total score of 100 points:

Music theory knowledge test: Including testing of music theory knowledge such as scales, chords, modes, rhythms, and understanding of music structure and form.

Listening skills test: Including pitch recognition, chord recognition, melody recognition, rhythm recognition to assess a person's music listening skills.

Music culture knowledge test: Including understanding of music history, different music styles and genres, important musicians, and works.

Performance Test:

Performance skills test: Evaluation of professional performance skills through playing a specified electronic organ piece, including evaluation of tone, intonation, rhythm, and expressiveness.

Improvisation and application ability test: A 16-measure melody is specified for improvisation on the electronic organ, with 5 minutes preparation time to assess music creation and application ability.

Data Analysis

This includes coding the questionnaire survey data from students and teachers of the electronic organ major at Xinghai Conservatory of Music and entering the data into statistical software (such as SPSS or Excel). During this process, it’s necessary to clean the data by removing invalid or missing responses to ensure the accuracy of the analysis. Similarly, test results, interview records, as well as observations and learning outcomes records, need to be appropriately organized to ensure the completeness and usability of each data item.

Descriptive statistical analysis is used to provide a basic overview of the dataset, including calculating mean values, standard deviations, minimum and maximum values, etc., to understand the basic distribution of the sample. Frequency analysis of questionnaire survey results can quickly reveal the distribution of answers to various questions, laying the groundwork for in-depth analysis.

Results

These findings prove that electronic organ improvisation is not only beneficial to students on a technical level but also extremely important in the emotional and creative aspects, providing students with a comprehensive music education experience. This provides valuable insights and empirical support for the understanding and development of music education methods, especially at the professional level, emphasizing the key role of improvisation in improving students’ comprehensive musical literacy.

Table 1 Electronic organ improvisation environment and background variables

Variables		N	Percent (%)	Cumulative Percent (%)
I think the electronic organ classroom environment is comfortable and conducive to learning	Neutral	1	1.72	1.72
	Agree	23	39.66	41.38
	Strongly agree	34	58.62	100.00
Which online learning platform (if any) is helpful for my electronic organ learning?	Neutral	9	15.52	15.52
	Agree	27	46.55	62.07
	Strongly agree	22	37.93	100.00

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My social and cultural background has a certain influence on my learning of electronic organ	Disagree	1	1.72	1.72
	Neutral	7	12.07	13.79
	Agree	26	44.83	58.62
	Strongly agree	24	41.38	100.00
The electronic organ course content and teaching methods take into account students from different cultural backgrounds	Neutral	5	8.62	8.62
	Agree	25	43.10	51.72
	Strongly agree	28	48.28	100.00
I feel that the learning environment is very supportive in improving my learning of electronic organ playing.	Disagree	1	1.72	1.72
	Neutral	2	3.45	5.17
	Agree	27	46.55	51.72
	Strongly agree	28	48.28	100.00
I can easily adapt to the learning environment and requirements of the electronic organ	Strongly disagree	1	1.72	1.72
	Neutral	8	13.79	15.52
	Agree	26	44.83	60.34
	Strongly agree	23	39.66	100.00
My social and cultural background has a positive impact on my learning attitudes and methods	Strongly disagree	1	1.72	1.72
	Neutral	4	6.90	8.62
	Agree	26	44.83	53.45
	Strongly agree	27	46.55	100.00
Total		58	100.0	100.0

The majority of the teachers and students participating in the survey (84.48%) of the students believed that the online learning platform used was very helpful for their electronic organ teaching or learning. Specifically, 46.55% of teachers and students agreed, while 37.93% of teachers and students strongly agreed. This suggests that the online learning platform plays an important supporting role in the teaching and learning process of the electronic organ, probably because it provides flexible learning methods, rich teaching resources, and convenient communication and feedback mechanisms. This is very important to improve students' accessibility and participation, promote autonomous learning, and improve learning efficiency. On the other hand, some teachers and students (15.52%) are neutral, which may indicate that they do not feel the help of online platforms think the effect of the platform is limited, or have

reservations about the applicability and effectiveness of online learning. Overall, these data suggest that the use of online learning platforms is seen by the majority of teachers and students as a valuable and effective tool for organ teaching and learning, although the role may not be as significant for some teachers and students.

Initially, the experiment ensured fundamental consistency between the experimental and control groups through demographic variable difference testing, laying a solid foundation for subsequent analysis. Deep analysis of the intergroup and intragroup differences in comprehensive musical literacy before and after the experiment was conducted to explore the specific impact of improvisational performance teaching on various musical skills of the students.

Table 2 Difference test of demographic variables

		Group(%)		Total	χ^2	p
		Control group	Intervention group			
Gender	Female	5(71.43)	4(57.14)	9(64.29)	0.311	0.577
	Male	2(28.57)	3(42.86)	5(35.71)		
Total		7	7	14		

* $p < 0.05$ ** $p < 0.01$

As can be seen from the table above, use the chi-square test to study the difference relationship between gender between different groups. From the table above, we can see that there is no significant difference in gender between different groups ($p > 0.05$).

In summary, there is no significant difference in gender between different groups.

Table 3 Difference test between groups in comprehensive music literacy before the experiment

	Group (Mean±Std. Deviation)		t	p
	Control group(n=7)	Intervention group(n=7)		
Listening score	17.14±2.54	16.29±2.43	0.645	0.531
Rhythm score	3.71±1.38	3.43±1.51	0.369	0.718
Melody score	10.29±1.80	10.57±1.90	-0.289	0.778
Nature score	8.86±1.95	8.57±2.23	0.255	0.803
Appreciation score	4.86±1.07	5.43±1.51	-0.816	0.430
Ear training total score	44.86±2.27	44.29±3.90	0.335	0.743
Music theory score	26.57±3.95	26.57±3.60	0.000	1.000
Music theory sight-singing total score	71.43±5.50	70.86±5.52	0.194	0.849

Performance score	87.71±2.21	88.43±2.07	-0.623	0.545
Comprehensive musical literacy total score	159.14±7.13	159.29±6.58	-0.039	0.970

* $p < 0.05$ ** $p < 0.01$

As can be seen from the table above, use the independent t test to analyze the pretest listening score, pretest rhythm score, pretest melody score, pretest nature score, pretest appreciation score, pretest ear training total score, pretest music theory score, pretest music theory sight-singing total score, pretest performance score, pretest comprehensive musical literacy total score between different groups. As can be seen from the table above: between different groups, there are no significant differences in pretest listening score, pretest rhythm score, pretest melody score, pretest nature score, pretest appreciation score, pretest ear training total score, pretest music theory score, pretest music theory sight-singing total score, pretest performance score, pretest comprehensive musical literacy total score ($p > 0.05$).

In summary, there are no significant differences in pretest listening score, pretest rhythm score, pretest melody score, pretest nature score, pretest appreciation score, pretest ear training total score, pretest music theory score, pretest music theory sight-singing total score, pretest performance score, pretest comprehensive musical literacy total score between different groups.

Table 4 Difference test between groups in comprehensive music literacy after the experiment

	Group (Mean±Std. Deviation)		<i>t</i>	<i>p</i>
	Control group (<i>n</i> =15)	Intervention group (<i>n</i> =15)		
Listening score	18.29±2.14	20.57±1.51	-2.309	0.040*
Rhythm score	4.00±1.63	5.71±0.76	-2.521	0.027*
Melody score	10.57±1.51	12.86±1.07	-3.266	0.007*
Nature score	9.43±1.51	11.43±0.98	-2.941	0.012*
Appreciation score	5.14±1.57	7.43±0.98	-3.266	0.007*
Ear training total score	47.43±4.86	58.00±2.31	-5.198	0.000*

Music theory score	27.14±4.74	32.57±2.99	- 2.562	0.025*
Music theory sight-singing total score	74.57±8.30	90.57±3.95	- 4.603	0.001*
Performance score	88.14±2.61	92.00±1.83	- 3.204	0.008*
Comprehensive musical literacy total score	162.71±8.69	182.57±4.28	- 5.423	0.000*

* $p < 0.05$ ** $p < 0.01$

As can be seen from the table above, use the independent t test to analyze the post-test listening score, post-test rhythm score, post-test melody score, post-test nature score, post-test appreciation score, post-test ear training total score, post-test music theory score, post-test music theory sight-singing total score, post-test performance score, post-test comprehensive musical literacy total score between different groups. As can be seen from the table above: between different groups, there are significant differences in post-test listening score, post-test rhythm score, post-test melody score, post-test nature score, post-test appreciation score, post-test ear training total score, post-test music theory score, post-test music theory sight-singing total score, post-test performance score, post-test comprehensive musical literacy total score ($p < 0.05$). There is a significant difference in post-test Listening scores between different groups ($t = -2.309$, $p = 0.040$). The average value of the Control group (18.29) is significantly lower than the average value of the Intervention group (20.57).

The interviews were conducted with four electronic organ professors regarding the study of improvisation on electronic organ and comprehensive musical literacy. The results of the interviews are as follows:"

Table 5 Results of interview with experts

Serial number	Expert Answers	Conclusion
1	Here are the translations for your provided questions: A: Improvisation on the electronic organ not only enhances students' practical skills and adaptability to different contexts but also plays a significant role in market promotion and popularization.	Improvisation plays a crucial role in cultivating students' practical skills, creativity, personalized expression, and musical understanding in the

B: Through improvisation, students can improve their playing skills and musical understanding, encouraging them to engage in creative exploration based on their personal musical interests, achieving lifelong learning and personalized development.

context of electronic organ performance, despite challenges in teaching methods and curriculum design. Improvisation is still considered an indispensable and vital component of music education.

C: Faced with the challenge that schools have not yet established a formal teaching model for improvisation and the lack of courses, the teaching of improvisation through one-on-one guidance, especially for competition participants, serves as a display of students' comprehensive skills.

D: Improvisation should transcend the limitations of traditional playing modes, and through continuous practice and cultivation of musical literacy, encourage students to form unique musical expressions, emphasizing that the enhancement of spontaneous creativity and expressiveness is a long-term learning process.

2	How can students improve their musical understanding and performance skills through improvisation? What is the positioning of talent cultivation in	A: Emphasizes the importance of improvisation in the learning of the electronic organ for its practicality and mastery of diverse styles, considering it an effective platform for learning new styles and skills. Through practice and exercise, a continuous	Improvisation is an essential part of studying electronic organ performance, exerting a decisive influence on students' technical improvement, deepening musical comprehension, personal
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the electronic organ specialty? learning cycle is formed, constantly improving playing techniques. development, and comprehensive musical literacy. Through learning and practicing improvisation, students can surpass themselves in music composition and performance, exploring and developing their musical potential.

B: Discusses the relationship between musical understanding and expressiveness, viewing improvisation as a key method to enhance the learning of musical elements, aural training, style experimentation, and ensemble practice, emphasizing its parallel reinforcing role in music education.

C: Advocates for implementing personalized teaching strategies based on each student's abilities and goals, highlighting the critical role of teaching according to individual aptitudes in cultivating students' comprehensive musical literacy to ensure the education process is highly personalized and effective.

D: Points out the significant advantages of the electronic organ in cultivating students' comprehensive musical literacy, covering the learning of various music styles, in-depth music understanding and appreciation skills development, continuous improvement, and the expansion of professional pathways, thereby promoting the development of students' overall abilities

		and the exploration of personalized paths.	
3	What is the teaching positioning in the electronic organ specialty?	<p>A: The electronic organ specialty should be oriented towards societal needs, cultivating applied and composite professional talents, emphasizing the application of musical instrument advantages in society.</p> <p>B: The importance of comprehensive and diversified education methods, aimed at meeting the demands of the digital music field, to cultivate well-rounded music talents with capabilities in composition, performance, education, and technology.</p> <p>C: Focus on cultivating applied professional talents, valuing the provision of appropriate skills training for performance groups, cultural enterprises, etc., balancing the needs between elite education and broad applicability.</p> <p>D: Emphasize on general education, with the goal of equipping students with basic performance and teaching abilities to meet the demands of societal development, while also appropriately cultivating high-level performance talents.</p>	The role of improvisation in the study of electronic organ performance is multifaceted. It serves as an important means to cultivate professional skills, creativity, and technical application abilities, as well as a bridge between academic education and practical social needs. It is crucial for nurturing versatile and applied talents capable of adapting to future challenges in the music field.
4	Here are the translations for your provided questions:	A: The importance of curriculum practice, advocating for the establishment of a curriculum system that	Improvisation is an indispensable component of studying electronic organ performance. It

aligns with professional development, emphasizing the diverse characteristics of the electronic organ, aimed at cultivating talents with comprehensive literacy and professional application abilities to meet societal needs.

B: The diversification of teaching content, including the integration of classical and popular music, the combination of technology and art, and interdisciplinary practice, with the purpose of cultivating musicians with a broad range of musical literacy, technical ability, and innovative capacity.

C: Focus on the integration of theory and practice, emphasizing the applicability and practicality of teaching, advocating for the exploration of the combination of the electronic organ with other fields, aimed at balancing its social and artistic attributes to meet contemporary needs.

D: Advocacy for flexible and varied educational strategies, focusing on personalized teaching and individual student development, encouraging teachers to continue learning and adapt to changes in the educational field, to promote the comprehensive growth of students.

is not only a means of skill training but also an important avenue for promoting students' comprehensive development.

Through improvisation, students can maintain professional competence while showcasing personalized artistic expression, exploring the infinite possibilities of music, thereby laying a solid foundation for becoming versatile musicians capable of meeting societal demands.

In conclusion, improvisation plays an indispensable role in the education of electronic organ performance, serving not only as a means of skill training but also as a key driver for comprehensive improvement in students' musical literacy. Through the learning and practice of improvisation, students can surpass themselves in various aspects such as professional skills, musical understanding, personalized expression, and innovation, preparing them comprehensively for future careers in music and societal demands.

Conclusion and Recommendations

This study delves into the significant role of improvisation in enhancing the overall competence of professional music students, particularly in the context of electronic organ performance. Through a series of innovative teaching experiments, it not only validates the feasibility of improvisation in music education but also demonstrates its remarkable impact on fostering students' creativity, musical expression, and critical thinking. The research findings offer a new perspective for integrating electronic music technology with traditional music education, providing practical guidance for enhancing the quality of music education and cultivating well-rounded musicians.

Firstly, through an investigation of existing electronic organ teaching models and students' musical literacy, the study reveals the crucial role of improvisation skills in enhancing students' musical expression and fostering their creativity and understanding. This highlights the educational need to incorporate improvisation training into the curriculum of electronic organ programs and emphasizes the importance of innovative teaching methods in music education.

Secondly, the study proposes and implements a series of innovative teaching methods, including improvisation exercises, integrated teaching models combining music theory and practice, and interdisciplinary collaborative music composition projects. These methods not only stimulate students' creativity but also enhance their adaptability to different musical styles and environments, providing students with diverse learning experiences in music.

Thirdly, to assess the effectiveness of these teaching methods, the study conducts a comprehensive evaluation of students' musical literacy through before-and-after comparative analysis, assessing their improvement in musical understanding, technical proficiency, and

creativity. The results demonstrate significant progress among students participating in improvisation training, confirming the effectiveness of this teaching approach.

Lastly, the research findings not only underscore the importance of improvisation in enhancing the comprehensive musical literacy of professional students but also provide valuable insights for future music education. Through innovative teaching experiments, a new generation of musicians with innovative spirit and high musical literacy can be more effectively nurtured.

In summary, the theoretical and practical exploration of this study provides valuable references and insights for the music education community, particularly in the field of electronic organ education, indicating new directions for future teaching and research. It underscores the indispensable role and value of improvisation in modern music education.

The limited size and scope of the research sample may not fully represent the student population across all music education backgrounds. Future studies should consider expanding the sample size to cover a broader geographical area and diverse educational backgrounds. This would help enhance the general applicability and representativeness of the research findings.

Given that the electronic organ is a specific type of instrument, the results of the research might not be entirely applicable to other types of music teaching contexts. While the current study focuses on the electronic organ, future research could include other types of instruments to assess the effects of improvisation in teaching different instruments.

Future research could expand the sample size to include students from different regions and music education backgrounds, enhancing the universality of the study. Additionally, exploring the application of improvisation on the electronic organ across different educational stages and music styles, as well as teaching models that integrate with other instruments, could promote cross-instrument learning and innovative education practices, thus more comprehensively evaluating its value in music education.

Improvisation on the electronic organ plays a key role in music education, essential for enhancing the overall musical literacy of professional music students. Improvisation on the electronic organ not only provides a new pathway for enhancing students' overall musical literacy but also offers a broad vision and profound insights for the future development of music education. Through continuous exploration and innovation, we hope to cultivate more music talents with an innovative spirit, comprehensive literacy, and an international perspective, making a greater contribution to the prosperity and development of global musical culture.

References

Craig Resta,(2017)Valuing Music in Education.Craig Resta..Oxford University Press,P51-56

Chen Gang, (1996). Analysis of orchestration techniques in Ravel's Eight Planos - Orchestral Works. *Journal of the Central Conservatory of Music*, 38-51.

Chi Meijing, (2022). Analysis of the Music Composition and Performance Characteristics of the Overture for the Electronic Organ Work " Seville Barber ". *Yellow River Voice*, 77-79.

Cai Yan and Yang Yuwei, (2023). Practice and Exploration of Teaching Methods for Dance Editing and Creation Courses in Dance Education from the Perspective of New Constructivism. *Journal of Beijing Dance Academy*, 124-130.

Channuwong, S., Sawangwong, B., Lamsutthi, V., Amnuaywuthikul, J., & Khamsom, S. (2024). A relationship between organizational factors and good governance application of Thai Universities. *Educational Administration: Theory and Practice*, 30(4), 1729-1738.

Chen Qiuyue, (2023). Research on the Development and Performance Analysis of Electronic Organs. *Art Research*, 136-138.

Ding Ning, (2023). Benchmarking Comprehensive Music Literacy and Reforming Piano Visual Teaching. *Art Education*, 74-78.

Gao Fuxiao, (2015). Review of Nicholas Cook's "Beyond Score: Music as Performance. *Music Arts*, 147-153.

Howard Gardner, (2012) *New vision of multiple intelligence*, Renmin University of China Press, p162-225

Jie Feng, (2014). The curriculum reform goal for higher music conservatories' electronic organ programs is to cultivate music-related composite talents

Lamsutthi, V., Channuwong, S., Amnuaywuthikul., Pleansami, K., Snongtaweepon, T., Weerachareonchai, P., & Wongsutthirat. (2024). A relationship between Buddhist ethics and organizational justice: A case study of Thai state enterprises. *Corrosion and Protection*, 51(1), 88-100.

Li Shuang, (2022). Analysis of Adaptation Techniques for Electronic Organ Works from the " Picture Exhibition . *Yuefu Xinsheng (Journal of Shenyang Conservatory of Music)*, 152-156.

Lin Xiuqin and Wu Zhengxi, (2010). Analysis of the advantages and disadvantages of stratified catalog sampling and cluster sampling. *Statistical Science Popularization*, 40-41.

Michele Kaschub and Janice Smith. (2014). *Promising Practices in 21st Century Music Teacher Education*. Oxford University Press.

Ouyang Wensi. (2013). *Improvisation - A Tool for Developing Music Creativity*. *Music World*, 37-40.

Peng Jing. (2021). Research on Educational Narrative: A New Path for Teacher Professional Development. *Teacher Education Research*, 7-11.

Shao Jing, (2005). A quasi experimental study on the teaching strategy of 'guiding students to actively learn' in middle school mathematics classroom teaching. *Journal of Inner Mongolia University for Nationalities*, 10-13.

Shang Fang, (2022). Performance Practice Research on Electronic Organ Music "Horse Racing". *Yuefu Xinsheng (Journal of Shenyang Conservatory of Music)*, 95-101.

Shi Lei, (2022). Research on the Diversification and Harmony Materials and Sound Narrative of Guo Wenjing's "Hanging Burial on the Cliff of the River". *Chinese Musicology*, 117-125.

Thongoum, A., & Channuwong, S. (2024). Management strategies for retaining talented and good personnel in the organization. *Journal of Research Administration*, 6(1), 5107-5118.

Wang Dongping, Pang Guanli, and Shan Xinrong, (2022). Construction and Experimental Study of Experiential Cultural Translation Teaching Model. *Shanghai Translation*, 46-50.

Wang Qian. (2021). Innovative Application and Exploration of Electronic Organ Symphonic Ensemble Forms. *Art and Technology*, 43-52.

Wen Sulei, Wang Siqi, and Wang Ya, (2021). The Role of Behavioral Learning Theory and Cognitive Learning Theory in Autonomous Learning. *Business Education*, 144-145.

Xia Liu. (2021). The construction of the curriculum system for electronic organ majors in professional institutions should not only address professional examinations but also adjust the curriculum structure from an overall perspective

Yao Yingfu. (2021). On the Cultivation of Comprehensive Music Literacy in Vocal Performance. *Proceedings of the International Academic Forum on Education and Teaching*, 166-169.

Yang Bin. (2022). Analysis of Vocal Teaching Strategies in Higher Education Music Education. *Proceedings of the International Academic Forum on Education and Teaching*, 144-146.

Zhang Yada, (2015). Research on the Application Value and Necessary Technologies of Electronic Organs. *Music Time and Space*, 55-56.

Zhang Zhixin and Li Yulong, (2022). Narrative Research on the Leadership of Online Teaching by University Teachers in Macau. *Chinese Journal of Multimedia and Online Teaching*, 146-150.

Zhiyuan Dai, (2023). The electronic organ is a multifunctional, highly composite modern instrument. *Compulsory Education Art Curriculum Standards*,