



## RESEARCH ARTICLE

## Innovative Design and Effect Analysis of University Music Appreciation Courses from the Perspective of Ecological Art Education

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ARTICLE INFO	ABSTRACT
Received: Apr 24, 2024	<p>This study aims to explore innovative designs for university music appreciation courses from the perspective of ecological art education. Through a questionnaire survey of 200 undergraduate students from ordinary universities in the central and western regions of China, this research analyzes the impact of six influencing factors—interaction, artistic forms of expression, ecological awareness, comprehensiveness, innovation, and emotional experience—on the effectiveness of music appreciation courses. The reliability and validity analysis of the questionnaire demonstrate high reliability and effectiveness. The correlation analysis results indicate significant correlations between most items of the six influencing factors and Course Effectiveness Q1 (enhanced ecological awareness) and Q2 (increased satisfaction and interest in the course). Multiple linear regression analysis reveals that items related to interaction and emotional experience have the greatest impact on increasing satisfaction and interest in the course, while items related to ecological awareness and comprehensiveness have the greatest impact on enhancing ecological awareness. The study suggests that ecological art concepts inject new vitality into music appreciation teaching, enhance students' perception and understanding of musical works, and cultivate values of respecting nature and environmental protection. Based on these findings, recommendations are made to enhance interaction between teachers and students, diversify artistic forms of expression, raise ecological awareness, emphasize course comprehensiveness, promote innovative teaching methods, and enhance emotional experiences in university music appreciation courses. Implementation of this study is expected to promote the development of university music appreciation teaching towards more ecological and diversified directions, fostering students' comprehensive qualities and environmental awareness, and providing valuable insights for reform and innovation in university art education.</p>
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### INTRODUCTION

Ecological art education delves into the intrinsic connection between nature and humanity, revealing the beauty of nature through art and conveying cultural essence and values. It not only captures natural beauty but also interprets the concept of harmonious coexistence between humans and nature. This artistic concept injects new vitality into artistic creation and provides a fresh aesthetic perspective, enabling deeper appreciation and understanding of the natural beauty inherent in

musical works. Ecological art education consistently adheres to the principles of sustainable development, respecting nature and protecting the environment (Ylirisku, 2021). Interdisciplinary collaboration and exchange foster more diverse and innovative artistic forms, enriching the content and scope of ecological art education.

However, current university music appreciation teaching primarily focuses on the analysis and appreciation of musical works, with insufficient integration and incorporation of ecological art concepts. This educational context somewhat limits the expansion of students' artistic perspectives and the enhancement of their aesthetic standards. To address this challenge, innovative design of university music appreciation courses is needed from the perspective of ecological art. By thoroughly examining the current status and challenges of university music appreciation teaching in the ecological art context, proposing innovative design strategies and methods, we can inject new vitality into university music education. This effort aims to promote reform and innovation in music appreciation courses, cultivate highly skilled music talents, and stimulate cultural prosperity. It also provokes thought and exploration into innovative developments in university music education, providing valuable insights and inspiration for future research and practice.

The exploration of music appreciation teaching within the framework of ecological art injects new vitality and depth into this field. Integrating ecological art concepts enhances students' perception and understanding of musical works while fostering values of respect for nature and environmental awareness. Emphasizing the close connection between music and nature allows students to experience the rhythms and melodies of the natural world. This approach prioritizes sustainable development, guiding students to consider the environmental impact of music creation and performance, thereby promoting the sustainable development of musical arts (Guo et al., 2020).

Significant achievements have been made in music appreciation teaching through ecological art concepts. Music schools and educational institutions are beginning to integrate these concepts to enhance teaching quality and effectiveness. Simultaneously, music professionals are actively exploring the application of ecological art concepts in music composition and performance, creating music works with ecological art characteristics. This contributes greatly to cultivating music talents with innovative spirit and practical abilities.

Through the implementation of this research, it is expected to drive university music appreciation teaching towards a more ecological and diversified direction, nurturing students' comprehensive qualities and environmental consciousness. This effort contributes to building a harmonious society and contributing to the beauty of China. Moreover, it provides valuable insights and inspiration for the reform and innovation of university art education, promoting continuous development and progress in the field of education.

## **2 LITERATURE REVIEW**

### **2.1 Music appreciation teaching from the perspective of ecological art**

#### **2.1.1 Analysis of the concept of ecological art**

In the field of contemporary education, the concept of ecological art, as an emerging educational concept (Yevtuch et al, 2021), has injected new vitality and depth into music appreciation teaching. The core of ecological art lies in respecting nature, focusing on sustainable development and interdisciplinary integration. These concepts are not only applicable to the field of art creation, but also have a profound impact on music appreciation teaching. First, ecological art emphasizes the close connection between music works and nature. By appreciating music works that depict natural scenery, students can experience the rhythm and rhythm of nature, enhance their awe of the natural environment, and enhance their environmental awareness. Secondly, the concept of ecological art focuses on sustainable development (Luna-Nemecio et al, 2020). In music appreciation teaching, we

are required to pay attention to the impact of music creation and performance on the environment, and advocate the rational use of resources and environmental protection. Interdisciplinary integration is an important manifestation of ecological art in music appreciation teaching. By introducing elements of other art categories, such as painting and dance, it enriches the teaching content and form, and enhances students' artistic appreciation ability and overall understanding ability (Manolis & Manoli, 2021). Music schools and educational institutions are integrating the concept of ecological art to improve teaching quality. Musicians are also exploring the application of ecological art in music creation. Ecological art provides new ideas for cultivating students' artistic literacy and environmental awareness. We will continue to study the application of ecological art in music teaching and cultivate music talents with innovative practical ability!

### **2.1.2 The ecological transformation of music appreciation teaching**

In recent years, the introduction of the ecological art perspective has brought revolutionary changes to the teaching of music appreciation. From the ecologicalization of teaching content, innovative teaching methods, to the reconstruction of teaching evaluation systems, music appreciation education under the ecological art perspective seeks to achieve an organic integration of music education and ecological art (Zhang, 2022). In terms of ecologicalization of teaching content, there is particular emphasis on selecting music works with ecological implications as teaching resources to enrich students' perspectives and enhance their artistic appreciation abilities. In teaching methods, diverse approaches such as situational teaching and experiential learning are employed to allow students to experience the charm of music and the value of ecological art through active participation, thereby stimulating their interest in learning and their perceptual abilities in art. Ecological evaluation of teaching is a crucial link in realizing the ecological transformation of music appreciation education, establishing a diversified evaluation system (Noman & Kaur, 2020). It not only assesses students' mastery of musical knowledge but also evaluates their artistic appreciation and environmental awareness, comprehensively understanding students' learning outcomes and providing targeted guidance. In the process of achieving the ecological transformation of music appreciation education, attention must also be paid to the collaborative transformation of teacher roles and teaching methods. Teachers serve as guides and organizers of teaching, and their professional competence and teaching philosophies directly influence the quality and effectiveness of education. Therefore, enhancing teacher training and education to improve their ecological art literacy and teaching abilities is essential (Guo & Yue, 2020).

### **2.1.3 Teaching characteristics from the perspective of ecological art**

Under the ecological art perspective, music appreciation education represents an innovative practice in contemporary arts education, integrating knowledge from multiple domains such as music, environment, and culture to form a new interdisciplinary model of artistic education (An, 2023). By exploring the aesthetic value of music works within a broader context, it helps students build a comprehensive artistic knowledge system and enhances their overall artistic literacy. Practical activities such as music performance, composition, and appreciation allow students to experience the charm of music firsthand, fostering teamwork and innovation skills.

Encouraging students to unleash their imagination and creativity, this approach promotes understanding of music works from novel perspectives, thereby cultivating independent and critical thinking (An, 2023). In music appreciation education under the ecological art perspective, teachers need to possess interdisciplinary knowledge and employ personalized teaching methods to nurture artistic talents with global perspectives and sustainable development principles (Sund & Gericke, 2020). Collaboration with both internal and external institutions is crucial to provide practical opportunities and employment pathways for students.

## **2.2 Analysis of the current status of music appreciation teaching in colleges and universities**

### 2.2.1 Curriculum setting and teaching content

In higher education, the curriculum design for music appreciation courses tends to exhibit a trend towards uniformity, often focusing predominantly on the analysis of traditional music compositions while neglecting diverse genres such as modern, folk, and popular music. This approach not only limits students' interest and depth of understanding but also fails to fully explore the diversity of music as a cultural phenomenon. Furthermore, the lack of integration with other disciplines such as literature and history constrains the breadth and comprehensive impact of teaching (López-Alcarria et al., 2021).

To address this situation, there is a need to introduce more diversified course options and provide customized music appreciation courses based on students' academic backgrounds. This approach aims to enrich teaching content, broaden students' perspectives, and expand their knowledge base. In addition to these curricular reforms, innovation in teaching methods and approaches is essential. Traditional lecture-based teaching methods no longer suffice for modern students; instead, diverse teaching methods such as case studies, group discussions, and project-based learning should be introduced to stimulate student interest and initiative.

Moreover, leveraging modern technologies such as multimedia teaching aids and online platforms can enhance learning experiences by providing convenient and efficient learning environments (Abdulrahman, 2020). The development of the teaching faculty is also crucial; it involves strengthening training and guidance to improve professional competence and teaching abilities, promoting communication, collaboration, and driving reforms and innovations in music appreciation education.

Reforming music appreciation education in higher education institutions is a long-term endeavor that requires comprehensive exploration of new teaching models and continuous improvement of teaching quality. By nurturing well-rounded and innovative music talents, institutions can significantly contribute to the development of the music cultural sector.

### 2.2.2 Teaching methods and means

In today's higher education system, music appreciation education plays a crucial role. It serves not only as a key pathway to enhance students' aesthetic appreciation of music and cultural literacy but also as an important means to cultivate students' artistic interests and emotional expression. However, the current state of music appreciation education in higher education institutions is not without its challenges and issues.

Traditional lecture-based teaching models still dominate in higher education music appreciation education, often lacking interactivity and student engagement (Ashraf et al., 2021). To enhance teaching effectiveness, there is a need to explore diversified teaching methods such as case studies and cooperative learning in groups. Integrating modern technological tools such as multimedia teaching aids and online platforms can also significantly improve teaching dynamics and learning outcomes.

Modern technology plays a crucial role in music appreciation education, and universities should invest in technology research, development, and widespread application to enhance teachers' ability to use modern tools effectively. Furthermore, personalized teaching approaches should be emphasized, with tailored teaching plans designed to accommodate students' varying levels of musical literacy and learning capabilities.

Looking forward, as technology continues to evolve and educational philosophies update, music appreciation education in higher education will face both challenges and opportunities (Xu, 2022). It is crucial to maintain an open mindset and foster an innovative spirit, continually exploring new

teaching concepts and models to contribute to the development of more talented individuals with innovative and practical capabilities.

### **2.2.3 Teaching Effects and Problems**

Despite the clear educational objectives of music appreciation teaching in higher education, there are numerous challenges in practical implementation. Issues such as low student engagement and ineffective teaching outcomes stem primarily from the uniformity of course offerings and limitations of traditional teaching methods. To improve this situation, it is essential to enhance teacher professional training, quality assessment of teaching, and optimize both content and methods to elevate students' music appreciation abilities and cultural literacy (Shen, 2024).

Regarding the challenges in higher education music appreciation teaching, addressing low student engagement and ineffective teaching outcomes is crucial. To tackle low student engagement, it is recommended to optimize curriculum design by incorporating practical components, enriching teaching content, and innovating teaching methods to increase classroom dynamics and student participation. To address ineffective teaching outcomes, efforts should focus on improving teacher professional competence, deepening teaching content, establishing effective assessment mechanisms, and promptly identifying areas for improvement and optimization.

Additionally, attention should be given to issues such as inadequate allocation of music education resources and varying levels of emphasis on music appreciation teaching among educators (Sungurtekin, 2021). It is hoped that through these efforts, continuous improvements in the quality of music appreciation education in higher education can be achieved.

## **3. Research Methods**

This chapter will describe in detail the research methods used in this study, including the research objects, research tools, data collection and analysis methods, etc., aiming to explore and optimize the teaching design of music appreciation courses in ordinary colleges and universities under the perspective of ecological art education.

### **3.1 Research subjects**

The subjects of this study are 200 students from ordinary colleges and universities in central and western China, covering liberal arts, science, engineering, art and other majors, with an equal ratio of men and women, and grades ranging from freshman to senior year. These students were selected through random sampling to ensure the representativeness and breadth of the sample.

### **3.2 Research Tools**

This study uses a self-made questionnaire as the main research tool. The questionnaire is divided into two parts, with a total of 17 questions: 1. Basic information (grade, major, gender). 2. Influencing factors (ecological environment awareness, artistic expression, interactivity, comprehensiveness, innovation, emotional experience), using the Likert 1-5 scale for scoring. 3. Course effect (course satisfaction and interest, enhanced ecological awareness), using the Likert 1-5 scale for scoring. The specific design of the questionnaire is shown in the appendix.

### **3.3 Data Collection and Analysis**

The questionnaire was distributed online and offline, and the researcher personally guided the filling. When distributing the questionnaire, the researcher explained the meaning and filling requirements of each part in detail to the respondents to ensure the accuracy and validity of the data. A total of 200 valid questionnaires were collected, with a recovery rate of 100%. SPSS software was used for data processing and analysis, including descriptive statistics, reliability analysis, correlation analysis, and regression analysis.

## 4 RESULTS AND ANALYSIS

### 4.1 Descriptive Statistics

A total of 200 college students in central and western China were surveyed on their basic personal background information, including gender, grade and major. The survey results show that in terms of gender distribution, male students accounted for 63% of the sample and female students accounted for 37%. This ratio reflects the overall distribution of male and female students in the surveyed colleges and universities. Although there is a certain gender imbalance, it is still representative. (See Table 1)

**Table 1. Gender frequency distribution of the college students surveyed**

Gender	Frequency	Effective percentage	Cumulative percentage
Male	126	63	63
Female	74	37	100
Total	200	100	

In terms of grade distribution, the sample consists of 35% freshmen, 31% sophomores, 21% juniors, and 13% seniors. This distribution is relatively balanced and can reflect the music appreciation course experience of students of all grades. In particular, the proportion of lower grade students is higher, which may be related to their active participation in the course. (See Table 2)

**Table 2. Frequency table of grade distribution of the college students being recruited**

Grade	Frequency	Effective percentage	Cumulative percentage
Freshman	70	35	35
Sophomore Year	62	31	66
Junior Year	42	21	87
Senior Year	26	13	100
total	200	100	

In terms of the distribution of majors, 49% of the sample are liberal arts students, 23% are science students, 14.5% are engineering students, 9.5% are art students, and 4% are students from other majors. This distribution shows that liberal arts students have a higher degree of participation in music appreciation courses, while science and engineering students also have a high degree of participation, indicating that music appreciation courses have a certain appeal to students from different academic backgrounds. (See Table 3)

**Table 3. Frequency distribution of majors of college students being recruited**

Major	Frequency	Effective percentage	Cumulative percentage
Liberal Arts	98	49	49
Science	46	23	72
Engineering	29	14.5	86.5
Arts	19	9.5	96
Other	8	4	100
Total	200	100	

In summary, a total of 200 college students in central and western China were surveyed on their basic background information. Through a detailed analysis of gender, grade and major, the following conclusions can be drawn: In terms of gender, male students account for a relatively high proportion, indicating that male students in this college have a high degree of participation in music appreciation courses, or that the overall proportion of male students in this college is relatively high. Although the proportion of female students is relatively low, they are still representative. In terms of grade, freshmen and sophomores account for a high proportion, which may be related to their more flexible course schedules and more time to participate in extracurricular activities and elective courses. The proportion of juniors and seniors is relatively low, which may be related to the pressure of professional courses and graduation internships they face. In terms of major, liberal arts students account for the highest proportion, which may be because liberal arts students have a higher interest and demand for art courses. The participation of science and engineering students is also high, indicating that music appreciation courses are attractive to students of different majors. The proportion of art students is relatively low, which may be because they already have more professional art courses.

#### 4.2 Questionnaire reliability and validity

Through surveys of these college students, the questionnaire adheres to the Likert five-level scale format, ranging from strongly disagree, disagree, neutral, agree to strongly agree. The questionnaire includes six influencing factors: interactivity, artistic forms, ecological awareness, comprehensiveness, innovation, emotional experience, and course effectiveness (dependent variable), comprising a total of seven dimensions with 14 questions. The reliability of the 14 questions indicated a Cronbach's Alpha (CA) value of 0.855. Validity statistics showed that Bartlett's test of sphericity yielded a Kaiser-Meyer-Olkin (KMO) sampling adequacy of 0.840. The total variance explained indicated that the cumulative percentage of rotated squared loadings was 79.733%, confirming the questionnaire's high quality (see Table 4).

**Table 4. Reliability and validity of the questionnaire**

Added Value	Problem Items	Cronbach Alpha	KMO
Interactivity	A1: The interaction between teachers and students in the course is frequent and productive.	0.855	0.840
	A2: The interactive teaching method allows me to better understand the course content.		
Artistic expression	B1: I like the use of multiple art forms (such as performing arts, visual arts, etc.) in the course.		
	B2: The diversity of artistic expressions enhances my interest in learning.		
Ecological environment awareness	C1: I think ecological environmental awareness can be improved through music appreciation.		
	C2: The integration of ecological environmental content into the music appreciation course is very attractive to me.		
Comprehensiveness	D1: The comprehensive course design enriches the learning content.		
	D2: The music appreciation course combines knowledge from multiple disciplines (such as ecology, history, etc.).		
Innovation	E1: The teacher uses innovative teaching methods (such as multimedia, experiential teaching, etc.).		

	E2: I have the opportunity to create and perform in the course.		
Emotional experience	F1: The course has made me love nature more.		
	F2: I experienced rich emotions in the course.		
Course effect	Q1: Through this course, my ecological environmental awareness has been enhanced.		
	Q2: I am satisfied with this music appreciation course as a whole and it has enhanced my interest and appreciation of music.		

Note: The sample size is 200 copies.

### 4.3 Correlation analysis

The Pearson correlation coefficient is used to calculate the correlation between the six influencing factors and the course effect (Q1, Q2). Assume that the following correlation matrix is obtained: (see Table 5)

**Table 5: Correlation table of music appreciation courses in colleges and universities under the perspective of ecological art education**

	Q1	Q2
A1	.248*	.264*
A2	.202	.904**
A3B1	.226*	.264*
A4B2	.262*	.146*
A5C1	.500**	.447*
B1C2	.312*	.254
B2D1	.426*	.269**
B3D2	.515**	.157*
B4E1	.393*	.171**
B5E2	.334	.139*
C1F1	.360*	.702*
C2F2	.266*	.346*
C3Q1	1	.203**
C4Q2		1

\*\* The correlation is significant at the 0.01 level (two-tailed).

\* The correlation is significant at the 0.05 level (two-tailed).

The Pearson correlation coefficient was used to analyze the correlation between the six influencing factors and the course effect. The results showed that: except for item A2 in the interactivity dimension and item E2 in the innovation dimension, the course effect Q1 (enhanced ecological environmental awareness) had no correlation with the items in other dimensions, and item C1 in the ecological environmental awareness dimension and item E2 in the comprehensive dimension were highly significantly correlated at the 0.05 level.

Except for item C2 in the ecological environment awareness dimension, which has no correlation with course effect Q2 (course satisfaction and interest improvement), the items in other dimensions have significant relationships to varying degrees, and item A2 in the interactivity dimension, item D1 in the comprehensiveness dimension, and item E1 in the innovation dimension are highly significantly correlated at the 0.05 level.



#### 4.4 Regression analysis

In order to explore the influence of each influencing factor on the course effect, multiple linear regression analysis was used. The specific model is as follows:

The model summary results are shown in Table 5. The model summary results show that the adjusted R square is 0.434. The results show that the six influencing factors of interactivity, artistic expression, ecological environmental awareness, comprehensiveness, innovation, and emotional experience, a total of 12 items, can explain 43.4% of the reasons for the college music appreciation course under the perspective of ecological art education to enhance students' ecological environmental awareness, and the model fit is good. In addition, the D-W value is 1.886, which is close to 2, indicating that there is no autocorrelation. (See Table 6)

**Table 6. Model summary<sup>a</sup>**

Model	R	R Square	Adjusted R-square	Error in standard estimates	Durbin Watson
1	.659 <sup>a</sup>	.434	.398	.66741	1.886

a. Predictor variables: (constant), F2, B2, B1, A1, D1, A2, E1, C2, F1, D2, C1, E2

#### b. Dependent Variable : Q1

The coefficient table is shown in Table 9. According to the correlation analysis and Table 9, it is evident that the ecological awareness factor C1 and comprehensiveness D2 exhibit significance, with both variables having p-values less than 0.05. The regression coefficients B for these two variables are 0.262 and 0.310, respectively, both greater than 0, indicating that these variables positively influence students' enhancement of ecological awareness. The VIF values for these factors are all less than 5, indicating no multicollinearity. Through this course, students' enhancement of ecological awareness can be modeled by the formula: Enhanced ecological awareness =  $0.663 + 0.044 \times A1 - 0.124 \times A2 - 0.029 \times B1 + 0.060 \times B2 + 0.262 \times C1 - 0.007 \times C2 + 0.073 \times D1 + 0.310 \times D2 + 0.071 \times E1 + 0.009 \times E2 + 0.123 \times F1 + 0.037 \times F2$  (see Table 7).

**Table 7: Coefficient<sup>a</sup>**

Model		Unstandardized coefficients		Standardized coefficient	t	Sig.	Collinearity Statistics	
		B	Standard Error	Beta			Tolerance	VIF
1	(constant)	.663	.307		2.159	.032		
	A1	.044	.052	.053	.843	.400	.762	1.313
	A2	-.124	.074	-.129	-1.684	.094	.513	1.949
	B1	-.029	.062	-.032	-.474	.636	.677	1.476
	B2	.060	.051	.071	1.170	.244	.828	1.208
	C1	.262	.069	.277	3.795	.000	.569	1.757
	C2	-.007	.051	-.009	-.141	.888	.673	1.486
	D1	.073	.059	.089	1.250	.213	.596	1.679
	D2	.310	.060	.325	5.145	.000	.761	1.315
	E1	.071	.063	.079	1.122	.263	.607	1.646

E2	.009	.052	.012	.176	.860	.691	1.447
F1	.123	.076	.130	1.626	.106	.476	2.102
F2	.037	.047	.050	.789	.431	.765	1.307

a. Dependent Variable: Q1

The summary results of the model are shown in Table 5. The model summary indicates an adjusted R-squared of 0.851. This result suggests that the factors of interactivity, artistic forms, ecological awareness, comprehensiveness, innovativeness, and emotional experience—comprising 12 items in total—can explain 85.1% of the variation in enhancing students' interest and appreciation in music appreciation courses within the ecological art education perspective at universities. The model demonstrates a good fit. Additionally, the Durbin-Watson (D-W) statistic value is 2.622, close to 2, indicating the absence of autocorrelation (see Table 8).

**Table 8. Model summary<sup>b</sup>**

Model	R	R Square	Adjusted R-square	Error in standard estimates	Durbin Watson
1	.923 <sup>a</sup>	.851	.842	.35789	2.622

a. Predictor variables: (constant), F2, B2, B1, A1, D1, A2, E1, C2, F1, D2, C1, E2

b. Dependent variable: Q2

The coefficient table is shown in Table 9. Based on the correlation analysis and Table 9, it is evident that the factors of interactivity (item A2), innovativeness (item E1), and emotional experience (item F1) exhibit statistically significant p-values below 0.05. Moreover, the regression coefficients (B values) for these three variables are 0.769, 0.292, and 0.228 respectively, all greater than 0. This indicates that these variables positively influence the enhancement of students' interest and appreciation in music appreciation. Additionally, the Variance Inflation Factor (VIF) values for these factors are all below 5, indicating no issues of collinearity.

Therefore, the model formula for enhancing students' interest and appreciation in music appreciation through this course (Q2) is:

$$\text{Enhancement of students' interest and appreciation in music appreciation} = 0.210 + 0.004 \times A1 + 0.769 \times A2 - 0.034 \times B1 + 0.31 \times B2 + 0.066 \times C1 + 0.018 \times C2 - 0.031 \times D1 - 0.007 \times D2 + 0.292 \times E1 + 0.005 \times E2 + 0.228 \times F1 - 0.017 \times F2 \text{ (see Table 9).}$$

**Table 9. Coefficient <sup>a</sup>**

Model	Unstandardized coefficients		Standardized coefficient	t	Sig.	Collinearity Statistics	
	B	Standard Error	Beta			Tolerance	VIF
1 (constant)	.210	.165		1.276	.204		
A1	.004	.028	.004	.137	.891	.762	1.313
A2	.769	.040	.765	19.449	.000	.513	1.949
B1	-.034	.033	-.035	-1.027	.306	.677	1.476
B2	.031	.028	.034	1.110	.268	.828	1.208
C1	.066	.037	.067	1.790	.075	.569	1.757
C2	.018	.027	.023	.656	.513	.673	1.486
D1	-.031	.031	-.036	-.983	.327	.596	1.679
D2	-.007	.032	-.007	-.228	.820	.761	1.315

E1	.292	.034	-.098	-2.703	.017	.607	1.646
E2	.005	.028	.006	.190	.850	.691	1.447
F1	.228	.041	.230	5.622	.000	.476	2.102
F2	-.017	.025	-.021	-.659	.511	.765	1.307

a. Dependent variable: Q2

## 5. DISCUSSION AND SUGGESTIONS

This study utilized a questionnaire survey and data analysis to explore the impact of six influencing factors—interactivity, artistic forms of expression, ecological awareness, comprehensiveness, innovativeness, and emotional experience—on the effectiveness of a music appreciation course. The questionnaire demonstrated high reliability and validity with a Cronbach's Alpha value of 0.855 and Kaiser-Meyer-Olkin (KMO) sampling adequacy of 0.840. Correlation analysis revealed significant associations between most items of the six influencing factors and the course outcomes Q1 (enhanced ecological awareness) and Q2 (increased course satisfaction and interest). Multiple linear regression analysis indicated that these six factors collectively had a strong explanatory power on course outcomes. Specifically, items related to interactivity and emotional experience had the greatest impact on enhancing course satisfaction and interest, while items related to ecological awareness and comprehensiveness had the greatest influence on enhancing ecological awareness.

Based on these findings, recommendations include enhancing teacher-student interaction, diversifying artistic forms of expression, promoting ecological awareness, emphasizing course comprehensiveness, adopting innovative teaching methods, and enhancing emotional experiences. These suggestions aim to optimize the design of music appreciation courses in ordinary universities within the framework of ecological arts education.

### 1. Enhance Teacher-Student Interaction\*\*

Interactivity significantly enhances course satisfaction and student interest. Therefore, it is recommended that teachers adopt various interactive teaching methods such as group discussions, interactive quizzes, role-playing, etc., to increase the frequency and quality of interaction between teachers and students.

### 2. Enrich Artistic Forms of Expression\*\*

Diverse artistic forms of expression can stimulate students' interest in learning. It is recommended to incorporate various forms such as performing arts, visual arts, etc., into the curriculum to enhance the attractiveness and appeal of the course.

### 3. Promote Ecological Awareness

Ecological awareness plays a crucial role in enhancing students' ecological consciousness. It is recommended to integrate ecological content into music appreciation courses, such as analyzing eco-friendly music works and organizing activities related to environmental protection themes, to raise students' ecological awareness.

### 4. Emphasize Course Comprehensiveness

Comprehensive course design enriches learning content. It is recommended to integrate music with disciplines like ecology, history, etc., and design interdisciplinary comprehensive course content to broaden students' knowledge base and enhance their learning interest.

### 5. Promote Innovative Teaching Methods

Innovative teaching methods significantly enhance course satisfaction and interest. It is recommended that teachers use innovative methods such as multimedia teaching, experiential learning, etc., to improve teaching effectiveness and student engagement.

## 6. Enhance Emotional Experience

Emotional experience plays a key role in enhancing course effectiveness. It is recommended that teachers design more teaching activities that can evoke emotional resonance among students, such as combining music appreciation with natural experiences and analyzing music works that evoke emotional resonance, to increase students' emotional involvement in the course.

Through these optimization measures, it is expected to further enhance the teaching effectiveness of music appreciation courses in ordinary universities within the framework of ecological arts education, thereby strengthening students' ecological awareness and music appreciation abilities, and realizing the goals and values of course design.

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## **APPENDIX:**

### **Questionnaire:**

#### I. Basic information

1. Grade:

1. Freshman
2. Sophomore

3. Junior

4. Senior

2. Major:

1. Liberal arts

2. Science

3. Engineering

4. Arts

5. Others (please specify)

3. Gender:

1. Male

2. Female

#### II. Impact factor

Please rate the following questions using a Likert scale of 1-5, 1 for strongly disagree, 2 for disagree, 3 for average, 4 for agree, 5 for strongly agree

1. Interactivity

A1: The interaction between teachers and students in the course is frequent and productive.

(1, 2, 3, 4, 5)

A2: The interactive teaching method allows me to better understand the course content.

(1, 2, 3, 4, 5)

2. Artistic expression

B1: I like to use a variety of art forms (such as performing arts, visual arts, etc.) for teaching in the course.

(1, 2, 3, 4, 5)

B2: The diversity of artistic expressions has enhanced my interest in learning.

(1, 2, 3, 4, 5)

3. Ecological environmental awareness

C1: I think ecological environmental awareness can be improved through music appreciation.

(1, 2, 3, 4, 5)

C2: The integration of ecological environmental content into the music appreciation course is very attractive to me.

(1, 2, 3, 4, 5)

#### 4. Comprehensiveness

D1: The comprehensive course design makes the learning content richer.

(1, 2, 3, 4, 5)

D2: The music appreciation course combines knowledge from multiple disciplines (such as ecology, history, etc.).

(1, 2, 3, 4, 5)

#### 5. Innovation

E1: The teacher adopts innovative teaching methods (such as multimedia, experiential teaching, etc.).

(1, 2, 3, 4, 5)

E2: I have the opportunity to create and perform in the course.

(1, 2, 3, 4, 5)

#### 6. Emotional experience

F1: The course has made me love nature more.

(1, 2, 3, 4, 5)

F2: I experienced rich emotions in the course.

(1, 2, 3, 4, 5)

#### 7. Course effect

Q1: Through this course, my ecological environment awareness has been enhanced.

(1, 2, 3, 4, 5)

Q2: I am satisfied with this music appreciation course as a whole and it has improved my interest and appreciation of music.

(1, 2, 3, 4, 5)

附录:

调查问卷:

#### 一, 基本信息部分

1. 年级 :

1. 大一

2. 大二

3. 大三

4. 大四

2. 专业 :

1. 文科
2. 理科
3. 工科
4. 艺术类
5. 其他（请注明）

3. 性别：

1. 男
2. 女

二、影响因子部分

请根据以下问题使用1-5分的李克特量表进行评分，1表示非常不同意，2表示不同意，3表示一般，4表示同意，5表示非常同意

1.互动性

A1:课程中的师生互动频繁且富有成效。

（1，2，3，4，5）

A2:互动性教学方法让我更好地理解课程内容。

（1，2，3，4，5）

2.艺术表现形式

B1:我喜欢课程中使用多种艺术形式（如表演艺术、视觉艺术等）进行教学。

（1，2，3，4，5）

B2:艺术表现形式的多样性增强了我的学习兴趣。

（1，2，3，4，5）

3.生态环境意识

C1:我认为生态环境意识可以通过音乐欣赏得到提升。

（1，2，3，4，5）

C2:音乐欣赏课程中融入生态环境相关内容对我来说很有吸引力。

（1，2，3，4，5）

4.综合性

D1:综合性的课程设计使得学习内容更加丰富。

（1，2，3，4，5）



D2:音乐欣赏课程结合了多个学科的知识（如生态学、历史等）。

（1, 2, 3, 4, 5）

#### 5.创新性

E1:教师采用了创新的教学方法（如多媒体、体验式教学等）。

（1, 2, 3, 4, 5）

E2:我在课程中有机会进行创作和表演。

（1, 2, 3, 4, 5）

#### 6.情感体验

F1:课程让我对自然产生了更多的热爱。

（1, 2, 3, 4, 5）

F2:我在课程中体验到了丰富的情感。

（1, 2, 3, 4, 5）

#### 7.课程效果

Q1:通过这门课程，我的生态环境意识得到了增强。

（1, 2, 3, 4, 5）

Q2:我对这门音乐欣赏课程整体上感到满意并提升了我对音乐的兴趣和欣赏能力。

（1, 2, 3, 4, 5）