

Sustainable Development Capability, Innovative Teaching and Personality Traits Among Arts and Design Teachers in China

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Abstract – This study aims to evaluate the sustainable development capabilities, innovative teaching and personality traits of art and design faculty at universities in the eastern coastal region of China, identify the correlation between personality traits, sustainable development capabilities, and innovative teaching, and based on this, provide recommendations for teacher abilities and innovative teaching. The study fully utilized the convenience of the “Wenjuanxing Platform” for online surveys, with a total of 450 participants from six universities in the survey and ultimately collecting 425 valid questionnaires. SPSS 26.0 was used for descriptive statistics, variance analysis and correlation analysis. The survey results indicate that Chinese art and design faculty recognize that different personality traits have varying degrees of positive impact on teachers and understand that leveraging personality trait advantages and improving sustainable development capabilities are crucial for innovative teaching.

Regarding the three variables of teacher sustainable development capabilities, innovative teaching and personality traits, there are significant differences in feedback from teachers with different teaching experiences and educational levels. In terms of teaching experience, teachers with longer teaching times rated higher than those with shorter teaching times; in terms of educational level, teachers with a doctoral degree rated higher than teachers with other educational backgrounds. However, no differences were observed based on gender and age.

This study thoroughly analyzed the correlation between these three variables and proposed recommendations for enhancing teacher sustainable development capabilities and innovative teaching based on teachers’ different personality traits. It is hoped that this study will provide valuable insights for the reform of art and design education in China.

Keywords – Sustainable Development Capability, Innovative Teaching, Personality Traits, Arts and Design Teachers

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INTRODUCTION

With the acceleration of global economic integration and increasing international competition, art and design have attracted attention from countries around the world due to their dual value of creating brand and economic added value. Art and design innovation has become the key to enhancing the added value of products and strengthening the competitiveness of enterprises [1]. However, this also brings new challenges to art and design education in colleges and universities. High-quality development is the basic goal and value orientation of China’s economic development [2]. To adapt to the external environment of high-quality development in higher education, universities need to cultivate art and design talents with elite, high-end, applied, and social characteristics [3]. In this context, innovation, as one of the core elements of this profession, requires teachers to think about teaching issues from different angles and propose unique solutions. This need for continuous reflection, innovation, and transcending traditional professional features makes university teachers pay more attention to cultivating innovative consciousness, mastering innovative and personalized teaching modes and skills, as well as corresponding abilities. Teachers play an important role in the field of art and design education, serving not only as knowledge disseminators but also as key influencing factors in students’ growth and future development. Therefore, researching teachers’ sustainable development abilities, integrating innovative teaching and personality traits is crucial for enhancing the quality of art and design education and student development. In-depth exploration of the relationship among these three factors holds significant academic and practical value.

The 2015 World Education Forum planned the Global Education Roadmap for 2030, proposing

specific ideas and requirements for advancing sustainable development education within the sustainable development framework [4]. Education is a strong guarantee for implementing sustainable development, and educational activities cannot do without the involvement of teachers with sustainable development capabilities. The sustainable development capabilities of teachers are key factors in promoting sustainable development education. Teacher sustainable development capabilities refer to teachers continuously updating and improving their knowledge reserves and comprehensive qualities in the process of autonomous learning and lifelong learning based on their own, educational, and social development needs, forming a positive ability conducive to achieving personal, educational, and social sustainable development [5]. The sustainable development of teachers' capabilities is an important guarantee for implementing innovative teaching and improving teaching quality [6]. One of the key challenges faced in promoting educational sustainability is the significant mismatch between the significant responsibilities of sustainable development education and the existing qualified teaching resources. The arts and design industry is changing rapidly, with new art forms, design concepts, and technologies constantly emerging. Arts and design teachers need to continuously understand the latest artistic and design concepts, master the newest technologies and tools, and constantly integrate new knowledge and skills into their teaching practices to adapt to the ever-changing educational environment and industry requirements. This is also a prerequisite for teachers to enhance teaching quality.

Innovative talents need to receive innovative education, which consists of innovative teaching. Innovative teaching is implemented by teachers with innovative capabilities. Innovative teaching is when teachers use innovative thinking to creatively change or improve various aspects of the teaching process, thereby stimulating students' enthusiasm and initiative in learning, cultivating their innovative awareness and capabilities, and enhancing teaching effectiveness [7]. Innovative teaching does not necessarily cultivate innovative talents, but it is one of the necessary conditions for the emergence of innovative talents [8]. The Open University of the United Kingdom has released six consecutive "Innovating Pedagogy" reports since 2012, aiming to explore new forms of teaching, learning, and assessment to help educators and policymakers effectively innovate [9]. In today's society, innovation and creativity have become core

objectives of talent development. Traditional teaching can no longer keep up with the pace of societal development, unable to meet the objective requirements of cultivating students' innovation capabilities [10]. A transformation in teaching methods is imperative. Although innovative teaching is gradually progressing in universities and achieving certain results, there is still a gap from the expected goals and various obstacles hinder the implementation of innovative teaching in educational practices. Innovative teaching in art and design disciplines also faces similar challenges.

Personality traits are the core characteristics of individuals, manifested as consistent behavioral patterns in various situations [11]. Teachers' personality traits refer to the unique characteristics displayed by teachers in their teaching careers, which influence the adaptability of students, colleagues, leaders, educational work, and the overall environment. Teachers with different personality traits have predictive power over innovative teaching behaviors [12], as it affects their thinking styles, behavioral patterns, and emotional states, thereby influencing teaching methods and outcomes. Art and design education is unique due to its practical and creative nature. In this field, teachers' personality traits not only establish the psychological background for innovative activities but also play a crucial role in teachers' innovative teaching activities and professional development [13]. However, existing research is often based on general education backgrounds and does not deeply integrate the uniqueness of art and design majors to explore the relationship between teachers' personality traits, their abilities, and teaching. Therefore, further research and exploration are needed to understand how the personality traits of art and design teachers play a role in the development of art and design education.

In recent years, an increasing number of scholars have been paying attention to the improvement of teachers' abilities and the development of innovative teaching. However, there are significant differences among teachers in different subject areas, each with varying requirements for teachers' personality traits and abilities. Currently, there is limited research on the correlation and compatibility between-subject differences and teachers' personality traits, abilities, and teaching. Existing studies mainly focus on case analysis and individual case studies, lacking support from large sample sizes and quantitative research. Additionally, there is relatively insufficient research on how teachers from different professional backgrounds can better

leverage their personality traits and enhance their abilities to promote innovative teaching. Therefore, more empirical research is needed to validate relevant theories and concepts, providing a more reliable basis for the development of arts and design education.

This article focuses on teachers in art and design departments at Chinese universities as research subjects. Through reviewing a large amount of literature and teaching practices, it investigates and explores the relationship between teachers' sustainable development capabilities, innovative teaching, and personality traits. By conducting a comprehensive analysis of relevant research in this field, we will have a deeper understanding of the importance of teachers in art and design education, and explore how teachers can influence and enhance the effectiveness of innovative teaching through their personality traits and sustainable development capabilities. Additionally, this study can provide guidance and references for recruiting and selecting teachers with relevant qualities and abilities in art and design professions.

OBJECTIVES OF THE STUDY

This study comprehensively analyzes the sustainable development capabilities innovative teaching and personality traits of art and design teachers in China. Specifically, this study describes the general situation of the respondents from the aspects of sex, age, teaching experience and education level; Determine teachers' sustainable development capabilities from the aspects of competence sustainability, internal support sustainability and external support sustainability; It will also determine innovative teaching from the aspects of teachers' teaching profession and attitude, teaching creativity, teaching strategy and class management. In addition, it will also confirm the personality traits of the respondents from five types: openness, conscientiousness, extroversion, agreeableness and neuroticism. Test the significant differences after grouping based on profile variables; Test the significant relationship between the three variables; According to the research results, this paper puts forward some strategies and suggestions to improve the innovative teaching effect by improving the personality characteristics and sustainable development ability of art and design teachers.

MATERIALS AND METHODS

Research Design

The main purpose of this study is to explore the

interrelationships and influences among the sustainable development capability, innovative teaching and personality traits of Chinese art and design teachers. In order to realize the research purpose, this study mainly adopts descriptive statistical analysis, literature method and questionnaire method to conduct a comprehensive investigation.

Descriptive research is a method of providing descriptions and conclusions by validating explanations of existing phenomena, models and theories [14]. It helps the researcher to have an in-depth understanding of the research problem and the ability to present complex findings. Based on summarizing and analyzing the existing literature, this study finally identified three variables: sustainable development capability, innovative teaching and personality traits. In terms of research tools, the sample selection and capacity of the questionnaire survey, the process of distributing and testing the questionnaire, as well as the line and framework of the study were determined.

Respondents of the Study

The target participants for this study were university art and design faculty members, including those who are teaching or have taught in the program. They were selected based on their availability and willingness to participate in the study.

The study will be conducted by sending questionnaires online, which will be sent to university art and design faculty mainly in the coastal region of China. Under the guidance of the statistical consultant of the Graduate School of LPU, 450 questionnaires were distributed and 436 questionnaires were returned in this study, with a return rate of 96.8%, of which 425 were valid.

Data Collection

This study uses a four-point questionnaire to investigate the characteristics and abilities of Chinese art and design teachers, including sustainable development capability measurement questionnaire, innovative teaching measurement questionnaire and personality trait measurement questionnaire. The questionnaires are evaluated using the Likert four-point scale, with specific content as follows:

The questionnaire on the sustainable development ability of teachers is derived from the scale compiled by Ma Peifeng in his paper "Research on the Sustainable Development Ability of Accounting Teachers in Secondary Vocational Schools in Guangdong Province" published in 2020, and is used to measure the

sustainable development ability of the subjects. The questionnaire consists of four parts with a total of 42 items. Combining the personal traits of art and design professional teachers with the relationship between innovative teaching, this study has been revised. The final questionnaire is divided into three dimensions: Competence sustainability, Internal support sustainability, External support sustainability, with a total of 37 questions.

The questionnaire on innovative teaching originated from the scale developed by Dai Cailing in her paper “The Relationship between National Middle School Teachers’ Personality Traits, Emotion Management, and Innovative Teaching: A Case Study of Taoyuan County” published in 2012, used to measure the subjects’ innovative teaching abilities. The questionnaire consists of 22 questions. In this study, the interrelationship between the personal traits and sustainable development capabilities of art and design teachers was combined, and the scale was revised again. The final questionnaire is divided into four dimensions: Teaching profession and attitude, Teaching creativity, Teaching strategy, and Class management, with a total of 23 questions.

The questionnaire on teacher personality traits is derived from the personality trait scale developed by Ajayi Adeola and others. The scale consists of items from 5 dimensions used to measure the personality traits of the subjects. The final questionnaire is divided into five dimensions: openness, conscientiousness, extraversion, agreeableness, and neuroticism, with a total of 25 questions, including 18 positive questions and 7 negative questions.

Table 1
Reliability Results-Cronbach Alpha

Indicators	Cronbach Alpha	Remarks
Openness	0.934	Excellent
Conscientiousness	0.927	Excellent
Extraversion	0.929	Excellent
Agreeableness	0.931	Excellent
Neuroticism	0.924	Excellent
Competence sustainability	0.967	Excellent
Internal support sustainability	0.965	Excellent
External support sustainability	0.979	Excellent
Teaching profession and attitude	0.942	Excellent
Teaching creativity	0.932	Excellent
Teaching strategy	0.943	Excellent
Class management	0.944	Excellent

George and Mallery (2003) provide the following rules of thumb: ".9 > .9 – Excellent, .8 > .8 – Good, .7 > .7 – Acceptable, .6 > .6 – Questionable, .5 > .5 – Poor, and .5 < .5 – Unacceptable"

The table shows the composite Cronbach Alpha values for each of the 12 dimensions in the three variables of sustainable development capability, innovative teaching and personality traits. The reliability coefficients range from 0 to 1.0. The Cronbach Alpha values of the 12 dimensions are greater than 0.9 indicating that the scale is excellent. Therefore, this indicates that the questionnaire has good internal consistency and is suitable for research analyses.

Data Gathering Procedure

This study used an online format to create, distribute, collect, and test questionnaires. The specific steps are as follows: First, the author communicated extensively with art and design teachers from several universities through WeChat and phone calls, explaining the purpose and significance of the study and requesting their support. Secondly, with the assistance of the “Wenjuanxing” platform, the researchers created the questionnaire and generated a web link for questionnaire completion. To test the reliability and validity of the questionnaire, the author first distributed 30 questionnaires, and the results showed that the questionnaire’s reliability and validity were satisfactory. Then, using the data collection function of the “Wenjuanxing” platform, all data was exported in the form of an Excel spreadsheet for verification to ensure accuracy.

To ensure the effectiveness of the questionnaire, the author conducted screening based on the following principles. Firstly, the time required to complete a valid questionnaire was set at no less than 150 seconds. If the completion time was less than the valid response time, the questionnaire was determined to be invalid. Secondly, if the respondent filled out the questionnaire multiple times, any subsequent questionnaire following the first valid one would be considered invalid.

Data Analysis

To analyze the data, a variety of statistical techniques were used. Frequency and percentage distributions were utilized to characterize the demographics of the participants. In addition, weighted means and rankings were used to assess teacher sustainable development capability, innovative teaching and personality traits. Therefore, non-parametric tests including two independent samples t-test test for two groups and one-way ANOVA F-test for three or more groups were used to determine significant differences. Similarly, Pearson's correlation correlation coefficients

were used to test the significant relationship between the promotion of teachers' sustainability competencies, innovative teaching and personality traits.

Variables were assessed using the following Likert scale: 3.50-4.00- strongly agree; 2.50-3.49-agree; 1.50-2.49-disagree; 1.00-1.49-strongly disagree. In addition, all data were analyzed using SPSS version 26 statistical software for further interpretation of the findings with a confidence interval of 95% and a significance level of 0.05.

It should be noted that the dimension Neuroticism is treated as a negative dimension in the Personality Traits Questionnaire, where the question "I see myself as someone who is emotionally stable, not easily upset" is converted into a negative question score. Other dimensions where negative questions were converted to positive questions included the questions "I see myself as someone who is sometimes shy and inhibited" and "I see myself as someone who do not easily associate with people" in the dimension Extraversion. And the question "I see myself as someone who tends to find fault with others" in the dimension Agreeableness.

Ethical Considerations

The ethical considerations of this study include three fundamental ethical principles: respect for participants, benevolence towards participants, and justice; teachers have the right to know the purpose of the study, to remain anonymous throughout the entire research process, and to voluntarily consent to data input. In addition, ethical standards are to be followed throughout the entire research process.

Once the research report is finalized, the interviewees and other stakeholders can freely access it. Throughout the research process, respect and uphold the autonomy of participants and everyone's fundamental rights. Informed consent was obtained from research participants, with limitations of this process noted. Additionally, researchers also requested permission from the author for the use of the questionnaire.

RESULTS AND DISCUSSION

Table 2 presents the sustainable development capabilities. The overall average is 3.09, which indicates that respondents agree with the above indicators. Among these three categories, Internal support sustainability scored the highest with a weighted average of 3.18; External support sustainability scored the lowest with a weighted average of 2.92; Competence sustainability fell in the middle with a weighted average of 3.16.

Table 2
Sustainable Development Capability

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Competence Sustainability	3.16	Agree	2
2. Internal Support Sustainability	3.18	Agree	1
3. External Support Sustainability	2.92	Agree	3
Composite Mean	3.09	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

The sustainable development of society, economy, and environment is the development trend of reform in art and design education. The sustainable development of university teachers is inevitably influenced by many external factors. The sustainable development capacity of art and design faculty is established under the comprehensive influence of factors such as individual teachers, school environment, and the government environment. The ability of teachers to achieve sustainable development requires effective integration and support from these three factors.

Teachers themselves are the main body in the construction of sustainable development capabilities. Based on teachers' sustainable competence, internal supporting factors have the greatest impact in the process of forming sustainable development capabilities for university teachers. The growth of university teachers requires awakening their subject consciousness, completing self-inner growth, and revitalizing teaching activities with new vitality [15]. Subject consciousness is teachers' conscious awareness of their subject status, subject capabilities, and subject values, demonstrating autonomy, initiative, creativity, subjectivity, and sense of responsibility in actions. When art and design teachers realize that they are the subjects of educational activities and are willing to take on the responsibility of promoting sustainable development, they can truly integrate sustainable development concepts into art and design education practices. Subject consciousness shapes teachers' attitudes and motivations toward learning and development, helping teachers clearly understand their professional positioning, personal characteristics, and strengths, establish targeted sustainable development goals and plans, achieve these goals through self-monitoring and reflection, and maintain a high level of self-drive and goal management capability. Wang et al. [16] propose that the formation of teachers' intrinsic motivation mechanisms will effectively weaken blame shifting, strengthen teachers' responsibility for the development

of their core competencies and abilities, and stimulate the core driving force of teachers' self-development. When teachers recognize their own abilities and potential, gain a sense of achievement and satisfaction in the continuous improvement process, it is more conducive to maintaining long-term work motivation and career development drive. Teachers with positive subject consciousness will attach more importance to sustainable development and fundamentally change teaching methods and art education concepts, dedicating themselves to cultivating students' sustainable development capabilities. As the field of art and design continues to evolve, teachers need to maintain internal sustainability, enhance their sensitivity and insight into the field of art and design, keep up with the latest technologies, theories, and trends, continuously improve sustainable development capabilities, and provide students with high-quality education and guidance.

University teachers are deeply influenced by various environmental factors such as national higher education policies, school management, teacher culture, and campus atmosphere. These factors provide material security and spiritual care for their sustainable development capacity building, serving as external conditions for the construction of teachers' sustainable development capacity [17]. Government policies and support contribute to the sustainable development of arts and design professional teachers, creating a favorable atmosphere in the social environment. In addition to ensuring and improving teachers' welfare, policy support also provides more platforms and channels for communication, while promoting societal appreciation for the arts. This incentive will drive teachers to pursue excellence and realize their own life values.

Table 3 presents the innovative teaching with a composite mean score of 3.25, indicating that art and design faculty value Teaching profession and attitude, Teaching creativity, Teaching strategy, and Class management. Statistical data shows that teaching creativity and teaching strategy are tied for first place with a weighted score of 3.27. Class management ranks third with a weighted score of 3.26. Teaching profession and attitude rank last with a weighted score of 3.20.

The teaching profession and attitude, teaching creativity, teaching strategy, and class management act on innovative teaching from different perspectives and affect its effectiveness. They collectively drive the reform and development of teaching, providing students with more meaningful and effective learning experiences.

The professional knowledge and skills of teachers are the foundation of innovative teaching. Teachers' professional knowledge is one of the main contents that reflect teachers' professional qualities and capabilities, and it is also a basic condition to ensure the effectiveness of teaching activities [18]. Only when teachers possess solid subject knowledge and teaching methods, continuously update their professional knowledge and skills, introduce the latest educational concepts and teaching models, can innovative teaching be promoted and developed. At the same time, teachers' proactive learning attitude and continuous professional development awareness are crucial for the success of innovative teaching. Teachers should maintain an open mindset, actively learn and accept new educational concepts and methods. By participating in professional training, academic seminars, and other activities, exchanging and sharing with other education peers, absorbing various new ideas and experiences, and applying them to innovative teaching.

Teachers are the main body of innovative teaching. The ability of teachers to innovate in teaching is not only reflected in the fact that they have advanced educational concepts, but also requires that teachers be able to skillfully use various teaching methods [19]. Innovative teaching requires teachers to have the ability to flexibly apply various teaching strategies, introduce new concepts, new methods, and new technologies, promote the update and optimization of teaching strategies to enhance teaching effectiveness. In addition, in innovative teaching, classroom management plays an important supporting role. Good classroom management helps effectively enhance students' learning enthusiasm and participation. Teachers, through reasonable management methods, create a

Table 3
Innovative Teaching

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Teaching profession and attitude	3.20	Agree	4
2. Teaching Creativity	3.27	Agree	1.5
3. Teaching Strategies	3.27	Agree	1.5
4. Class Management	3.26	Agree	3
Composite Mean	3.25	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

positive and harmonious learning environment, cultivate a good learning atmosphere, and provide favorable conditions for innovative teaching.

Table 4
Personality traits

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Openness	3.30	Agree	1
2. Conscientiousness	2.97	Agree	3
3. Extraversion	2.93	Agree	4
4. Agreeableness	2.99	Agree	2
5. Neuroticism	2.23	Disagree	5
Composite Mean	2.88	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 4 shows the personality traits of art and design professional teachers, including five aspects. The overall average score is 2.88, indicating “Agree.”

The statistical results show that openness has the highest score, with a weighted average score of 3.30. Agreeableness ranks second with a weighted average score of 2.99. Following closely behind Agreeableness, Conscientiousness ranks third with a weighted average score of 2.97. Extraversion ranks second to last with a weighted average score of 2.93. Neuroticism ranks last with a weighted average score of 2.23.

Every art and design teacher’s personality traits to some extent involve aspects of Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Personal characteristics are a combination of multiple traits in various aspects of individuals, and each behavioral trait is not independent of each other [20]. These personality traits are crucial for art and design educators as they interact and collectively influence teaching methods and effectiveness, as well as their impact and guidance on students.

Openness means that teachers have a broad knowledge background and interests, are willing to accept different creative ideas and artistic styles. They are willing to try new methods and techniques, share their unique artistic insights with students, encourage students to think and explore different artistic expressions. The responsibility of teachers is reflected in their emphasis on teaching preparation and organization, systematically arranging course content and teaching activities. They will rigorously assess student performance and provide effective feedback. At the same time, they also pay close attention to students’ learning progress and development, actively promoting student growth. Extraversion means that teachers are

good at establishing positive relationships with students, colleagues, and other professionals in the art world. They can effectively communicate and express their views, inspire and encourage students to participate in creative activities. They can also actively participate in school and community art and cultural activities, sharing professional knowledge and experience with more people. Agreeableness means that they are willing to establish good teacher-student relationships and provide support and help to students. They respect students’ personalities and differences, treat each student equally, and listen to their thoughts and opinions. At the same time, they can build trusting and cooperative relationships with colleagues and parents. In the field of art and design education, the personality trait of neuroticism may have a certain negative impact on teaching. The level of neuroticism in teachers determines the stability and calmness of their emotions. Teachers with lower neuroticism can better handle pressure and challenges, and maintain a positive attitude. They can also provide emotional support and encouragement to students to help them overcome difficulties and confusion.

All these personality traits influence teachers’ teaching practices and innovation in different forms and degrees. Mu and Zhang mentioned that different management methods should be adopted for employees with different personal traits to enhance job satisfaction. In the field of education, teachers specializing in arts and design have different personal traits, and innovative teaching methods and forms can be adopted based on their strengths to improve teaching quality and effectiveness.

Table 5 shows the relationship between the personality traits of art and design teachers and their sustainable development capabilities. According to the observations, openness, conscientiousness, extraversion, agreeableness, and neuroticism all have p-values lower than the α level, indicating a significant relationship between personality traits and sustainable development capabilities.

The correlation between the personality traits of art and design Teachers and their sustainable development capabilities is very high. Regarding the relationship between personality traits and sustainable competence development, it can be concluded that there is a strong positive correlation between these two variables [22]. Personality traits influence teachers in many aspects such as teaching effectiveness, student satisfaction, job satisfaction, and personal growth, thereby determining

the long-term success and influence of teachers in the field of education.

Table 5
Relationship Between Personality traits and Sustainable Development Capability

Openness	r-value	p-value	Interpretation
Competence Sustainability	.313**	0.000	Highly Significant
Internal Support Sustainability	.380**	0.000	Highly Significant
External Support Sustainability	.504**	0.000	Highly Significant
Conscientiousness			
Competence Sustainability	.301**	0.000	Highly Significant
Internal Support Sustainability	.451**	0.000	Highly Significant
External Support Sustainability	.653**	0.000	Highly Significant
Extraversion			
Competence Sustainability	.469**	0.000	Highly Significant
Internal Support Sustainability	.565**	0.000	Highly Significant
External Support Sustainability	.558**	0.000	Highly Significant
Agreeableness			
Competence Sustainability	.354**	0.000	Highly Significant
Internal Support Sustainability	.359**	0.000	Highly Significant
External Support Sustainability	.474**	0.000	Highly Significant
Neuroticism			
Competence Sustainability	-.219**	0.000	Highly Significant
Internal Support Sustainability	-.378**	0.000	Highly Significant
External Support Sustainability	-.476**	0.000	Highly Significant

Legend: Significant at $p\text{-value} < 0.05$

Due to their openness as individuals, they are more likely to accept new things and experiences, possessing a strong ability to adapt to diversity and change. For art and design teachers, they need to maintain an open attitude toward new trends, innovative thinking, and different cultures. First of all, the trait of openness makes teachers more willing to engage with and understand new teaching methods and technologies. Secondly, the trait of openness makes teachers more willing to accept and respect the diversity of students.

Students from different cultural backgrounds and life experiences have significant cognitive differences in artistic styles, aesthetic viewpoints, and so on. Teachers need to approach this with an open mind, better respecting and exploring students' individuality and creativity, helping them to demonstrate their unique styles and talents in the field of art and design. Moreover, the trait of openness can help teachers better handle feedback and evaluations in the educational process. Teachers with such personality traits are more likely to accept criticism and suggestions, and turn them into motivation for improving teaching.

Art and design educators need to take responsibility for students' learning outcomes and teaching processes, ensuring they receive adequate guidance and support. Only with a strong sense of responsibility can teachers continuously improve and enhance their abilities in teaching. The trait of being conscientious will encourage teachers to develop a mindset of lifelong learning and maintain enthusiasm and drive for the field of education.

The personality trait of extraversion is usually associated with positive social interaction, an open attitude, and building interpersonal relationships. Strong social skills help create a good learning environment, promote teamwork, and establish connections in work and academic networks, all of which are important components of teacher professional development. Extraverted teachers actively seek information, engage in learning, and share experiences to enhance their own sustainable development capabilities. Actively seeking and utilizing resources, including external funding, partners, and professional development opportunities, are also characteristics of teachers with extraverted personality traits. These characteristics also help teachers drive their own sustainable professional development.

Personality traits of agreeableness can help teachers create an open and inclusive learning environment. Relationships are an important need of people both in personal and working contexts [23]. A teacher with amiability personality traits can more easily establish collaborative relationships with colleagues, promoting personal professional growth through teamwork. It can be asserted that creating a positive working relationship environment will definitely help workers to strengthen their personal resources [24]. This is crucial for the sustainable development and enhancement of teachers' abilities, as lifelong learning and continuous improvement require a harmonious interpersonal environment. Additionally,

this personality trait also enables teachers to build good relationships not only with parents but also with students. For example, in teaching, teachers can inspire students' interest in learning through their friendly attitude and behavior, encouraging them to actively engage in the classroom. Teachers with amiability personality traits will communicate and positively provide feedback. This positive communication and feedback ability contribute to teachers' continuous learning and reflection, driving their sustainable development.

The stability of emotions can affect teachers' stress management, emotional regulation, and interaction with students. In arts and design teaching, teachers need to deal with complex emotions and creative processes. Teachers with lower neuroticism may display more stability when faced with stress and challenges, helping them maintain a lasting enthusiasm and focus on teaching. On the other hand, arts and design teaching emphasizes personalization and innovation. Teachers may need higher levels of neuroticism to cope with the uncertainty and challenges of the innovation process. These emotional fluctuations can sometimes be transformed into inspiration and motivation in teaching, and may also help in gaining more surprises in the creative process.

In general, the personality traits mostly have a positive impact on the sustainable development ability of art and design teachers. The personality traits of teachers are diverse, and it is worth thinking about how to utilize the advantages of personality traits. Teachers need to leverage the strengths of their own personality traits and demonstrate them in the teaching and professional development process, continuously promoting the improvement of their own sustainability capacity, and thus continuously enhancing teaching effectiveness.

Table 6 illustrates the relationship between personality traits of art and design teachers and innovative teaching. The results indicate that, due to the obtained p-value being less than the alpha level, it means there is a significant relationship between personality traits and innovative teaching. Different personality traits of teachers are associated with and influence innovative teaching to varying degrees.

Empirical research shows that of all the variables that affect creativity, personal factors are the most explanatory, and creative people often possess certain specific personality traits [25] [26]. Among the personality traits of teachers, the big five personality

factor of openness are relevant for creativity which is a vital innovation competency [27].

Table 6
Relationship Between Proactive Personality Traits and Innovative Teaching

Openness	r-value	p-value	Interpretation
Teaching profession and attitude	.334**	0.000	Highly Significant
Teaching Creativity	.412**	0.000	Highly Significant
Teaching Strategies	.340**	0.000	Highly Significant
Class Management	.316**	0.000	Highly Significant
Conscientiousness			
Teaching profession and attitude	.621**	0.000	Highly Significant
Teaching Creativity	.461**	0.000	Highly Significant
Teaching Strategies	.393**	0.000	Highly Significant
Class Management	.472**	0.000	Highly Significant
Extraversion			
Teaching profession and attitude	.436**	0.000	Highly Significant
Teaching Creativity	.586**	0.000	Highly Significant
Teaching Strategies	.539**	0.000	Highly Significant
Class Management	.453**	0.000	Highly Significant
Agreeableness			
Teaching profession and attitude	.490**	0.000	Highly Significant
Teaching Creativity	.372**	0.000	Highly Significant
Teaching Strategies	.349**	0.000	Highly Significant
Class Management	.426**	0.000	Highly Significant
Neuroticism			
Teaching profession and attitude	-.373**	0.000	Highly Significant
Teaching Creativity	-.350**	0.000	Highly Significant
Teaching Strategies	-.338**	0.000	Highly Significant
Class Management	-.342**	0.000	Highly Significant

Legend: Significant at p-value < 0.05

Teachers with an openness personality trait are usually more willing to try new teaching methods and ideas. They have an open attitude towards innovation

and change, thus creating conditions for innovation in teaching. Responsible teachers take their teaching work seriously and strive to find more effective teaching methods to ensure that students can learn the latest knowledge and skills. This sense of responsibility drives them to innovate in teaching. Teachers with extroverted personality traits are good at communicating with others. They can establish good relationships with students, colleagues, and parents, constantly gaining new ideas from feedback to promote innovative teaching. Teachers with agreeable personality trait create an atmosphere that encourages innovation and free expression based on students themselves and empathy.

Innovative teaching often comes with uncertainty and the possibility of failure. Teachers with lower neuroticism may possess a greater resilience to deal with setbacks and failures, and this resilience is an important characteristic of innovative teaching. Neuroticism is often associated with a spirit of adventure and intense emotional reactions, while innovation requires teachers to have an attitude of willingness to try. This means that teachers are more likely to adopt innovative teaching strategies when faced with new ideas and methods. When teachers with neurotic traits encounter different teaching challenges, they are often able to demonstrate strong flexibility and adaptability, quickly adjusting their teaching methods.

Rubenstein et al. [28] reported that factors influencing teachers' innovative teaching in the field of interdisciplinary learning include personality traits, thinking styles, growth and educational experiences, teaching beliefs, professional skills, and a conducive organizational environment, among others. Different personality traits affect teachers' innovative abilities to varying degrees in teaching, and teachers need to create a conducive learning environment for students to foster innovation from multiple perspectives.

Table 7 shows the relationship between the sustainable development capabilities of art and design teachers and innovative teaching. The results indicate that, as the obtained p-value is less than the alpha level, this means that there is a significant relationship between competence sustainability, internal support sustainability, external support sustainability, and innovative teaching.

Innovative teaching first requires teachers to possess a certain level of cultivation and capability. Teachers should enhance their teaching skills and professional abilities through scientific and rational methods. According to Chen's [29] perspective,

teachers need to have the awareness and ability for lifelong learning, in order to achieve sustainable development in teaching innovation. Enhancing the sustainable development capability of arts and design professional teachers helps them utilize innovative teaching methods, thereby improving students' learning outcomes and creativity.

Table 7
Relationship Between Sustainable Development Capability and Innovative Teaching

Competence Sustainability	r-value	p-value	Interpretation
Teaching profession and attitude	.401**	0.000	Highly Significant
Teaching Creativity	.257**	0.000	Highly Significant
Teaching Strategies	.344**	0.000	Highly Significant
Class Management	.385**	0.000	Highly Significant
Internal Support Sustainability			
Teaching profession and attitude	.453**	0.000	Highly Significant
Teaching Creativity	.764**	0.000	Highly Significant
Teaching Strategies	.522**	0.000	Highly Significant
Class Management	.342**	0.000	Highly Significant
External Support Sustainability			
Teaching profession and attitude	.605**	0.000	Highly Significant
Teaching Creativity	.342**	0.000	Highly Significant
Teaching Strategies	.423**	0.000	Highly Significant
Class Management	.386**	0.000	Highly Significant

Legend: Significant at p-value < 0.05

In the teaching of art and design disciplines, it is often necessary to collaborate with other subjects to cultivate students' comprehensive abilities. Teachers with sustainable development capabilities can cooperate with teachers from other fields to jointly design innovative interdisciplinary teaching projects, enriching learning experiences and achieving teaching innovation. To achieve teachers' sustainable development capabilities, schools also play a crucial role. Schools

should provide appropriate internal support to help teachers continuously enhance their educational concepts and teaching skills. Schools should encourage teachers to experiment with and explore new teaching strategies and methods, and provide them with opportunities and support for innovative teaching. At the same time, schools need to create a learning environment that encourages innovation and sharing, allowing teachers to exchange and share experiences and progress together.

In addition, the effective implementation of innovative teaching also requires external support for teachers, such as support from government policies, establishing cooperative relationships with professional organizations, communities, and obtaining professional knowledge and resource support, facilitating the continuous development of their own sustainable capabilities, and providing favorable conditions for educational innovation.

CONCLUSION AND RECOMMENDATION

Based on the result, art and design teachers are basically balanced in terms of the proportion of men and women. The largest number of young and middle-aged teachers are between 30 and 50 years old, indicating that the overall trend of the university art and design teaching force is young. Most of the teachers' teaching experience is concentrated in the range of 5-20 years, and the education level of master's degree accounts for the highest proportion. Art and design teachers agree that openness is the most important personality trait for teachers in this field, and that each personality trait affects teachers' ability and teaching innovation in different forms and degrees. Teachers believe that internal support sustainability is the most influential factor in the formation of sustainable development capability of university teachers of art and design. Art and design teachers believe that teaching creativity is the most important factor influencing innovative teaching. This study found that there is a significant difference between teaching experience and education level on the personality traits, sustainable development capability, and innovative teaching of art and design teachers. This suggests that changes in teachers' teaching experience and differences in teachers' education level affect personality traits. Teachers with richer teaching experience and higher education have better sustainability skills and can implement innovative teaching more effectively. There are significant relationships among the three variables. It shows that the influence of different personality traits

of teachers is different. The better the personality traits of teachers, the better the sustainable development capability of teachers and the better the innovative teaching. A training and development program was developed to help art and design teachers improve themselves so that they can contribute more effectively to the development and construction of the art and design major.

It is recommended to formulate targeted training programmes for the sustainable development of teachers based on the different personality traits of art and design teachers. Improve the sustainable development ability of teachers by further utilising the advantages of the personality traits of art and design teachers. Universities may strengthen the personality management of teachers, provide psychological counselling and career development support for teachers, and enhance the ability of universities to introduce talents and cultivate talents with personality management. When recruiting teachers of art and design, they can evaluate and select teachers from the perspective of personality traits, taking into account the characteristics and needs of the profession, so as to choose the most suitable talents. Universities may create a favourable teaching environment, introduce more innovative teaching resources and give teachers financial support in order to encourage them to carry out innovative teaching research through interdisciplinary cooperation. It is also recommended that local governments formulate policies that are conducive to the development of art and design education and provide a stable policy environment for teachers. Raise the social status and recognition of art and design education through media campaigns and public events. Encourage enterprises and social organisations to pay attention to and participate in art and design education, build effective cooperation platforms, and increase the industry's demand for art and design professionals. University training and development program for art and design teachers may be submitted for evaluation and implementation. Future researchers may conduct another study using the influence of personality traits of art and design teachers on innovative teaching.

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