

Art design teaching attitudes, educational technology integration, and student engagement in higher vocational colleges in China: Basis for teachers' development plan

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Abstract

This descriptive research design paper described the profile, art design teaching attitudes, educational technology integration, and student engagement in Higher Vocational Colleges in China. From a target population of 5000.00, 450 teachers served as sample respondents of the study. Results revealed that most respondents are male, aged 26-35, and have doctorate degrees. Art in the classroom serves a multifaceted role, extending far beyond mere decoration and significantly enhance the learning process that contribute to the development of independent learning. The study also concluded that using technology in the art classroom encourages collaboration and offers possibilities for various evaluation approaches. It also involves sense of responsibility in employing technology both within and outside of the classroom. Additionally, students are encouraged to explore different art mediums and techniques to express their creativity and individuality, engage in constructive discussions with their peers, and demonstrate active participation by asking questions, seeking clarification when needed, and engaging in class activities with enthusiasm. Art design teaching attitudes, technology integration, and student engagement are generally accepted across different demographic groups. Age and highest educational attainment influence art design teaching attitudes, technology integration, and student engagement. Also, the art design teaching attitude significantly impacts educational technology integration that enhance student engagement. The research recommends that more female respondents, teachers from other age brackets, and individuals with different educational backgrounds. Further, teachers may explore how art can be integrated into their lesson plans across different subjects, fostering interdisciplinary connections that enrich students' learning experiences and encourage independent exploration and understanding; use digital collaboration tools and platforms that promote student connection and teamwork; and allow students to choose from various artistic mediums and methods according to their preferences and strengths. Professional development opportunities may focus on art design teaching attitudes and technology integration through workshops, seminars, courses, and reflective practices. Lastly, the proposed faculty development program for art design teaching may be implemented to

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enhance teaching and learning.

Keywords: art design teaching attitude, educational technology integration, student engagement, higher vocational colleges

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1. Introduction

In 2019, 260 million Chinese youth have chosen to attend art training, which is expected to increase in the subsequent years. Chinese parents are keen to send their children to extra-curricular art training institutions; they have always had solid cultural confidence in their profound fine art and calligraphy heritage. With this large number of art students, there are possible concerns regarding a shortage of teachers and a large class size. Chinese parents hope their children can master mature skills in art education and use them to complete a 'performance. This has led art teaching institutions to often focus on skill training at the expense of developing students' creativity and problem-solving skills. However, Chinese art educators have begun recognizing these shortcomings and are working to stimulate students' creativity from a broader range of perspectives. In this context, it is worthwhile to consider how art teachers can further improve their methods and strategies (Li, 2022).

The art design major created by China's higher vocational institutions takes advantage of local cultural history and creativity, and it has had an important effect on developing art and design abilities with local peculiarities. It must accept considerable responsibility for cultural heritage and protective construction. Thus, art design professors must ensure that their students gain the necessary knowledge and skills in the discipline. Liu and Cheng (2019) stated that art design has been considered the main driving force for the development of the manufacturing industry; thus, it has received significant attention. According to statistics, more than 1,000 colleges and universities around the country, including art schools and several comprehensive colleges, have launched this major. With increased numbers came many issues, including teacher quality, out-of-date educational content, resource availability, and student motivation.

Furthermore, a survey among teachers in China has found that many face career and academic development challenges, which may affect the stability of the vocational teaching workforce. There are more than 1.36 million vocational teachers in China. Cased on the results, 75.8% of respondents did not lead or participate in educational reform projects at the city or higher levels, and 43.6% did not publish any papers. Meanwhile, 88% have never obtained a national patent. In China, obtaining such patents promotes them. Over the past few years, policymakers have sought to strengthen the country's vocational education reputation (Rui, 2023). Thus, vocational education teachers should be encouraged to strive for ongoing improvement. The professional competency of the vocational teacher is critical to accomplishing the technical-vocational education goal.

Art design teaching attitudes play a prominent role in an engaging and effective art class for the students. Teachers' good attitudes about the subject and students can significantly impact the teaching and learning process. First, favorable attitudes towards the subject matter foster an engaging and dynamic classroom environment. The teacher's enthusiasm for the subject might inspire pupils to become passionate and interested in the course. Second, having favorable views toward students fosters a safe and secure environment where they feel valued, accessible, and comfortable. The teacher's positive attitude can assist pupils develop self-esteem and confidence, impacting their art learning success. Favourable views toward the subject and students foster an interesting, participatory, inspiring, and safe environment in which learners may explore their creativity, confidence, and overall development (Homan, 2023).

Furthermore, vocational education has experienced numerous hurdles since its inception. Curriculum design, weak industry ties, and public perception are among the challenges noted by Tian et al. (2022). Meanwhile, Wang (2020) notes many issues that China's vocational colleges face. According to him, vocational education has been politically and financially neglected and has always been regarded as inferior to academic options.

Another study by Zhao (2023) stressed the necessity for vocational teachers to have better insight and appropriate teaching approaches and skills. Richard et al. (2023) believe that integrating technology into art design education may significantly enhance the quality of teaching and learning across all technical-vocational disciplines. These authors discovered that mastery of technology tools, technologically driven educational methodologies, and a teacher's technical knowledge and talents are critical for promoting efficient skill development. As a result, policymakers, training institutions, and other stakeholders must focus on these areas to improve the delivery of technical-vocational education, particularly for art teachers.

As mentioned above, vocational education – specifically, art design – must be combined with technology to create a system suitable for the country's national conditions and needs and thus achieve educational achievements. Wu (2024) conducted a recent study on the role of multimedia technology in improving student engagement in innovative vocational education. Multimedia technology promotes innovation in vocational education, considerably influencing learning satisfaction. Its integration creates dynamic and interactive learning environments that cater to various learning styles and preferences. Meanwhile, teachers and educational organizations should prioritize student engagement to continue providing outstanding education. Learning engagement is a positive psychological state characterized by students' involvement in their learning and classroom responsibilities during studying and their continuous and stable focus on finishing their learning, marked by energy, devotion, and concentration (Li & Xue, 2023). Studies have shown that the more involved pupils are, the better they perform academically.

For example, Lu et al. (2022) discovered that liking teachers indirectly enhances learner engagement via psychological empowerment. Thus, teachers play an essential role in ensuring students are engaged. Through different techniques and strategies, teachers can strive to accommodate the learning needs of their students. However, student engagement in technical colleges is only occasionally visible. Lv et al. (2022) discovered that student participation in higher vocational institutions in China decreased after their first year of study. College students' study engagement as a critical evaluation criterion of higher education quality, in addition to critical thinking as an important goal of higher education, has received considerable attention in higher education institutions around the world. However, the present research on study engagement primarily focuses on university students in general higher education rather than students in higher vocational education. Furthermore, much research on the issues that vocational colleges encounter has failed to prioritize student engagement as a component influencing the teaching and learning process.

China's increasing promotion of vocational education stands to contribute to further growth in the industry. China already has the world's most extensive vocational education system; thus, improving its quality is crucial to its sustainability. Because there appears to be a strong desire among Chinese youth to be educated in art design, which will help shape their character and talents toward responsible citizenship, an investigation into art design teaching attitudes, including technology integration and student engagement, can be considered urgent and vital. Furthermore, it has been observed that art instruction facilities in China tend to focus solely on technique training, with little emphasis on fostering students' creativity and problem-solving abilities. The purpose of this work is to build a connection between and among the variables listed and to contribute to the field of education in China, specifically in Higher Vocational Colleges. By examining teacher attitudes, technology integration, and student engagement, this study sought to make significant contributions to the art education institutions, art design teachers, and suggest reforms to the vocational education in China.

Objectives of the study - The purpose of this study was to determine art design teaching attitudes, educational technology integration, and student engagement in Higher Vocational Colleges in China. Specifically, this paper determined teaching attitudes in terms of affective, behavioral, and cognitive components; identified the integration of educational technology in terms of learning and creativity, and experiences and assessments, work and learning, citizenship and responsibility, and professional growth and leadership; assess student engagement as to cognitive, psychological, and behavioral engagements; tested the relationship among the variables art design teaching attitudes, educational technology integration, and student engagement; and based on

the results of the study, proposed a teachers' training program for art design teaching.

2. Methods

Research Design - This study used the descriptive research method. This design provides an adequate and accurate interpretation of the findings. Descriptive research aims to provide a comprehensive and accurate picture of the population or phenomenon being studied and to describe the relationships, patterns, and trends within the data. In scientific inquiry, it serves as a foundational tool for researchers aiming to observe, record, and analyze the intricate details of a particular topic. In this study, the profile of the respondents, the art design teaching attitudes, the integration of technology, and the students engagement are aptly described based on the defined sub domains.

Participants - The study participants were art design teachers from three higher vocational colleges in China. They are those who are actively involved in teaching art design to the students, who can give objective data required of the objectives of this present study. Those who teach art design on a part time basis only, with other subjects being taught rather than art design are excluded in the sample size. Using the Raosoft sample size calculator and a confidence level of 95%, and from a population of 5000 from three vocational colleges, 450 teachers were included in the sample size, which means there are at least 150 respondents from each institution. The teacher respondents were selected using simple random sampling.

Instruments - The survey questionnaire consists of four parts. The first part describes the profile of the teacher respondents in terms of their age, sex, and highest educational attainment. The second part describes the respondents' attitudes towards art design teaching as affective, behavioural, and cognitive. This part of the questionnaire was modified from Tasker's (1995) study, "A Survey of the Attitudes of Elementary School Teachers in Southern New Jersey Towards Art and the Creative Process in their Classrooms." The third part describes educational technology integration into learning and creativity, experiences and assessment, work and learning, citizenship and responsibility, and professional growth and leadership. This section was modified from the 2008 International Society for Technology in Education's National Educational Technology Standards for Teachers. The fourth part describes the respondents' assessment of student engagement. This part of the questionnaire was modified from Morris' (2019) study entitled The Development of a Student Engagement Instrument for the Responding Strand in Visual Arts. To test the reliability of the instruments, a pilot test and a reliability test via the Cronbach Alpha were conducted. Results of test of reliability of the instrument exhibit good to excellent levels of reliability. These results indicate that the instrument consistently measures the intended constructs and can be relied upon to provide accurate and consistent data which based on the result, the instrument were rated good and excellent.

Data Gathering Procedures - The study was initially conceptualized based on the researcher's observation of the current situation surrounding the prevalence of digital reading among students. The researcher gathered first-hand information about the topic to identify the study's variables. After conducting a literature review, the variables were finalized. The researcher also determined the research design and data collection strategies based on existing literature. The data collection process for this study involved gathering information from participants using a validated survey questionnaire with rating scales. The questionnaire was developed based on insights obtained from a review of relevant literature. The initial questionnaire draft was then reviewed by the research supervisor and experts for content validation. Various experts in the field assessed the tool for its content and grammar. Their feedback and suggestions were integrated into the draft, which was then re-submitted for further validation. Once the questionnaire was validated and finalized, pilot testing was conducted to assess its reliability. After the research instrument was approved, necessary letters were prepared for the study's administration. Following approval from the school heads involved, the questionnaires were distributed to the chosen respondents personally.

Data Analysis - The quantitative data collected was analyzed using SPSS to answer the research questions.

Specifically, descriptive statistics was used to analyze the responses to the variables and indicators. The independent samples t-test was then utilized to determine whether there was a significant difference in the responses when grouped according to profile. In addition, a correlation analysis was also conducted to test the relationship among the variables: art design teaching attitudes, educational technology integration, and student engagement. A four-point Likert scale was used in each part to determine the respondents' assessment with verbal interpretation of strongly agree (4), agree (3), disagree (2), and strongly disagree (1).

Ethical Considerations - The study adhered to several ethical principles. First, the researcher ensured that the heads of the colleges involved in the study consented to conduct the study. Next, all the study respondents were informed of the purpose of the study. The researcher also explained the essential concepts of the study. Their participation was strictly voluntary, and they were informed that they could withdraw during the study. Their personal information and data were kept strictly confidential to protect their privacy. Third, all non-original ideas were appropriately referenced to maintain academic integrity. Most importantly, prior to conducting the study, approval was sought from the Ethics Review Committee of the University to ensure adherence to the ethical principles.

3. Results and discussion

Table 1

Summary Table on Art Design Teaching Attitude

Indicators	Weighted Mean	Verbal Interpretation	Rank
Affective	2.98	Agree	2
Behavioral	2.94	Agree	3
Cognitive	3.03	Agree	1
Composite Mean	2.98	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 1 shows the summary table on art design teaching attitude. The overall composite mean of 2.98, which is verbally interpreted as agree, shows that the respondents have positive attitudes toward art design teaching. Among the three variables, the cognitive aspect ranked first while the behavioral aspect ranked last. As per the attitude of the respondents toward art design teaching, the cognitive aspect ranked the highest. The cognitive aspect of teaching centers on developing students' ability to think and improving their learning capacity. This aspect also focuses on helping students maximize their experiences in the classroom (Uy, 2024). Regarding art teaching, teachers should have positive attitudes toward the relevance of this endeavor.

Affective sentiments regarding art instruction came in second. Teaching motivation, attitudes, perspectives, and values are all included in this domain. By taking into account the affective domain when creating lesson plans, giving lectures and exercises, and evaluating students' progress, teachers can become more effective in the art classroom. In order to improve learning outcomes, affective learning in higher education entails establishing an atmosphere that encourages positive feelings like curiosity and passion. Educators can enhance their teaching effectiveness by modifying their approaches to foster a comprehensive and meaningful learning experience by recognizing the connection between emotions and cognition (Mahadeo & Nepal, 2023). The art teachers plays a crucial part in the process of learning. Their behavioral attitudes toward art teaching dictate how they will handle and manage the class. Teachers are crucial in maintaining a conducive learning environment for their students. This involves ensuring the availability of resources and materials and optimizing the teaching space to facilitate effective learning (Ssegantebuka et al., 2021).

Table 2 shows the summary table on educational technology integration. The overall composite mean of 3.08, which is verbally interpreted as often, shows that the respondents often use technology in teaching. Among the five variables, professional growth and leadership ranked first with the mean of 3.16; work and learning ranked second with 3.14; learning and creativity and citizenship and responsibility both ranked third with 3.06; and experiences and assessment ranked last with 3.00. All are verbally interpreted as often. Of all the indicators under educational technology integration, professional growth and leadership ranked highest. To effectively

incorporate educational technology into their teaching practices, educators need to engage in ongoing professional development. This development takes into account a number of factors to guarantee that educators have the abilities and information to integrate technology into the classroom.

Table 2

Summary Table on Educational Technology Integration

Indicators	Weighted Mean	Verbal Interpretation	Rank
Learning and Creativity	3.06	Often	3.5
Experiences and Assessment	3.00	Often	5
Work and Learning	3.14	Often	2
Citizenship and Responsibility	3.06	Often	3.5
Professional Growth and Leadership	3.16	Often	1
Composite Mean	3.08	Often	

Legend: 3.50 – 4.00 = Always; 2.50 – 3.49 = Often; 1.50 – 2.49 = Sometimes; 1.00 - 1.49 = Never

Of all the variables under educational technology integration, professional growth and leadership ranked highest. To effectively incorporate educational technology into their teaching practices, educators need to engage in ongoing professional development. This development takes into account a number of factors to guarantee that educators have the abilities and information required to successfully integrate technology into the classroom. As Yang et al. (2023) mentioned, professional development is critical in improving the teaching methodologies of higher vocational college teachers. This study discovered that continual training and learning opportunities support the improvement of teaching strategies and the general caliber of education provided in this type of academic environment.

Meanwhile, experiences and assessment ranked last in terms of educational technology integration. The integration of technology in assessment is a crucial part of the learning process (Ghavifekr and Rosdy, 2015). Teachers have access to a variety of technological tools that help them evaluate the comprehension and progress of their students. However, Boughton (2019) found that teachers find it challenging to evaluate creative work since assessment instruments typically restrict originality, creativity, and spontaneity. The difficulties in ensuring the validity and reliability of examiners' qualitative judgments compound the difficulty of assessing in the arts. Graham (2019) emphasized that assessing art is a difficult undertaking since creative expression and perception are subjective. Certain factors, such as individual perspective, emotional expressiveness, and ingenuity, impede the assessment process. As a result, educators must always improve their methods for assessment and evaluation.

Table 3

Summary Table on Student Engagement

Indicators	Weighted Mean	Verbal Interpretation	Rank
Cognitive Engagement	3.09	Agree	1
Psychological Engagement	2.94	Agree	3
Behavioral Engagement	2.95	Agree	2
Composite Mean	2.99	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 3 presents the summary table on student engagement. The composite mean of 2.99 indicates that the respondents generally agreed on the indicators. Among the three aspects of engagement, cognitive engagement ranked the highest with the mean 3.09; this was followed by behavioral engagement with a mean of 2.95. Last in rank is the psychological engagement of students with a mean of 2.94. Cognitive student engagement ranked first among the variables. The perspectives and beliefs of students regarding learning play a critical role in the teaching and learning process. Their attitudes and behaviors in the classroom may be influenced by their perceptions of the importance of the subject matter.

According to Barlow et al. (2020), cognitive engagement in the classroom encompasses how students attempt to genuinely comprehend a topic and persist in studying it. According to Chen et al. (2022), student engagement is essential for enhancing creative performance. Actively involving students in the learning process is likely to lead to higher levels of creativity. Furthermore, the study explains how art promotes empathy,

contributing to a better understanding of the relevance of art in society. Meanwhile, the students' behavioral engagement ranked second overall. A student's behavioral engagement plays a crucial role when creating a conducive learning environment. This goes beyond just paying attention and being present; it encompasses their active participation, interaction with peers, and involvement in classroom activities. Sutton (2023) defines behavioral engagement as the visible manifestation of students' involvement in their education; it includes their participation in class activities and their efforts to complete assignments.

Last is the affective student engagement. The psychological and emotional effects of artistic expression on people are referred to as the affective component of art education. This component plays a critical role in determining how students experience the study of art overall and what they learn from it. Sutton (2023) states that a student's affective attitudes toward the classroom, peers, and teachers include enjoyment, anxiety, sense of belonging, and boredom. These emotions must be considered to ensure the success of the learning process. Additionally, Shukla et al. (2022) revealed that art education classes can serve as a therapeutic space where students can express themselves, process their thoughts and emotions, and develop a sense of personal identity. These findings aligns with Niittylahti et al. (2021), who highlighted that students are engaged when they are interested and enthusiastic and feel connected to each other.

Table 4

Relationship Between Art Design Teaching Attitude and Educational Technology Integration

Affective	r-value	p-value	Interpretation
Learning and Creativity	.196**	0.000	Highly Significant
Experiences and Assessment	.266**	0.000	Highly Significant
Work and Learning	.237**	0.000	Highly Significant
Citizenship and Responsibility	.236**	0.000	Highly Significant
Professional Growth and Leadership	.137**	0.000	Highly Significant
Behavioral			
Learning and Creativity	.258**	0.000	Highly Significant
Experiences and Assessment	.237**	0.000	Highly Significant
Work and Learning	.249**	0.000	Highly Significant
Citizenship and Responsibility	.255**	0.000	Highly Significant
Professional Growth and Leadership	.206**	0.000	Highly Significant
Cognitive			
Learning and Creativity	.294**	0.000	Highly Significant
Experiences and Assessment	.305**	0.000	Highly Significant
Work and Learning	.305**	0.000	Highly Significant
Citizenship and Responsibility	.277**	0.000	Highly Significant
Professional Growth and Leadership	.209**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 4 displays the association between art design teaching attitude and educational technology integration. The computed r-values indicates a moderate direct correlation and the resulted p-values were less than the alpha level. This means that there was significant relationship exists and implies that the better is the teaching attitude, the better is the educational technology integration. Teachers' roles are changing in a number of ways as a result of the usage of technology in the classroom. It is believed that one key element of teachers' professional competence should be their familiarity with technology. Teachers' attitudes on technological progress are closely linked to their ability to integrate technology in educational processes. According to Zhang et al. (2022), higher vocational teachers are required to have digital literacy as part of their professional development. Teachers should have positive attitudes toward the use of technology in the classroom.

Integrating technology into the classroom can enhance the learning experience for students and prepare them for the digital world. Teachers play a crucial role in this process, and their attitudes toward technology significantly impact its effectiveness. When teachers have a positive attitude toward technology, they are more likely to actively incorporate it into their teaching methods. Furthermore, Yang et al. (2023) mentioned that professional development is critical in improving the teaching methodologies of higher vocational college teachers. When teachers have positive attitudes toward professional development, they will also desire to

improve their craft through continuous updating, such as technology integration. This also supports the study of Padillo et al. (2021) which assessed the quality of instruction and professional development activities of university teachers. They found that there is a need for a strategic professional development planning and evaluation for teachers to benefit more in such activities.

Table 5

Relationship Between Art Design Teaching Attitude and Student Engagement

Affective	r-value	p-value	Interpretation
Cognitive Engagement	.199**	0.000	Highly Significant
Psychological Engagement	.261**	0.000	Highly Significant
Behavioral Engagement	.192**	0.000	Highly Significant
Behavioral			
Cognitive Engagement	.199**	0.000	Highly Significant
Psychological Engagement	.266**	0.000	Highly Significant
Behavioral Engagement	.236**	0.000	Highly Significant
Cognitive			
Cognitive Engagement	.271**	0.000	Highly Significant
Psychological Engagement	.342**	0.000	Highly Significant
Behavioral Engagement	.355**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 5 shows the association between art design teaching attitude and student engagement. The computed r-values indicates a moderate direct correlation and the resulted p-values were less than the alpha level. This means that there was significant relationship exists and implies that the better is the teaching attitude, the more that the students are engaged. The findings show a connection between teaching attitude and student engagement. When educators maintain a positive and enthusiastic attitude, students are more likely to feel motivated and engaged in learning. This positivity can create a supportive and encouraging environment that fosters curiosity and active participation. In the study by Hegarty and Thompson (2019), they observed that students respond well to teachers' methods and the learning environment created. They found that when teachers are supportive, enthusiastic, and encouraging, students become active and engaged learners.

Supportive teachers create an environment where students feel safe to express their thoughts and ideas without fear of judgment. This fosters a positive classroom atmosphere that promotes engagement and participation. Tang and Hu (2022) also assert that teachers' instructional strategies have a significant impact on students' motivation, engagement, and academic achievement. Teachers' tactics and approaches have a big influence on how students engage with the content, how willing they are to contribute, and eventually how successful they are in the classroom. These findings also relate to Nahid et al. (2023) which investigated the impact of the motivation of teachers on the academic achievement of students. They found that when a teacher is motivated, the classroom becomes stimulating; students become enthusiastic for learning.

Table 6 presents the association between educational technology integration and student engagement. The computed r-values indicates a moderate direct correlation. This means that there was significant relationship exists and implies that the better is the educational technology integration, the more that the students are engaged. The findings show that when there is integration of technology in the classroom, students become more engaged. When educational technology is seamlessly integrated into the learning process, students can actively participate in interactive lessons and activities. With the use of educational technology, students have access to a wide range of multimedia resources that cater to different learning styles, making the learning process more inclusive and engaging for all students. In today's digital age, the integration of technology into education has revolutionized the way students learn and teachers instruct. The aforementioned results corroborate D'Angelo's (2018) conclusion that students who use technology are more emotionally and cognitively engaged, which influences their attitudes and interests toward learning and requires mental effort to understand the material. Whether technology is used in the classroom or after school, it gives kids more chances to communicate with teachers, work together with classmates, and participate in the educational process.

Table 6

Relationship Between Educational Technology Integration and Student Engagement

Learning and Creativity	r-value	p-value	Interpretation
Cognitive Engagement	.362**	0.000	Highly Significant
Psychological Engagement	.390**	0.000	Highly Significant
Behavioral Engagement	.235**	0.000	Highly Significant
Experiences and Assessment			
Cognitive Engagement	.278**	0.000	Highly Significant
Psychological Engagement	.305**	0.000	Highly Significant
Behavioral Engagement	.241**	0.000	Highly Significant
Work and Learning			
Cognitive Engagement	.254**	0.000	Highly Significant
Psychological Engagement	.310**	0.000	Highly Significant
Behavioral Engagement	.214**	0.000	Highly Significant
Citizenship and Responsibility			
Cognitive Engagement	.160**	0.000	Highly Significant
Psychological Engagement	.338**	0.000	Highly Significant
Behavioral Engagement	.214**	0.000	Highly Significant
Professional Growth and Leadership			
Cognitive Engagement	.191**	0.000	Highly Significant
Psychological Engagement	.233**	0.000	Highly Significant
Behavioral Engagement	.251**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 7

Proposed Teachers' Training Development for Art Design Teaching

Objectives	Program/Projects	Success Indicators	Persons involved
Art Design Teaching Attitude in terms of Behavioral			
To design strategies to effectively incorporate art in academic subjects	ArtInfuse: Where Creativity Meets Curriculum 1. Introducing art as a core part of academic tasks 2. Using and presenting art pieces to activate prior knowledge before presenting a new lesson 3. Asking students to make art to show their understanding of the lesson	1. 90% of students are able to connect art pieces to the lessons presented to them 2. 90% of students can produce artworks based on their understanding of the lesson 3. 90% of the class focus on the lesson being presented by the teacher	Art Teachers, Students
To develop effective classroom management practices	ArtClass Harmony: Cultivating Creativity through Effective Management 1. Decorating the classroom with sample artworks 2. Discussing and negotiating rules with students 3. Posting rules and regulations to be followed during art class 4. Making sure there are resources (books and art materials) that students may be able to use 5. Arranging the seating to minimize distractions 6. Using the "broken record" technique which is a set of phrases to be repeated in the classroom to reinforce rules	1. 90% of students know and follow the rules of the class; 2. 90% of students have access to basic art materials and resources; 3. 90% of students show proper behavior in the classroom	Art Teachers, Students
Educational Technology Integration in terms of Experiences and Assessment			
To develop a technology-oriented learning environment that encourages curiosity, self-directed learning, and active participation	TechLearn Initiative: Empowering Education Through Innovation 1. Providing tools and resources that encourage personalized learning experiences tailored to student needs and interests 2. Ensuring equitable access to technology and digital resources for all students 3. Recognizing and showcasing innovative art projects and initiatives 4. Providing opportunities for self and peer assessment	1. 90% of students have access to tools and resources 2. 90% of students have access to technology and digital resources 3. 90% of the students are able to showcase their art projects and outputs 4. 90% of the students are able to monitor their own learning	Art Teachers, Students

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To incorporate digital tools and resources to promote student learning and creativity	ArtTech Fusion: Bridging Creativity and Innovation 1. Exploring ways to combine traditional art forms with technological tools and techniques 2. Promoting the use of technology as a medium for art projects and outputs 3. Connecting students with contemporary artists who use technology in their artworks	1. 90% of students use technological tool/technique 2. 90% of the students can produce artworks using technology as the medium 3. 90% of the students learn from practicing artists on the use of technology in art	Art Teachers, Students
Psychological Engagement of Students			
To create an engaging classroom where students feel that they belong	Inclusive Canvas: Fostering Belonging through Engaging Classrooms 1. Creating a welcoming classroom atmosphere that fosters respect and inclusivity 2. Fostering strong relationships among students and teachers 3. Using teaching strategies that accommodate varying abilities and needs 4. Designing activities where students can share their ideas	1. 90% of students feel respected and included in the art class 2. 90% of students have harmonious relationships inside the art class 3. 90% of students are given opportunities to share their ideas and opinions	Art Teachers, Students
To encourage students to achieve the best of their ability	ArtExcel: Inspiring Mastery in the Creative Classroom 1. Developing students' artistic proficiency in terms of techniques and media 2. Introducing different artistic traditions, styles, and historical backgrounds to enhance art appreciation 3. Creating platforms for students to showcase and receive recognition for their achievements 4. Letting students participate in local art events, workshops, or collaborations to enhance cultural development	1. 90% of students are proficient in artistic techniques and media 2. 90% of students are familiar with varied art traditions and styles 3. 90% of students receive recognition and feedback for their outputs 4. 90% of students participate in local cultural events	Art Teachers, Students

4. Conclusions and recommendations

Majority of the respondents agreed that art in the classroom serves a multifaceted role, extending far beyond mere decoration. It has been shown to significantly enhance the learning process and contribute to the development of teachers' cognitive teaching attitudes and their beliefs regarding the importance of art activities in the curriculum. Majority of the respondents agreed that using technology in the art classroom encourages collaboration in terms of learning and creativity and work and learning. It also offers possibilities for various evaluation approaches as to experiences and assessment. Regarding citizenship and responsibility, it also involves responsibly employing technology both within and outside of the classroom. The respondents also agreed on the importance of continuous growth and development of their professional growth and leadership in integrating technology. Majority of the respondents agreed that students are challenged to make meaning from their works of art, which refers to their student engagement. As to psychological engagement, they agreed that the students engage in constructive discussions with their peer; and when it comes to behavioral engagement, students demonstrate active participation by asking questions, seeking clarification when needed, and engaging in class activities with enthusiasm. Art design teaching attitude significantly impacts educational technology integration, enhancing student engagement. Positive attitudes in art teaching lead to better integration, while educational technology integration enhances student engagement by providing diverse learning opportunities, personalized experiences, improved communication, and motivation. The researcher proposed a teachers' training program for art design teaching.

Art Design vocational Colleges in China may provide professional development opportunities that focus on art design teaching attitudes and technology integration, addressing different age groups and educational backgrounds through workshops, seminars, and courses. Educators engaged in art design teaching may promote the use digital collaboration tools and platforms to enhance student connection and teamwork. They may also design technology integration in the performance evaluation techniques of their teachers, such as interactive

feedback procedures and multimedia submissions. Teachers may explore how art can be integrated into their lesson plans across different subjects, fostering interdisciplinary connections that enrich students' learning experiences and encourage independent exploration and understanding. Teachers may allow students to choose from various artistic mediums and methods according to their preferences and strengths. This method fosters creativity and originality by allowing students to freely explore and fully express themselves through art. Students, with the guide of teachers, may have regular reflection on the utilization of technology particularly who this make them engaged and attain the learning outcomes. Implementing these strategies will enable teachers to identify areas for improvement, adjust methods to meet student needs, and foster a more stimulating and productive art design classroom environment. Future research on this topic may target more female respondents, teachers from other age brackets, and individuals with different educational backgrounds. Also it is recommended that other research design other than descriptive method can be explored in the future. The proposed teachers' training program for art design teaching may be implemented to enhance the teaching and learning process.

5. References

- Boughton, D. G. (2019). Assessing student art and design learning. *The International Encyclopedia of Art and Design Education*, 1–20. <https://doi.org/10.1002/9781118978061.ead080>
- Chen, Q., Ye, J., & Lee, Y. (2022). The effects of art design courses in higher vocational colleges based on C-STEAM. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.995113>
- D'Angelo, C. (2018, July 9). *The Impact of Technology: Student engagement and success*. Pressbooks. <https://pressbooks.pub/techandcurriculum/chapter/engagement-and-success/>
- Ghavifekr, S., & Rosdy, W. a. W. (2015). Teaching and Learning with Technology: Effectiveness of ICT Integration in Schools. *International Journal of Research in Education and Science*, 1(2), 175. <https://doi.org/10.21890/ijres.23596>
- Graham, M. (2019). Assessment in the visual arts: Challenges and possibilities. *Arts Education Policy Review*, 120(3), 175–183. <https://doi.org/10.1080/10632913.2019.1579131>
- Hegarty, B., & Thompson, M. (2019). A teacher's influence on student engagement: Using smartphones for creating Vocational Assessment ePortfolios. *Journal of Information Technology Education*, 18, 113–159. <https://doi.org/10.28945/4244>
- Homan, E. (2023, June 20). *The benefits of performing arts in schools*. Pentagon Play. <https://www.pentagonplay.co.uk/news-and-info/the-benefits-of-performing-arts-in-school>
- Li, J., & Xue, E. (2023). Dynamic Interaction between Student Learning Behaviour and Learning Environment: Meta-Analysis of Student Engagement and Its Influencing Factors. *Behavioral Sciences*, 13(1), 59. <https://doi.org/10.3390/bs13010059>
- Liu, Y., & Cheng, X. (2019). Reform and innovation of art design education in the information age. *Advances in Economics, Business and Management Research*. <https://doi.org/10.2991/icem-18.2019.11>
- Lu, L., Zhang, L., & Wang, L. (2022). The relationship between vocational college students' liking of teachers and learning engagement: A moderated mediation model. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.998806>
- Lv, S., Chen, C., Zheng, W., & Zhu, Y. (2022). The relationship between study engagement and critical thinking among higher vocational college students in China: a longitudinal study. *Psychology Research and Behavior Management*, Volume 15, 2989–3002. <https://doi.org/10.2147/prbm.s386780>
- Mahadeo, J., & Nepal, R. (2023, October 13). Using affective learning to foster engagement and critical thinking. *THE Campus Learn, Share, Connect*. <https://www.timeshighereducation.com/campus/using-affective-learning-foster-engagement-and-critical-thinking>
- Nahid, S., Muzaffar, N., & Abbas, M. (2023). Impact of teachers' motivation on students' performance. *Global Educational Studies Review*, VIII(II), 444–453. [https://doi.org/10.31703/gesr.2023\(viii-ii\).40](https://doi.org/10.31703/gesr.2023(viii-ii).40)
- Niittyalahti, S., Annala, J., & Mäkinen, M. (2021). Student engagement profiles in vocational education and

- training: A longitudinal study. *Journal of Vocational Education & Training*, 75(2), 372–390. <https://doi.org/10.1080/13636820.2021.1879902>
- Padillo, G. G., Manguilimotan, R. P., Capuno, R. G., & Espina, R. C. (2021). Professional development activities and teacher performance. *International Journal of Education and Practice*, 9(3), 497–506. <https://doi.org/10.18488/journal.61.2021.93.497.506>
- Richard, G., Joseph, A., Elikem, K., & Edem, B. K. (2023). Technology Integration in Technical and Vocational Education and Training (TVET): The role of the art teacher. *Journal of Technical Education and Training*, 15(4). <https://doi.org/10.30880/jtet.2023.15.04.007>
- Rui, D. (2023, September 7). *China's vocational teachers need career development opportunities: Report*. #SixthTone. <https://www.sixthtone.com/news/1013671>
- Shukla, A., Choudhari, S. G., Gaidhane, A., & Zahiruddin, Q. S. (2022). Role of art therapy in the Promotion of Mental Health: A Critical review. *Cureus*. <https://doi.org/10.7759/cureus.28026>
- Ssegantebuka, J., Tebenkana, T., Edopu, R., Sserunjogi, P., & Kanuge, J. B. (2021). Challenges facing tutors in the teaching of visual arts education in national teacher colleges in Uganda. *Journal of Education and Learning*, 10(4), 51. <https://doi.org/10.5539/jel.v10n4p51>
- Sutton, E. (2023). *Student engagement: Why it's important and how to promote it*. <https://www.branchingminds.com/blog/student-engagement-remote-in-person>
- Tang, Y., & Hu, J. (2022). The impact of teacher attitude and teaching approaches on student demotivation: Disappointment as a mediator. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.985859>
- Tian, J., Chung, E., & Gregory, M. L. (2022). Vocational education in China: its history, roles, challenges and the way forward. *Journal of Cognitive Sciences and Human Development*, 8(1), 112–121. <https://doi.org/10.33736/jcshd.4497.2022>
- Uy, K. (2024, January 3). *What is cognitive education?* All The Science. https://www.allthescience.org/what-is-cognitive-education.htm#google_vignette
- Wang, G. (2020). *Making choices? The lives of vocational college students in China* [PhD Thesis, University of Glasgow]. <https://theses.gla.ac.uk/79027/1/2020WangGengPhD.pdf>
- Wu, S. (2024). Application of multimedia technology to innovative vocational education on learning satisfaction in China. *PLOS ONE*, 19(2), e0298861. <https://doi.org/10.1371/journal.pone.0298861>
- Yang, C., Guo, R., & Cui, Y. (2023). What affects vocational teachers' acceptance and use of ICT in teaching? A Large-Scale survey of higher Vocational college teachers in China. *Behavioral Sciences*, 13(1), 77. <https://doi.org/10.3390/bs13010077>
- Zhang, Z., Tian, J., Zhao, Z., Zhou, W., Sun, F., Que, Y., & He, X. (2022). Factors Influencing Vocational Education and Training Teachers' Professional Competence Based on a Large-Scale Diagnostic Method: A Decade of Data from China. *Sustainability*, 14(23), 15871. <https://doi.org/10.3390/su142315871>
- Zhao, B. (2023). An Exploration of the High-End Path of the Development of Higher Vocational Education in China from Teachers' Perspectives. *Journal of Education and Educational Research*, 6(3), 137–141. <https://doi.org/10.54097/kzf6fv08>

