

THE IMPACT OF COLLEGE ART TEACHERS' TEACHING BELIEF ON TEACHING DESIGN ABILITY: BASED ON THE PERSPECTIVE OF INNOVATIVE TEACHING

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ABSTRACT

This study aims to explore the relationship between teaching beliefs, innovative teaching, and instructional design abilities among art teachers. The research hypotheses include the positive influence of teaching beliefs on instructional design abilities, the positive influence of teaching beliefs on innovative teaching, the positive influence of innovative teaching on instructional design abilities, and the mediating role of innovative teaching between teaching beliefs and instructional design abilities.

Through a questionnaire survey using convenience sampling, 411 art teachers were surveyed. The empirical analysis revealed that the teaching beliefs of art teachers have a positive impact on instructional design abilities and innovative teaching. This implies that teaching beliefs play a crucial role in enhancing instructional design abilities and innovative teaching. Additionally, innovative teaching was found to mediate the relationship between teaching beliefs and instructional design abilities. This indicates that innovative teaching can act as a bridge between teaching beliefs and instructional design abilities, facilitating their relationship and effectiveness. In conclusion, the empirical analysis of this study supports the positive influence of teaching beliefs on instructional design abilities and innovative teaching, as well as the mediating role of innovative teaching between teaching beliefs and instructional design abilities. These research findings provide important insights into the development of teaching beliefs and capabilities among art teachers in the field of education.

Keywords: College Art Teachers; Teaching Belief; Teaching Design Ability; Instructional Innovation.

1. INTRODUCTION

For a long time, the education system has been oriented towards exam-driven goals and intellectually focused elite teaching content and methods. This has resulted in constraints in education. In the midst of educational reform, insightful individuals argue that the focus of the education sector should be on students, while teachers should be the driving force behind educational professional development (Lv, 2018). Consequently, teachers have shifted from passive executors to proactive agents and even designers. Modern educators must embrace multiple roles, including subject matter experts, curriculum planners, curriculum development negotiators, researchers, and education reform advocates (Ruan, 2020).

Teachers, based on school vision, regional characteristics, teacher expertise, and student qualities, construct school-based curricula. Through collaborative teaching within class communities, they design courses for students, select and organize teaching materials, integrate instructional content, design diverse activities, and employ various teaching methods (Vande, 2010). Therefore, teachers' beliefs about their responsibilities are of paramount importance, and

these beliefs are intertwined with the key to innovative teaching (Pei, 2017). However, teachers also seek to understand what skills are required to effectively manifest innovative teaching.

Therefore, this study aims to explore the relationships among art teachers' teaching beliefs, innovative teaching, and instructional design abilities, serving as a reference for future educators and aligning with the diverse new trends in education.

Art and humanities education involves nurturing artistic learning and fostering cultural literacy through art, aiming to cultivate students' artistic knowledge and active engagement in artistic activities, enhancing art appreciation, nurturing life interests, and inspiring artistic potential and holistic personal development (Li et al., 2020). Contemporary art education seeks to achieve personal internalization, integration, and lifelong artistic cultivation in general education (Xu, 2018). Consequently, art and culture are inherently intertwined, as culture requires a creative trait, and creativity is the vitality of artistic activities. Creativity learning's core lies in sparking creative and critical thinking. To enhance creativity, educators must employ innovative teaching models as fundamental teaching frameworks, enhancing students' creative and critical thinking skills, fostering independent thinking, stimulating creativity, and improving learning outcomes and problem-solving abilities (Balakrishnan, 2022). Hence, this study aims to understand how art teachers in this field manifest their teaching beliefs, innovative teaching behavior, and instructional design abilities and how these aspects mutually influence each other.

In summary, this paper aims to address the following questions:

Research Question 1: Can art teachers' teaching beliefs promote instructional design abilities?

Research Question 2: Can art teachers' teaching beliefs promote innovative teaching?

Research Question 3: Can art teachers' innovative teaching promote instructional design abilities?

Research Question 4: Does innovative teaching among art teachers mediator between teaching beliefs and instructional design abilities?

2. RESEARCH HYPOTHESES

Previous literature has largely supported that teachers' beliefs influence their teaching behavior. Teaching beliefs, as internal psychological states of teachers, are directly connected to their teaching abilities. Jamil et al. (2018) argue that teachers' teaching beliefs, attitudes, and experiences have a significant impact on their classroom practices. Dunn et al. (2018) emphasize the pivotal role of teachers' teaching beliefs in language learning processes, reflecting not only their underlying language perspectives and language learning views but also their manifestation in the classroom, whether innate or external. Both domestic and international scholars have further confirmed the relationship between teachers' teaching beliefs and their teaching abilities (Blume, 2020). Based on this, the following hypothesis is proposed:

H1: Art teachers' teaching beliefs positively influence instructional design abilities.

The majority of previous research results also indicate that teachers' teaching beliefs influence their teaching behavior (Knowles & Castro, 2019). The conclusion from past research highlights that beliefs exist in implicit minds but are evident in behavior. Moreover, the strength of teachers' teaching beliefs directly or indirectly affects the intensity of their teaching behavior. From foreign research, teaching beliefs have been found to positively influence and promote teaching behavior, showing a high level of consistency between the two. Furthermore, different teachers' teaching beliefs lead to different teaching management behaviors, impacting students'

learning interests and outcomes (Rumph, 2021).

Teachers themselves have long been the focus of the education research field. Influenced by cognitive psychology, people have developed a strong interest in psychological aspects such as teachers' teaching beliefs. Teaching beliefs assist teachers in adapting to the rapidly changing teaching environment, addressing diverse students, and actively transitioning judgment factors to make decisions in uncertain and evolving teaching situations (Pulinx et al., 2017). Cansoy and Parlar (2018) found that the relationship between teachers' beliefs and teaching behavior appears across various aspects such as teacher roles, teacher-student relationships, knowledge and curriculum, and student differences, demonstrating an interactive relationship between the two. Consequently, it can be inferred that different teaching behaviors will be influenced by different teaching beliefs held by teachers, and different teaching beliefs will lead to distinct teaching behaviors. Based on this, the following hypothesis is proposed:

H2: Art teachers' teaching beliefs positively influence innovative teaching.

Innovative teaching involves teachers using their creativity or creative thinking to solve issues related to lesson planning and execution, achieving teaching objectives or ideals (Ying, 2017). Incorporating creative thinking strategies into teaching design can yield positive results. Creative problem-solving strategies combine creative thinking with problem-solving processes, demonstrating both divergent and convergent thinking traits (Weng, 2017). However, many strategies possess both divergent and convergent qualities (Chen & Shen, 2017). Innovative teaching serves as a manifestation of teachers' creativity, and nurturing creativity can be accomplished through creative strategies and scaffolding (Suchodoletz et al., 2018). Therefore, design-focused teaching can be viewed as a problem-solving process, utilizing creative thinking strategies as scaffolds during teaching design. Based on the above, the following hypothesis is proposed:

H3: Art teachers' innovative teaching positively influences instructional design abilities.

Most previous research results also indicate that teachers' teaching beliefs influence their teaching behavior (Ma, 2021; Xiao, 2020). Different teachers' teaching beliefs also result in varied teaching management behaviors, affecting students' learning interests and outcomes (Rumph, 2021). Innovative teaching involves teachers using their creativity or creative thinking to solve issues related to lesson planning and execution, achieving teaching objectives or ideals (Ying, 2017). Therefore, it can be inferred that teaching beliefs influence teaching behavior, and innovative teaching behavior falls under the category of teaching behavior. While there has been limited research on this, based on the concept of teaching behavior, teaching beliefs can potentially influence innovative teaching. As innovative teaching aims to achieve teaching objectives, it may enhance the ability for instructional design. Thus, this paper posits that teaching beliefs influence innovative teaching, which in turn indirectly influences instructional design abilities. Hence, the following hypothesis is proposed:

H4: Art teachers' innovative teaching acts as a mediator between teaching beliefs and instructional design abilities.

3. RESEARCH METHODOLOGY

3.1 Research Framework

In light of the theoretical development of past teaching beliefs and teaching behavior, teachers' innovative teaching behavior should be influenced by their previous experiences, particularly their professional development background (Xu, 2018). Furthermore, in the realm of

art education research, the focus of previous literature has been on how teachers incorporate art into their everyday teaching practices (Liu, 2017). Building upon this foundation, this study aims to further explore the relationship between art teaching, teachers' teaching beliefs, and innovative teaching. The research framework is illustrated in Figure 1:

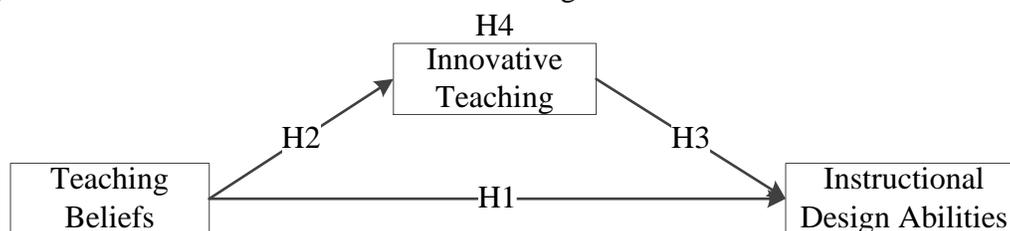


Figure 1: Research Framework

3.2 Study Participants

The research participants were art teachers from universities in Jiangsu Province, China, encompassing various levels of institutions such as vocational colleges, technical schools, and undergraduate programs. These teachers possess teaching experience and artistic backgrounds, facing a diverse array of instructional challenges and needs in their day-to-day teaching. Therefore, investigating their teaching beliefs, innovative teaching practices, and instructional design abilities holds significant importance for comprehending the essence and developmental trends of education and teaching. By delving into the relationships among these variables, valuable insights and references can be provided for educational practices and the professional development of teachers. A total of 437 survey questionnaires were distributed and collected for this study. After eliminating invalid responses with consistent or contradictory answers, 411 valid questionnaires remained, resulting in an effective response rate of 94.05%. To assess the validity and representativeness of the survey, demographic variables were statistically analyzed. The majority of respondents were female, accounting for 72.506% of the sample. The age group with the highest representation was 31-40 years old, comprising 44.769% of the participants. Teachers with 6-10 years of teaching experience were the most prevalent, constituting 50.36% of the sample. In terms of education level, the majority held a master's degree, making up 53.28%. The field of specialization was predominantly music/theater arts, accounting for 30.90% of the total. The alignment between the survey results and the actual demographic distribution confirms the representativeness of this survey.

3.3 Research Instruments

3.3.1 Teaching Beliefs

The teaching beliefs questionnaire, based on the framework by Ho and Watkins (2005), was adapted and refined to align with the context of this study. The questionnaire was organized into three dimensions, covering teaching materials and methods, teacher-student relationships, and teacher roles, totaling 18 items. The questionnaire demonstrated a reliability coefficient of 0.93, indicating strong internal consistency.

3.3.2 Innovative Teaching

The Innovative Teaching Behavior Questionnaire proposed by Lu et al. (2012) was employed for assessing innovative teaching behaviors. The questionnaire comprised a total of 15 items, and its reliability coefficient was 0.92, indicating a high level of internal consistency.

3.3.3 Instructional Design Abilities

Drawing from the measurement scale introduced by Zhang (2016), the instructional design abilities scale was constructed as a single-dimensional instrument, featuring 9 items. The questionnaire displayed a reliability coefficient of 0.89, indicating a satisfactory level of internal consistency.

4. RESULTS

4.1 Common Method Variance

For surveys in social sciences, particularly those involving self-report measures, the issue of common method variance is likely to arise. To assess whether the questionnaire is significantly affected by common method variance, data analysis is required. In this study, the Harman's single-factor analysis was employed, involving an exploratory factor analysis without rotation. The sum of squared loadings extracted from the first factor is observed. If the sum does not exceed 40%, it suggests that common method variance is not a significant concern. In this case, the sum of squared loadings extracted from the first factor was 32.340%, which is less than 40%, indicating that there is no substantial issue of common method variance affecting the questionnaire.

4.2 Correlation Analysis

Pearson correlation analysis was conducted to examine the relationships between two variables, as shown in Table 1. There was a significant positive correlation between teaching beliefs and innovative teaching ($r=0.439, p<0.01$); A significant positive correlation between teaching beliefs and instructional design abilities ($r=0.350, p<0.01$); and a significant positive correlation between innovative teaching and instructional design abilities ($r=0.482, p<0.01$).

Table 1 Correlation Analysis

Variable	M	SD	1	2	3
1. Teaching Beliefs	3.850	0.888	1		
2. Innovative Teaching	3.676	0.753	0.439**	1	
3. Instructional Design Abilities	4.077	0.576	0.350**	0.482**	1

Note: ** $p<0.01$

4.3 Structural Equation Model

After constructing the structural equation model and conducting data fitting, as shown in Figure 2, the fit indices were as follows: $\chi^2/df = 2.926 < 5$, indicating a good fit; $GFI = 0.932 \geq 0.9$, indicating a good fit; $AGFI = 0.919 \geq 0.8$, indicating a good fit; $CFI = 0.927 \geq 0.9$, indicating a good fit; $RMSEA = 0.051 \leq 0.08$, indicating a good fit; $PCFI = 0.943 \geq 0.5$, indicating a good fit.

Considering these various fit indices collectively, it can be concluded that the model demonstrates a good match with the data.

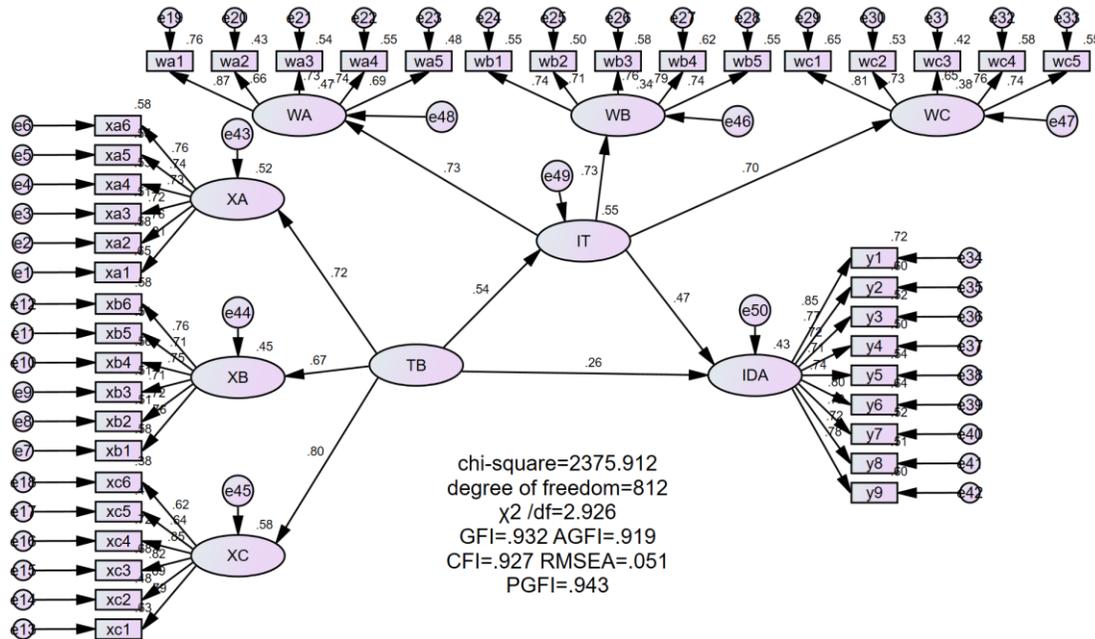


Figure 2 Path Analysis Diagram

Note: TB = Teaching Beliefs; IT = Innovative Teaching; IDA = Instructional Design Abilities

The results of the structural equation model show that the path from teaching beliefs to instructional design abilities has a significant positive impact ($\beta=0.262, t=5.643, p<0.001$). This supports H1, which posits a positive influence of teaching beliefs on instructional design abilities among art teachers. The path from teaching beliefs to innovative teaching also exhibits a significant positive impact ($\beta=0.544, t=7.553, p<0.001$), supporting H2, which proposes a positive relationship between teaching beliefs and innovative teaching among art teachers. Furthermore, the path from innovative teaching to instructional design abilities shows a significant positive impact ($\beta=0.474, t=7.142, p<0.001$), providing support for H3, which suggests a positive influence of innovative teaching on instructional design abilities among art teachers.

To observe the total effects and indirect effects among variables, the significance of each effect was computed using the Bootstrap method in AMOS. Regarding the indirect effects, the indirect effect of teaching beliefs \rightarrow innovative teaching \rightarrow instructional design abilities is 0.253 and statistically significant, which supports H4.

5. CONCLUSION

Teaching Beliefs and Instructional Design Abilities: Teaching beliefs among art teachers have a positive impact on instructional design abilities. They encourage students to develop creativity and unique potential, focusing on diverse tasks in instructional design that stimulate

creative thinking (Jamil et al., 2018). Respecting individual differences enables them to better meet student needs and enhance the flexibility of instructional design (Dunn et al., 2018). Additionally, they are dedicated to nurturing students' expressive abilities, creating a positive learning environment that encourages students to express themselves openly. This commitment is reflected in their instructional designs, which provide various opportunities for diverse expression (Blume, 2020).

Teaching Beliefs and Innovative Teaching: Teaching beliefs of art teachers prompt them to adopt innovative teaching methods. They emphasize student autonomy and independent thinking, encouraging a departure from traditional models and fostering innovative thinking among students (Knowles & Castro, 2019). They recognize that each student possesses diverse perceptual and expressive modes and encourage the exploration of different approaches in instructional design to cultivate multiple dimensions of innovation (Cansoy & Parlar, 2018).

Innovative Teaching and Instructional Design Abilities: Innovative teaching has a positive influence on instructional design abilities. Art teachers employ innovative teaching methods such as project-based learning and artistic exploration to enhance student engagement and outcomes. They prioritize student collaboration and teamwork skills, unleashing students' innovative potential (Suchodoletz et al., 2018).

Mediating Role of Innovative Teaching: Innovative teaching serves as a mediator between teaching beliefs and instructional design abilities. Teaching beliefs guide teachers in employing innovative teaching methods, and practicing innovative teaching enhances their instructional design abilities.

In conclusion, this study reveals the close relationship between teaching beliefs, innovative teaching, and instructional design abilities among art teachers. Teaching beliefs stimulate innovative teaching methods, which, in turn, contribute to the enhancement of instructional design abilities. This forms a positive cycle that continuously elevates the quality of teaching.

6. RESEARCH RECOMMENDATIONS

Higher education institutions should adopt diverse training formats such as workshops, seminars, and lectures to meet the needs of teachers across different levels and fields. Secondly, training content should encompass a variety of teaching methods including lectures, case studies, group discussions, and practical exercises to enrich teachers' pedagogical tools. Simultaneously, universities can offer training in innovative teaching strategies like project-based learning and cooperative learning to facilitate deeper learning.

Emphasis should be placed on enhancing instructional design abilities through focused training. Teachers need to acquire skills in setting instructional goals and selecting assessment methods. Teachers should also be encouraged to engage in teaching reflection and evaluation. Universities can organize exchange activities to facilitate the sharing of experiences.

Furthermore, the support of university leadership is critical for fostering an innovative educational environment. The leadership should convey messages of support and encouragement to teachers, maintain regular communication with them, and provide necessary resources and facilities. Leadership can offer professional development opportunities for teachers through training, professional development plans, and even establish incentive mechanisms to motivate innovative teaching and design.

For art teachers, continuous professional development is paramount. They can participate in

specialized training and academic seminars to expand their knowledge and skills, updating their teaching strategies. Engaging in artistic activities and exhibitions enhances their art appreciation skills, providing creativity and inspiration for teaching. Strengthening teaching reflection and evaluation contributes to ongoing improvement of teaching practices and designs. Establishing collaborative networks to share resources and experiences enables them to draw inspiration from the successes of others.

In conclusion, higher education institutions' teacher training, leadership support, and the continuous development of art teachers will collectively drive educational innovation and enhance teaching quality.

REFERENCES

- Aktas, F. (2022). The emergence of creativity as an academic discipline: Examining the institutionalization of higher education programs. *Higher Education Quarterly*, 76(2), 460-477.
- Balakrishnan, B. (2022). Exploring the impact of design thinking tool among design undergraduates: a study on creative skills and motivation to think creatively. *International Journal of Technology and Design Education*, 32(3), 1799-1812.
- Blume, C. (2020). Games people (don't) play: An analysis of pre-service EFL teachers' behaviors and beliefs regarding digital game-based language learning. *Computer Assisted Language Learning*, 33(1-2), 109-132.
- Cansoy, R., & Parlar, H. (2018). Examining the relationship between school principals' instructional leadership behaviors, teacher self-efficacy, and collective teacher efficacy. *International Journal of Educational Management*, 25(3), 71-73.
- Chen, Z. S., & Shen, H. W. (2017). Innovative teaching design and application of web application development course based on MOOCs. *Chinese Information Technology Education*, 17(21), 39-44.
- Dunn, R., Hattie, J., & Bowles, T. (2018). Using the Theory of Planned Behavior to explore teachers' intentions to engage in ongoing teacher professional learning. *Studies in Educational Evaluation*, 59(1), 288-294.
- Ho, Y., & Lai, F. (2005). The relationship between university English teachers' teaching beliefs and teaching behaviors: Qualitative and quantitative analysis. *Foreign Language Teaching and Research*, 37(4), 271-275.
- Knowles, R. T., & Castro, A. J. (2019). The implications of ideology on teachers' beliefs regarding civic education. *Teaching and Teacher Education*, 77(1), 226-239.
- Li, Y. F., Wang, Y. M., & Chen, W. W. (2020). Teaching design of vocational public art courses based on "Blended Learning": Taking "Intangible Cultural Heritage in the Classroom: Tie-Dyeing" as an example. *Guangxi Education*, 1146(18), 119-121.
- Liu, L. L. (2017). Practice-oriented environmental art teaching design reform. *Higher Education Journal*, 2017(11), 110-111.
- Lu, Y., Li, X., Ye, Z. G., Wang, M. L., Mei, R. H & Xia, Q. (2012). Research on self-directed learning, self-directed experiment, and self-directed innovative teaching. *Experimental Technology and Management*, 29(6), 11-16.
- Lv, Q. Y. (2018). Research on the education of ideal beliefs of art and design college students in the context of the new era. *Zhi Fu Times*, 400(10), 174-174.

- Ma, Y. (2021). Research on high school English teachers' grammar teaching beliefs and teaching behaviors. *Jiangsu Foreign Language Teaching Research*, 12(3), 24-29.
- Pei, W. (2017). An analysis of the inspiration of "Traditional Folk Art" on the innovation of design art teaching. *Contemporary Educational Practice and Teaching Research*, 2017(9), 321-323.
- Pulinx, R., Van Avermaet, P., & Agirdag, O. (2017). Silencing linguistic diversity: The extent, the determinants and consequences of the monolingual beliefs of Flemish teachers. *International Journal of Bilingual Education and Bilingualism*, 20(5), 542-556.
- Ruan, Y. L. (2020). In the context of multiculturalism, fostering innovation through comprehensive media public art practice. *Art Education Research*, 2020(5), 176-178.
- Rumph, R. (2021). An exploration of voluntary prekindergarten teachers' culturally responsive teaching self-efficacy and outcome expectancy beliefs in urbanized areas. *Journal of Black Psychology*, 25(4), 490-503.
- Suchodoletz, A., Jamil, F. M., Larsen, R. A., & Hamre, B. K. (2018). Personal and contextual factors associated with growth in preschool teachers' self-efficacy beliefs during a longitudinal professional development study. *Teaching and Teacher Education*, 75(3), 278-289.
- Vande, Z. R. (2010). Teaching design education for cultural, pedagogical, and economic aims. *Studies in Art Education*, 51(3), 248-261.
- Weng, Z. Q. (2017). Curriculum planning and innovative teaching practice design for cultivating citizenship financial literacy of non-business major college students. *Innovation and Management*, 13(3), 101-125.
- Xiao, J. C. (2020). Research on the relationship between innovative teaching beliefs and innovative teaching behaviors: The mediating role of motivation and participation in professional learning communities. *Quarterly Journal of Contemporary Education Research*, 28(1), 1-37.
- Xu, C. (2018). Applying genre art innovative teaching models. *Chinese Peking Opera*, 2018(3), 10-11.
- Ying, X. Q. (2017). Innovative teaching design of the organic combination of traditional teaching methods and flipped classroom: A case study of cooking professional skills courses. *Educational Teaching Forum*, 17(25), 39-43.
- Zhang, Z. Y. (2016). Exploration of the digital media art teaching mode in the new media era. *Art and Technology*, 29(1), 353-353.