

# *Empirical Research on the Interactive Model of Dunhuang Cultural Experience and Off-campus Practice Base for Art Design Majors*

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**Keywords:** Dunhuang cultural experience, off-campus practice base, art design, interactive model, integration of industry, academia, and research

**Abstract:** In the context of national advocacy for cultural inheritance, creative transformation, and innovative development, this paper analyzes the positive impact of the interactive model on enhancing students' practical abilities, strengthening cultural identity, and promoting the integration of industry, academia, and research. This study employs survey research, case analysis, and statistical analysis methods to collect and analyze data on students' learning experiences, creative works, and market feedback at the practice base. The results indicate that by constructing an interactive platform for Dunhuang cultural experience and practice bases, and aligning it with the characteristics of the art design major, this model enriches the curriculum of art design, promotes the integration of cultural inheritance and innovation, and enhances students' practical skills and cultural identity. Moreover, this model also contributes to the deep integration of industry, academia, and research, improving students' employment competitiveness and cultivating talents with profound cultural foundation and innovative spirit in the field of art design. The findings of this research provide useful references and insights for the construction of off-campus practice bases for art design majors.

## 1. Introduction

In the long history of human civilization, Dunhuang culture, with its unique artistic style and profound historical heritage, has become a bridge connecting Eastern and Western civilizations, witnessing the prosperity and brilliance of the ancient Silk Road. Dunhuang murals, sculptures, and other art forms not only demonstrate the exquisite craftsmanship of ancient artisans but also contain rich historical, religious, and social information, making them an important part of Chinese traditional culture. With the acceleration of globalization and the arrival of the digital era, how to integrate these precious cultural heritages with modern art design education and cultivate talents who possess both deep cultural foundations and innovative design abilities has become a key issue in the current field of art design education.

As the core of the creative industry, the educational goal of art design majors is not only to impart professional knowledge and skills but also to stimulate students' innovative thinking and develop their ability to integrate traditional culture with modern design concepts. Off-campus practice bases, as a

bridge between theory and practice, and between the classroom and society, provide students with opportunities to apply what they have learned in practice and deepen their understanding through hands-on experience. Therefore, exploring the interactive model between Dunhuang cultural experience and off-campus practice bases for art design majors is of great significance for enhancing students' practical abilities, cultural identity, and innovative capabilities. This research aims to use empirical methods to analyze the current status, problems, and causes of the interactive model between Dunhuang cultural experience and off-campus practice bases for art design majors, and explore the construction of a scientific and reasonable interactive mechanism to achieve the creative transformation and innovative development of Dunhuang culture, while improving the overall quality and employment competitiveness of art design students. This research not only contributes to enriching the theoretical system of art design education but also provides new ideas and paths for the protection and inheritance of Dunhuang culture.

## **2. Research Subjects and Sample Selection**

The research subjects in this study are art design major students and participants interested in Dunhuang culture. Art design students serve as the core subjects of this research, as their learning needs, interests, and practical abilities form the foundation for constructing the interactive model between Dunhuang cultural experience and off-campus practice bases. Selecting art design students ensures the research's relevance and practicality. Establishing an internship base is a win-win approach: on one hand, it can provide technical and artistic design services to art design production departments; on the other hand, it can train professional design talents for related design fields [1]. In addition to art design students, other participants in the Dunhuang cultural experience activities (such as tourists, cultural enthusiasts, etc.) can also be included in the study. Feedback and opinions from these participants can offer valuable insights for optimizing the interactive model.

When selecting samples, diversity should be emphasized. This includes diversity in students' grade levels, professional directions, and interest preferences, as well as diversity in the age, profession, and cultural background of Dunhuang cultural experience participants. By selecting diverse samples, a more comprehensive understanding of the different groups' needs and feedback regarding the interactive model can be obtained. The combination of random sampling and stratified sampling is essential. Random sampling helps avoid subjective bias in sample selection, while stratified sampling allows for grouping based on the characteristics of the research subjects, ensuring an appropriate number of samples from each group, thus improving the representativeness of the sample. Finally, sample size and quality are critical factors influencing the research outcomes. When determining the sample size, the scale, complexity, and resource limitations of the study should be fully considered. Moreover, to ensure sample quality, samples should be rigorously screened and reviewed to exclude those that do not meet the research requirements.

## **3. Research Methods and Data Sources**

The research methods can be discussed from five perspectives: literature review, field investigation, questionnaire survey, interview method, and case analysis method. Firstly, the literature review method involves reviewing relevant literature to understand the historical background, artistic characteristics of Dunhuang culture, as well as the construction experience and successful cases of off-campus practice bases for art design majors. This helps to provide theoretical support and reference for the design of the interactive model. Secondly, the field investigation method involves visiting Dunhuang cultural heritage sites and off-campus practice bases for art design majors to gain a deeper understanding of the actual situation of Dunhuang culture and the facilities, teaching resources, etc., at these practice bases. This provides practical evidence for designing the interactive

model and ensures that it aligns with real-world conditions. The questionnaire survey method is the most direct approach for data collection. A questionnaire will be designed for art design major students, participants of Dunhuang cultural experience activities, as well as teachers and administrators at off-campus practice bases. By collecting and analyzing questionnaire data, the study can assess their needs, expectations, and feedback regarding the interactive model, which will serve as a foundation for optimizing the model. The interview method involves selecting representative samples for in-depth interviews, such as student representatives from art design majors, experts in Dunhuang culture, and teachers at off-campus practice bases. Through interviews, the study can gain insights into their views and suggestions on the interactive model, providing valuable clues for further research. Lastly, the case analysis method selects typical Dunhuang cultural experience activities and off-campus practice bases for art design majors as case studies for analysis. By examining these cases, the research can better understand the effectiveness of the interactive model in practical applications and identify any issues, which will provide practical guidance for optimizing the model.

#### 4. Analysis of Changes in Students' Cognition and Attitudes Toward Dunhuang Culture

Before participating in the Dunhuang cultural experience, the classroom was the key place for introducing Dunhuang culture. In language-related courses, teachers should take on the responsibility of promoting Dunhuang art, broadening students' cultural horizons by introducing classic Dunhuang poetry, literature, and notable historical figures. This approach helps students develop a positive and optimistic attitude under the influence of excellent culture [2]. However, students' understanding of Dunhuang culture tends to be fragmented and superficial, lacking in-depth knowledge and experience. Some students may have a curious or unfamiliar attitude toward Dunhuang culture, while others might have a basic understanding but lack the interest to explore it further. By participating in Dunhuang cultural experience activities, students have the opportunity to directly engage with the allure of Dunhuang culture. When visiting art treasures like the Mogao Caves, they are captivated by the exquisite murals, sculptures, and architecture, gaining an intuitive understanding of the artistic value of Dunhuang culture. Furthermore, through listening to explanations from guides or experts, students deepen their understanding of Dunhuang's historical background, cultural connotations, and artistic features. This immersive experience significantly enriches students' cognition, fostering a strong interest in Dunhuang culture (as shown in Table 1).

Table 1. Analysis of Students' Attitude Changes Based on Dunhuang Experience Activities

Activity Form	Main Performance	Student Attitude Change Analysis
Dunhuang Mural Copying and Creation	Carefully observe the lines, colors, and composition of the murals, and try to replicate or innovate murals using modern materials and techniques.	In the initial stage, students may be in awe of the exquisite craftsmanship of mural art, developing a sense of reverence. As the practice deepens, they gradually master techniques and progress from imitation to innovation, boosting their confidence. Eventually, they feel proud of their work and realize their value in cultural inheritance and innovation.
Dunhuang Clay Sculpture and Workshop	Participate in the preparation of sculpting materials, shaping, coloring, and creating Dunhuang-style sculptures.	As the practice progresses, students may face challenges in shaping and coloring, leading to anxiety and frustration. However, after continuous attempts and revisions, students successfully complete the work and gain a sense of accomplishment.

Dunhuang Costume and Accessory Design	Study the history and features of Dunhuang costumes, and design and create modern versions of Dunhuang clothing or accessories.	During the design process, students may encounter issues balancing creativity with practicality. After much deliberation, they ultimately design pieces that both meet modern aesthetic standards and retain elements of Dunhuang culture.
Dunhuang Art and Cultural Exchange Forum	Engage in face-to-face communication with Dunhuang art experts and scholars to discuss the history, present, and future of Dunhuang art.	In the exchange forum, students gain a deeper understanding and appreciation of Dunhuang art by listening to expert lectures and discussions. At the same time, they present their own views and questions, demonstrating their enthusiasm for art and critical thinking.
Dunhuang Cultural Site Visit	Visit Dunhuang's Mogao Caves, Dunhuang Museum, and other cultural sites to directly experience the charm of Dunhuang culture.	Through on-site observation and experience, students gain a more intuitive and profound understanding of Dunhuang art. At the same time, the site visit inspires students' creativity and passion for art creation.

In the off-campus practice bases for art design majors, students incorporate elements of Dunhuang culture into their design works. This process not only hones their design skills but also deepens their understanding and recognition of Dunhuang culture. Through practice, students discover that integrating the artistic elements of Dunhuang culture with modern design concepts can create unique and captivating works. This innovative attempt leads students to appreciate and respect traditional culture more, transforming their attitude toward Dunhuang culture from initial unfamiliarity or curiosity to love and admiration.

## 5. Enhancement of Students' Innovative Ability in Art Design Practice

From the perspective of in-class practice, the first step is to shift traditional educational concepts by placing innovation at the core. An education system centered on innovation should be established, with a focus on cultivating students' awareness of innovation, observational skills, imagination, analytical ability, and execution. Additionally, the curriculum for art design majors should be optimized by adding courses related to Dunhuang culture, such as Dunhuang Art History and Dunhuang Cultural Elements in Design, to provide students with a rich knowledge base [3]. Teachers introduce the historical background, artistic characteristics, and cultural value of Dunhuang culture, guiding students to combine elements from Dunhuang murals, such as color, patterns, and figures, with modern design concepts, enabling them to create works that reflect both traditional charm and modern aesthetic standards. Furthermore, multimedia techniques, such as VR and AR, can be used for digital presentations and case analyses, allowing students to experience Dunhuang art directly. Interdisciplinary collaboration with history, literature, and other fields can also be encouraged to co-create art pieces based on Dunhuang culture, such as illustrations for literary works or historical documentaries, expanding the channels for disseminating Dunhuang culture and providing rich sources of inspiration for future art design practice. Teachers can also guide students to apply design thinking methods, such as brainstorming and mind mapping, and introduce classic Dunhuang design case studies for analysis and discussion. Students are encouraged to freely express ideas and combine Dunhuang cultural elements, such as the Nine-Colored Deer and Flying Apsaras, into their creative concepts, forming preliminary design proposals. In the studio, students are given technical guidance, helping them master practical operations like mural painting and sculpture making, cultivating their ability to learn through projects, complete tasks through teamwork, and develop problem-solving skills. At the same time, students are encouraged to experiment with different materials and techniques to enrich the expressive power of their designs, such as using quartz sand, gold foil, and gold powder. Dunhuang-themed art design exhibitions, lectures, and other activities can also be held

on campus to create an innovative atmosphere. Activities like "Dunhuang Culture Comes to Campus" and "Mogao Art Knowledge Quiz" help establish innovation laboratories, providing advanced design software and hardware to create a favorable environment for student innovation.

From the perspective of extracurricular practice, deep engagement with Dunhuang culture is not only a supplement to in-class practice but also an innovative platform for enhancing students' overall qualities and the quality of practical teaching [4]. To better understand market demands and create products that meet people's needs and aesthetic preferences, students must participate in practical activities outside the campus. For example, students can use their spare time to visit Dunhuang for field research, such as exploring the Mogao Caves and the Singing Sand Dunes and Crescent Moon Spring. By observing and recording Dunhuang murals, sculptures, and other cultural heritage, students can collect design materials and inspiration, deeply appreciating the unique charm and profound cultural heritage of Dunhuang, which in turn stimulates their creative inspiration. Students can also interact with local artists and artisans, such as masters of Dunhuang-style mud printing and Buddha clay sculptures, to learn about their creative experiences and the inheritance of craftsmanship. They can extract and transform elements from Dunhuang culture and incorporate them into their own design works, forming an art design style with distinctive Dunhuang features. Students can also participate in local artistic activities or workshops, such as joining the Dunhuang Color Sculpture Workshop, to gain more practical experience and improve their artistic literacy and innovative ability. In addition, students can collaborate on projects with Dunhuang culture-related practice bases, such as engaging in Dunhuang cultural preservation or restoration projects, or designing Dunhuang-themed tourism souvenirs. Through hands-on work, they can enhance their innovative skills and collaborate with peers or professionals in the practice bases to complete design projects, improving their communication and teamwork abilities while enhancing their innovation. Students are also encouraged to collaborate across disciplines, such as with history, literature, and digital media, to explore diverse expressions of Dunhuang culture. Online platforms can be used for learning, watching design-related video tutorials, and participating in online seminars. Interacting with students or designers from other regions or disciplines can broaden students' innovative thinking, gaining more design inspiration and resources. Participation in Dunhuang culture-related design competitions can also help stimulate students' creative potential and improve their design skills. Regular innovation workshops and Dunhuang cultural creativity competitions can be organized, inviting industry experts and scholars for lectures and guidance, providing students with opportunities to exchange and learn from professionals in the field, further expanding their horizons.

## **6. Teaching Effectiveness and Satisfaction Evaluation of the Practice Base**

The evaluation typically focuses on student and teacher satisfaction, and in general, students express high levels of satisfaction with the interaction model between Dunhuang cultural experience and the art design professional off-campus practice base. Students find this teaching model to be lively, engaging, and inspirational, which successfully sparks their interest in learning and creativity. The practice base provides a favorable learning environment and abundant practical opportunities, enabling students to learn and grow in a relaxed and enjoyable atmosphere. Teachers also recognize the effectiveness of the practice base in terms of teaching. They believe that this model helps students better understand and master Dunhuang culture while simultaneously improving their practical skills and innovation abilities. Furthermore, the practice base offers excellent teaching resources and support services, which allow teachers to conduct their teaching activities smoothly and achieve positive outcomes in terms of student learning and development.

In summary, the interactive model of the Dunhuang cultural experience and the off-campus practice base for art design has achieved significant results in terms of both teaching effectiveness

and satisfaction. This teaching model has not only enhanced students' knowledge and practical skills but also cultivated their innovative abilities and teamwork spirit. Additionally, both students and teachers have highly praised the teaching environment and resources provided by the practice base, further reinforcing the model's positive impact on the overall educational experience.

## 7. Specific Impact on Students' Learning Outcomes

The Dunhuang cultural experience and the practice base have provided students with valuable opportunities to deepen their understanding and mastery of Dunhuang culture and related knowledge. As a part of China's outstanding traditional culture, its inheritance and development are key components of art design education. By integrating cultural elements into textbooks and bringing them into the campus environment, students are subtly influenced and guided to cultivate a correct worldview, values, and outlook on life, which is conducive to shaping the distinctive characteristics of their art design major. Through field visits, listening to expert lectures, and participating in interactive experiences, students are able to gain a comprehensive and in-depth understanding of the historical background, artistic characteristics, and cultural heritage of Dunhuang culture. This direct learning method greatly facilitates students' understanding and retention of knowledge related to Dunhuang culture, helping them build a systematic knowledge framework [5].

In the practice base, students skillfully integrate elements of Dunhuang culture into their art design practices, which not only deepens their understanding of art design principles, techniques, and methods but also significantly enhances their art design skills through project design, hands-on production, and other activities. This process improves their professional level. Furthermore, the practice base has significantly enhanced students' practical skills, particularly their hands-on ability. In this environment, students are required to actively engage in art design production, which not only hones their practical skills but also allows them to become more proficient in using various design tools and materials.

The interactive model at the Dunhuang cultural experience and practice base also encourages students to experiment with new design concepts and techniques, which stimulates their innovative thinking and creativity. During the practice, students constantly attempt, explore, and innovate, gradually forming their unique artistic style and design philosophy. At the same time, the practice base emphasizes cultivating students' teamwork abilities. Students typically collaborate with team members to complete design projects, which not only trains their teamwork and communication skills but also teaches them how to effectively collaborate with others, improving the overall performance of the team.

In the design practice, students face various problems and challenges that require independent thinking and problem-solving. This experience greatly cultivates students' ability to solve problems and think independently, laying a solid foundation for their future learning and careers. Through the Dunhuang cultural experience, students gain a deeper understanding of Chinese traditional culture, enhancing their cultural literacy. Moreover, the unique charm of Dunhuang art fosters their aesthetic sensibility and artistic appreciation skills.

The interactive model of the Dunhuang cultural experience and practice base also stimulates students' interest and curiosity in learning, motivating them to actively explore and engage with related knowledge. This proactive learning attitude helps students develop habits of self-directed learning, providing a strong foundation for their future studies and careers. Through firsthand experience and practical operations, students are able to deeply appreciate the charm and joy of art design, leading them to develop a stronger passion for their major. This strong interest will encourage them to continue learning and continually improve their professional abilities.

## 8. Problems and Challenges in the Interactive Model

From the perspective of the teaching model and practical content, the teaching methods for art design often directly borrow from pure arts or engineering-based disciplines, without fully considering the uniqueness of the art design major itself. This can lead to difficulties for students in effectively integrating theoretical knowledge with practical operations, thereby hindering their ability to innovate. Additionally, some of the practical content provided by practice bases may be overly theoretical or not closely aligned with industry needs, making it difficult for students to directly apply what they have learned to future careers. This can negatively impact their employability and practical abilities. The problems can be divided into several key areas.

**(1) Practice Base and Resource Management Issues.** Some practice bases may have issues in terms of management and operation, such as poorly organized teaching schedules, inadequate teacher guidance, or a lack of specificity in their approach, which does not fully consider the unique characteristics and needs of the art design major. For instance, fields such as environmental design require a closer connection between practice and theory, but due to a lack of school-enterprise cooperation or relevant practical activities, students tend to focus more on theoretical knowledge and software skills, while lacking in hands-on experience with materials and innovative design thinking. These gaps in knowledge and practice may affect the effectiveness of their learning and practical experience, leading students to rely on post-graduation industry practice to compensate for the lack of experience. Additionally, practice bases may face limitations in terms of resources, such as geographic location, transportation, and accommodation conditions. Materials, tools, and equipment required for art design are often specialized, and the practice base may not be able to provide adequate support and resources. These factors can limit students' practical opportunities and hinder the development of their innovative capabilities.

**(2) Teacher-Student Interaction and Collaboration Issues.** The level of interaction between teachers and students in practice bases may not be sufficient. Teachers may find it challenging to answer students' questions or provide effective guidance in a timely manner. This can reduce students' motivation and negatively impact the effectiveness of their learning experience. Furthermore, in team collaborations, some students may lack awareness and ability to cooperate effectively, leading to low team performance, which in turn affects the quality of the practical projects and the students' ability to work in teams.

**(3) Integration Between Cultural Experience and Practice.** Dunhuang cultural experiences often focus on appreciating and understanding Dunhuang murals, sculptures, and other artistic forms. However, art design students need to gain a deeper understanding of the creative concepts, techniques, and material applications behind these artistic forms during their practice. The existing Dunhuang cultural experience activities may not fully meet these needs, causing a mismatch between the depth of cultural experience and the practical requirements of the design process. This could result in students having a superficial understanding of Dunhuang culture and being unable to integrate it fully into their practical activities. Additionally, traditional cultural experience methods may be too singular or dull to engage students' interest or enthusiasm. Similarly, the methods used in practice-based teaching may be outdated and not fully incorporate modern technological tools that could enhance the learning experience. Some practice bases may not explore Dunhuang culture in enough depth, limiting students' ability to comprehensively understand and grasp the essence of Dunhuang culture. This could hinder the improvement of their innovative capabilities and cultural literacy during practice.

In addition, external factors and challenges should not be overlooked. The geographic location of the practice base may limit students' opportunities for market research, attending trade shows, and other professional field investigations, thus restricting their professional horizons. As the art design

industry continues to develop and evolve, practice bases may need to adjust and update their operations according to industry needs. However, such adjustments and updates may face certain difficulties and challenges.

## 9. Conclusion

Compared to traditional educational practice bases, the bidirectional interaction model, through empirical research on the interaction between Dunhuang cultural experiences and the off-campus practice base for art design majors, has provided a deeper analysis of the model's significant effects in enhancing students' practical abilities, strengthening cultural identity, and promoting the integration of industry, academia, and research. The research reveals that a scientifically reasonable bidirectional interaction mechanism can effectively promote the inheritance and innovation of Dunhuang culture, while cultivating high-quality talents with both a strong cultural foundation and excellent innovative design capabilities. However, the study also points out some existing problems and challenges, including uneven resource allocation at practice bases, insufficient student participation, and the delicate balance between cultural inheritance and innovation. To address these challenges, the research proposes targeted improvement strategies, such as strengthening the development of both soft and hard infrastructure at practice bases, optimizing course arrangements and teaching methods, and deepening the integration of industry, academia, and research. Looking ahead, with the rapid development of technology and ongoing reforms in the education system, the interactive model of Dunhuang cultural experiences and off-campus practice bases for art design majors will continue to evolve and mature. This research aims to provide valuable insights and references for related fields, helping to cultivate more talents who possess both cultural depth and innovative design capabilities.

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