

Original Research Article

Open Access



Construction of practical teaching curriculum system of art design based on self-efficacy theory

Heng Yao^{1,*}, Lee Khiam Jin²

¹ Xi'an University of Architecture and Technology (XAUAT), Beilin District Yanta Street No 13. 710055. Xian, Shaanxi Province, China

² Malaysia University of Science and Technology (MUST), Block B, Encorp Strand Garden Office, No. 12, Jalan PJU 5/5, Kota Damansara, 47810 Petaling Jaya, Selangor, Malaysia,

***Correspondence to:** Heng Yao, Xi'an University of Architecture and Technology (XAUAT), Beilin District Yanta Street No 13. 710055. Xian, Shaanxi Province, China, E-mail: heng.yao@phd.must.edu.my

Abstract: This paper focuses on the principles and concrete paths of integrating self-efficacy theory into the practical teaching curriculum system of art design. Self-efficacy theory into the art design practice teaching course, can better help teachers understand students psychological mechanism in the process of learning, so as to build a more scientific and effective teaching mode, improve students ability in creative and practical, stimulate students learning enthusiasm and initiative, so as to promote the improvement of art design practice teaching quality.

Keywords: self-efficacy theory; art design practice course; construction principle; path

Foreword

In the teaching of modern art design, it is necessary not only to cultivate students professional quality, but also to ensure that students can adapt to social needs and have innovative and creative ability. Self-efficacy theory for the art design practice teaching curriculum system optimization provides a new perspective, self-efficacy theory can help teachers dig into students in the subjective initiative of creativity and practice, to build a more scientific, efficient and fit of the students development needs of teaching mode, promote the art design practice teaching quality and level of continued ascension.

1. Analysis of the current situation of art and design practice teaching curriculum system

The practice teaching curriculum system of art and design major usually covers professional basic courses, professional core courses and practical links. Among them, the professional basic courses focus on the teaching of basic knowledge such as painting, color, composition and artistic literacy foundation; the core courses focus on the professional directions, such as brand design, packaging design, designed to cultivate students professional skills in specific fields; the practice links, including course design, practice, and graduation design, try to enable students to apply theoretical knowledge to practical operation,



© The Author(s) 2024. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, sharing, adaptation, distribution and reproduction in any medium or format, for any purpose, even commercially, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

emphasizing systematic and professional knowledge and skill training, to gradually improve the students design ability. However, there are many problems in the existing curriculum system. First, there is a serious disconnection between theory and practice. Some courses pay too much attention to the explanation of theoretical knowledge, and the practical links are relatively weak. As a result, although students master certain theories, it is difficult to flexibly use them in practical design projects. For example, the course of design history theory is not closely related to the actual design operation, and the students cannot effectively integrate the historical style with the contemporary design after learning. Second, students innovation ability is insufficient, the curriculum is based on traditional design mode, the stimulation and cultivation of innovative thinking is not enough. Students often rely on existing patterns in the design process, Lack of unique creativity and personalized expression. Third, the employability needs to be improved, the connection between the curriculum system and the market demand is not accurate enough, and it is difficult for students to quickly adapt to the work requirements of enterprises after graduation. For example, the course content in some universities is updated slowly, and they do not timely follow up the new technologies and new trends in the industry, which makes students less competitive in the job market. In view of the above problems, we must explore more effective teaching ideas and measures, constantly improve the teaching quality, enhance the competitiveness of students employment, and promote students high-quality employment.

2. The important role of integrating self-efficacy theory into the practical teaching curriculum system of art and design

Self-efficacy theory is proposed by the American psychologist Albert class du la (AlbertBandura) of a social cognitive theory, self-efficacy refers to the individual to have the ability to complete a behavior of speculation and judgment, it is not an individual has practical skills, but the individual to their own can use the skills to complete a specific task of a belief. Integrating self-efficacy theory into the teaching curriculum system of art and design events can promote the improvement of teaching quality in many aspects.

First, self-efficacy theory, as the core part of self-

efficacy theory, has a profound influence on the learning performance of art design students with the help of the framework of the interaction between individuals, environment and behavior in social cognition theory. In the learning environment of art and design courses, students self-efficacy affects their behavior choice, effort degree and attitude towards design difficulties. For example, students with high self-efficacy are more likely to actively undertake challenging design projects, dare to try new design styles and techniques, and persistently explore solutions in case of difficulties; while students with low self-efficacy may avoid complex projects and tend to choose conservative design ideas and give up easily.

Second, the self-efficacy theory is closely linked to Kolbs experiential learning theory. Kolbs experience learning theory emphasizes the circular process from concrete experience to reflective observation, abstract concept formation and then to practical application. In the practical teaching of art design, students participate in specific experience activities such as design projects and field research, and the success or failure feedback in the process directly affects the establishment of self-efficacy. Successful completion of a creative design scheme will enhance students confidence in their own design ability. If they can correctly reflect and summarize after failure, such as analyzing the errors in the design process and the deviation of aesthetic expression, it can also create opportunities for improving self-efficacy. At the same time, self-efficacy is counteracting on experiential learning^[1]. Art design students with high self-efficacy are more enthusiastic to participate in various practical activities and actively seek new design experiences and challenges, such as actively participating in interdisciplinary design projects and trying emerging design software and technologies. This positive attitude helps students to immerse themselves in experience learning and improve design skills and innovative thinking. On the contrary, students with low self-efficacy may reduce practical opportunities due to lack of confidence, which is not conducive to the deep exploration of experience accumulation and design ability.

Teaching strategies and measures based on the theory of self efficacy, can help students learn how in the social environment of art design, through the active participation in practice, reflection experience,

constantly optimize their design cognition and behavior, to better adapt to the development of the field of art design, in the process of self-efficacy always plays a role in regulating and promoting, encourage students in the art design practice teaching curriculum system to achieve more efficient learning and growth.

3. Construction principle of art design practice teaching curriculum system based on self-efficacy theory

3.1 Goal-oriented principle

The construction of curriculum system should take the core goal of improving students creative self-efficacy, and all teaching links and activities should focus on how to help students establish a firm belief in their creative design ability, so that students have the potential of continuous growth and breakthrough in the field of art design.

3.2 Experiential principle

Fully learn from Kolbs experience learning theory, and experience learning throughout the course. To ensure that students have sufficient opportunities to participate in various practical design projects, studio practice and practical training activities, so that students can acquire design experience in real situations, and realize the deep integration of knowledge and skills through personal experience, so as to enhance self-efficacy and creative practice ability.

3.3 Incentive principle

Pay attention to stimulate students' intrinsic motivation, through elaborate design teaching content and teaching methods, such as the introduction of frontier design case, organization creative competition, lit students of art design enthusiasm and curiosity, let the student in the learning process of challenges and fun, feel their creative ability to improve and progress, and continue to keep positive learning attitude and high learning participation.

3.4 The principle of pluralism

A diversified curriculum evaluation system is constructed, comprehensively considering various factors such as teacher evaluation, students' self-evaluation, mutual evaluation and enterprise tutor evaluation. The evaluation content covers not only the quality of the design results, but also the performance in the learning process, such as teamwork

ability and problem solving ability. Through multiple evaluation, it comprehensively and objectively reflects students' learning effect and ability development, provides students with multi-angle feedback information, promotes their continuous self-improvement, and continuously improves their creative self-efficacy.

4. The construction path of art design practice teaching curriculum system based on self-efficacy theory

4.1 Set the course objectives reasonably for the purpose of cultivating self-efficacy

Self-efficacy profoundly affects students multiple dimensions in the process of art and design learning and practice, covering the speed of absorption and internalization of art and design knowledge, the proficiency of skills, and the attitude tendency and coping strategies shown in the face of complex design tasks and challenges. Therefore, the setting of course objectives should not be limited to simple knowledge teaching and skill training, but should be extended to the deep cognitive guidance of students self-ability, the effective establishment of stable confidence and the cultivation of the mentality of actively responding to challenges. In the specific course goal setting practice, strictly following the SMART principles (specific Specific, measurable Measurable, attainable Achievable, correlation Relevant, time limit Time-bound) becomes the key criteria to ensure the effectiveness and scientificity of the target.

First, the specificity requires that the course objectives are clearly and clearly defined in the specific behaviors or achievements that students need to achieve, and to avoid vague and general expression. For example, "completing an innovative design project and confidently explaining the design concept in the team presentation" accurately indicates that students need to complete a specific design project and have the ability to clearly express their design ideas in the team environment.

Second, the ability emphasizes that the goal should have quantifiable and evaluated indicators, so as to accurately judge whether students have achieved the goal. Like "Through practice feedback, identify and improve at least two weaknesses in personal design skills", where "at least two

weaknesses" are clear measurable criteria.

Third, achievability ensures that the goal can be achieved within the scope of students' existing ability and reasonable efforts, which is both challenging and will not deter students because of reach. Relevance requires that course objectives are closely linked to the core content of art design practice teaching. For example, the innovation of design projects and the elaboration of design concepts are both key elements in the field of art design.

Fourth, the time limit sets a clear time frame for the goal, so as to concentrate and complete the tasks efficiently within the specified time, such as completing the above design projects and skill improvement goals in a specific course stage or semester. Through scientific and reasonable course objectives, students can continue to be encouraged to break through their self-limitations on the road of art and design learning, steadily improve their self-efficacy in the process of gradually realizing the goals, and lay a solid psychological foundation for their long-term development in the field of art and design. It is important to note that the course goal should have stage and hierarchical, from the basic design skills to complex comprehensive design project completed, gradually guide students across different difficulty levels, make the students at each stage can actually feel their ability to meet challenges, so as to build a solid self-efficacy.

4.2 Refactoring of the course content is guided by experience and practical learning

Experiential practice learning is the most important way to promote students sense of energy efficiency. Therefore, the content of art design practice teaching course must be closely set on the actual operation scene and real projects^[2]. Based on the experience of Kolb learning theory, the design of the course content should be carefully planned for a series of progressive, logical practice task sequence, and each practical task complete "learn" (specific experience), "reflection" (reflection), "theory" (abstract conceptualization) and "application innovation" (active experiment) four key links, to form an organic cycle and spiral learning process.

Product design course, for example, first of all, at the beginning of the course, should organize students to deeply participate in market research activities, make it fully immersed in the real market environment, direct interact with target user groups, understand the

functional requirements, aesthetic preferences, use habits of the actual demands and potential expectations (specific experience). In this process, students can collect rich first-hand information through field observation, questionnaire survey, user interview and other research methods, to lay a solid foundation for the follow-up design work.

Secondly, the group discussion session is arranged to guide students to systematically analyze and deeply mine the obtained research data, encourage students to examine the user pain points and market opportunities behind the data from different perspectives, and then put forward targeted and innovative design concepts (reflective observation). In this process, students can not only broaden their own design ideas, but also learn to evaluate the feasibility and potential value of the design scheme from multiple perspectives, according to the collision and interaction of the design scheme among the team members. At the same time, as a teacher also need to timely guide students to study related design principle, material characteristics, technology theory knowledge, and help students to the concept of gradually into concrete preliminary design, using the theoretical knowledge of design scheme structure optimization, function and aesthetic promotion (abstract conceptual), so that students can deeply realize the theoretical knowledge of practice, the fragmentation of fragmented perception and system theoretical knowledge of organic integration. Finally, through practical activities such as making product prototype, conducting user testing and conducting multiple rounds of iterative design, the design scheme of the product is transformed from the virtual drawing concept to the real tangible product, and the product is continuously optimized and improved according to the user test feedback results until the final product can accurately meet the user needs and have a good market competitiveness (active experiment). In this complete practice task process, students not only in the theoretical knowledge level depth consolidation and development, more important is through experience from market research to the whole process of the product, can intuitive truly feel their design ability in each link gradually growth and improve, the ability based on practical experience of perception and growth cognition will effectively enhance the students self-efficacy, make it in the subsequent art design study and

practice more confident and power.

4.3 Innovate teaching methods to stimulate students inner learning motivation

The traditional teaching mode often focuses excessively focused on the one-way knowledge transmission of teachers, and to some extent, ignores the uniqueness, initiative and creative potential of students as learning subjects. The active introduction of new teaching modes such as project learning, flipped classroom and cooperative learning can effectively reverse this situation and promote students to change from passive knowledge acceptance to active knowledge exploration and deep participation in the learning process.

(1) project learning mode emphasizes around the real complex problems or actual customer demand design interdisciplinary comprehensive project, the students in real problem solving situation, let the students in the complete process of trying to solve these practical problems of learning activities, experience from project conception creative germination, scheme planning and design to the final project results of the whole life cycle of delivery^[3].

(2) flipped classroom mode through the traditional classroom teaching time and extracurricular learning time redistribution and function reconstruction, the traditional classroom is given priority to with teachers teaching knowledge teaching link with video recording of modern information technology means to extracurricular, enable students in extracurricular according to their own learning progress and rhythm independent learning time, watch the teaching video, reading related materials knowledge preview and preliminary understanding. And classroom time is fully used to conduct in-depth discussion, collaboration between teachers and students to explore and problem solving practice activities, encourage students based on extracurricular independent learning knowledge reserves, active questions in class, share insights, explore solutions, thus significantly improve the learning initiative and depth.

(3) set periodic achievements display platform, regular design exhibition, project progress on, etc., let the students have the opportunity to show their learning achievements, get feedback from teachers, classmates and the outside world, enhance self-confidence and a sense of accomplishment, and establish the corresponding strong mechanism, the good performance

in the process of learning, made significant progress or play an outstanding role in the teamwork of students give material rewards or honorary incentives, motivate students have the courage to challenge themselves, in the process of constantly breakthrough self, realize the artistic design ability and comprehensive quality promotion and self transcendence^[4].

4.4 Promote teaching through competition, and enhance students independent learning ability and innovation ability

At the present stage, with the development of various skills competitions, we provide students with more ways to improve their learning, and promote teaching through the competition, which can further enhance students active learning ability and innovation ability. First of all, the competition can build a real practice platform for students, tap their potential in the competition, and constantly break through themselves. There are a wide variety of competition projects, covering graphic design, product design, environmental art design and other fields, and each competition has its own unique theme and requirements, which can help students. Go out of the comfort zone and actively explore different design styles, concepts and technologies, so as to greatly broaden students design vision. In the process of the competition, students are faced with many challenges, such as time urgency, high creative requirements, and technical difficulty, which requires them to learn new knowledge and new skills independently, and quickly improve their ability to solve problems. In order to complete a competitive entry, students need to independently research relevant design theories, learn and master advanced design software and tools, such as advanced functions of Adobe series software, 3D modeling and rendering technology, etc. In addition, promoting teaching can also cultivate students teamwork spirit and communication skills. Most competitions require students to participate in teams, with a clear division of labor among members Cooperate closely to overcome the problems in the design process. In teamwork, students learn to listen to others opinions, give full play to their respective strengths, and coordinate different views, so as to improve the overall strength of the team. For example, in the environmental art design competition, team members need to include students who are good at spatial planning, landscape

design, renderings drawing and copywriting, to work together to complete the whole process from scheme conception to final presentation, and to realize the perfect integration of creativity through frequent communication and collaboration. In addition, by participating in the competition, students can get multi-dimensional feedback from the judges, industry experts and other participants, which can help students to better understand their own advantages and disadvantages, so as to make more targeted learning and improvement. Successful competition experience can greatly enhance students confidence and self-efficacy, make them more motivated and enthusiastic in the future learning and practice, have the courage to challenge more difficult design tasks, and constantly pursue excellence and innovation.

4.5 In-depth cooperation between schools and enterprises to strengthen the integration of industry and education

The in-depth cooperation between schools and enterprises is an important way to realize the close connection between art design practice teaching and market demand, cultivate high-quality art design talents to meet the needs of social development, and enhance students self-efficacy. Under the mode of school-enterprise cooperation, enterprises are deeply involved in the teaching process of the school, and enterprise professionals can come into the classroom as part-time teachers to bring the latest developments of the industry, cutting-edge technology and practical project experience. The cases they share are often practical problems that enterprises are facing or have solved, which enables students to understand the real market needs and industry standards, avoiding the disconnect between teaching and practice. For example, in the process of teaching, enterprise designers will introduce how to formulate design strategies according to market trends and customer needs, and how to consider many factors such as cost control, production process and marketing in the design process, so that students can understand that design is not only artistic creation, but also a comprehensive business activity. At the same time, the enterprise also provides students with training bases for students, so that students have the opportunity to exercise themselves in the real working environment. During the internship, students participated in the actual

design projects of the enterprise, learned the project management, teamwork and customer communication skills from the enterprise mentor, and experienced the whole process from the design concept to the product launch. This not only helps students do Learning theoretical knowledge into practical operation ability, but also to cultivate their professional quality and work sense of responsibility. In addition, school-enterprise cooperation can also promote the optimization of the school curriculum system. According to the talent demand information feedback by enterprises, the school can adjust and update the curriculum in time to ensure that the teaching content keeps pace with the development of the industry. For example, with the rapid development of digital design technology, the school can cooperate with enterprises, jointly develop related courses, the introduction of actual project case, training students in these skills and innovation ability, enable them to quickly adapt to the social and enterprise work, become an innovative spirit, practice ability and professional quality of excellent art design talents.

4.6 Build a diversified curriculum evaluation system to promote the sustainable development of students

In order to comprehensively and objectively measure the students' learning effectiveness and self-efficacy, need to adopt diversified evaluation system, both need to review the final design works, but also need around classroom participation, practice during performance, submit practice report, and multidimensional evaluation between teachers and students, to fully reflect the students' comprehensive ability progress and personalized development. At the same time, also need to timely evaluate the results of the feedback, according to the performance of students to give corresponding feedback, not only need to point out the shortcomings in the study and design, more need to affirm the students' efforts and progress, continuous practice-feedback-practice cycle, gradually enhance the students' self-efficacy, stimulate students' potential, promote its all-round development.

5. Implementation guarantee measures of art design practice teaching curriculum system based on self-efficacy theory

5.1 Strengthen the construction of the teaching staff

The teaching staff is the key guarantee for the

effective implementation of the practical teaching curriculum system of art design. First of all, teachers should have solid professional knowledge and rich practical experience. Schools can encourage teachers to participate in enterprise practice projects, and regularly take temporary posts in design companies, so that they can have a deep understanding of the industry dynamics and the actual design process, so as to integrate the latest industry knowledge and practical experience into their teaching. For example, after participating in the corporate brand image design project, teachers can share the actual design ideas, customer demand response strategies and efficient application skills of the design software in the brand design course, so that students can contact real and cutting-edge design cases. Secondly, improve teachers ability to understand and application of self-efficacy theory. The school can organize relevant trainings and seminars, invite education experts to explain the self-efficacy theory and its application in teaching, and guide teachers to master how to improve students self-efficacy through teaching activities. Teachers should learn to adopt personalized teaching methods according to the individual differences of students, encourage students to actively participate in practice, and help students build confidence in the process of completing design tasks. For example, for students with low self-efficacy, teachers can provide more detailed guidance and more practical opportunities to gradually enhance their confidence. Moreover, the establishment of teacher teaching reflection and communication mechanism. Teachers need to reflect on teaching regularly, summarize their experience and deficiencies in improving students self-efficacy in the teaching process, and share and communicate. In this way, teachers can learn from each other, jointly improve teaching methods and improve teaching quality. For example, teaching experience sharing meetings will be organized to allow teachers with outstanding performance in improving students self-efficacy to share successful cases and teaching experiences, so as to promote the common growth of all teachers.

5.2 Improve the allocation of teaching resources

The realization of the development of teaching courses is inseparable from the corresponding teaching resources, so in order to meet the requirements of

practical teaching, in the present stage of teaching. On the one hand, increase the investment in teaching hardware facilities. Build a professional art design laboratory, studio, equipped with advanced design software, drawing equipment, model making tools, etc., to provide students with a good environment for practice. For example, the investment in the construction of 3D printing laboratories will enable students to quickly transform their digital design models into physical models, directly test the design effect, and improve their design ability. At the same time, improve the librarys art and design books, periodicals, database resources, to facilitate students to obtain rich design information and theoretical knowledge. On the other hand, integrate the teaching software resources. Build a diversified teaching case database, collect excellent cases covering different design fields, styles and difficulty levels, including project cases of well-known design companies at home and abroad, students winning works, etc., to provide students with rich reference for learning. At the same time, an online learning platform will be established to provide course materials, teaching videos, design courses and other resources, so as to facilitate students to learn independently and expand their knowledge. For example, a design skills sharing section is set up on the platform to invite industry experts and outstanding graduates to share their design experience and creative inspiration, so as to stimulate students interest in learning and innovative thinking. In addition, we will actively expand off-campus practical teaching resources, establish long-term cooperative relations with enterprises and design agencies, and provide students with internship and training opportunities and design project cooperation opportunities, so that students can improve their practical ability and self-efficacy in a real working environment and prepare for future employment.

6. Epilogue

The self-efficacy theory into art design practice teaching course can effectively promote the teaching efficiency and quality, in the specific teaching need from the course actual situation and self-efficacy theory, reasonable set curriculum objectives, reconstruct curriculum content, innovative teaching methods, improve the optimization evaluation system, to build a

more reasonable scientific curriculum system, promote the development of art design practice teaching of high quality.

Reference

- [1] Hang T T P ,Quynh T T H ,Ngoc T B N , et al.Academic motivation and academic satisfaction: a moderated mediation model of academic engagement and academic self-efficacy[J]. Journal of Applied Research in Higher Education, 2024,16(5):1999-2012.
- [2] Arief D P ,Sudana N I D ,Dedi K , et al.Self-efficacy of preservice teachers in technology-based learning in diverse classrooms: a case study at an Indonesian private university[J].Journal of Applied Research in Higher Education,2024,16(5): 2026-2046.
- [3] Elhakim H I A .Entrepreneurial intentions among university students: the role of mentoring, self-efficacy and motivation[J].Journal of Applied Research in Higher Education,2024,16(5): 1848-1863.
- [4] Sjögren B ,Thornberg R ,Hong S J .Moral disengagement and defender self-efficacy as predictors of bystander behaviors in peer victimization in middle school: A one-year longitudinal study[J].Journal of School Psychology,2024,107101400-101400.