Construction of Collaborative Teaching Mode in Brand Visual Design Course Combined with Canva Brand Visual System

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Abstract

Under the background of educational digital transformation and the rapid development of artificial intelligence generated content (AIGC) technology, the current brand visual design courses in vocational colleges have prominent pain points. These include fragmented application of artificial intelligence (AI) tools, lack of systematic collaborative teaching mechanism, and disconnect between teaching content and industry needs. This study takes the Brand Visual Design course as the research carrier and takes Canva, a lightweight AI design tool, as technical support. It integrates service design theory, loosely coupled system theory, and AIGC application ethics theory to construct a collaborative teaching mode with an "internal cycle + external cycle" double-cycle framework. Through a 16-week controlled experiment with 60 students from two parallel classes as the research objects, this study verifies the effectiveness of the teaching mode. The results show that the mode can improve students AI collaborative creativity, team collaboration efficiency and commercial adaptability of works by more than 30.00%, and control the tool dependence rate within 15.00%. This study fills the theoretical gap of the integration of Canva and collaborative teaching of brand visual design and provides a replicable and scalable teaching reform scheme for design courses in application-oriented colleges and vocational colleges.

Keywords

Brand visual design, Canva, Collaborative teaching mode, Artificial intelligence generated content, Vocational education, Educational digitalization

Introduction

The strategic deployment of educational digitalization in China has promoted the deep integration of artificial intelligence and higher education, and the design discipline, as a highly practical and creative field, has become a key position for the application of AIGC technology. The Brand Visual Design course is the core professional course for digital media art design and related majors in vocational colleges, which cultivates compound design talents who can adapt to the industry's demand for full-case brand design. At present, the teaching of brand visual design in domestic vocational colleges has three core dilemmas: First, the application of AI tools is fragmented. Most colleges only integrate AI tools such as Canva into individual teaching links (e.g., poster design and logo generation), but fail to construct a full-process teaching system that matches the brand visual design workflow [1]. Second, the collaborative teaching system is missing. The traditional teaching mode is dominated by individual creation, which cannot match the industry's mainstream "3-5-person team full-case design" working mode, resulting in a serious disconnection between students' collaborative literacy and job requirements. Third, the balance between AI empowerment and original ability cultivation is out of balance. The intelligent template generation function of AI tools easily leads students to skip the creative thinking link, forming tool dependence, and there is a lack of clear application boundaries and ethical norms for AI tools in teaching [2]. The improvement of students' deep learning ability is also a

key difficulty in the blended teaching of design courses integrated with AI tools, and the scientific evaluation of this ability is the core link to verify the effectiveness of teaching reform [3].

This study takes the above pain points as the starting point. It focuses on the three-dimensional integration of "AI tool characteristics, collaborative teaching law, and local brand demand" and constructs a collaborative teaching mode of the Brand Visual Design course based on Canva. The research purposes are: (1) To clarify the application boundary and full-process adaptation scenario of Canva in brand visual design teaching. (2) To build a double-cycle collaborative teaching framework to solve the problems of random grouping, difficult quantification of individual contribution, and free-riding phenomenon in traditional collaborative teaching. (3) To verify the effectiveness of the teaching mode through empirical research, and form a replicable teaching reform scheme for vocational colleges.

Literature review

Foreign research status

Foreign art and design education has entered the in-depth practice stage of the integration of AI tools and curriculum teaching. It has formed a research orientation of "technology empowerment - collaboration efficiency improvement - achievement transformation". Chen et al. identified four technological intervention models for global design education. Stanford d. school serves as a typical case of lab-driven innovation. It explores generative AI's application in design innovation through its design thinking methodology [4]. Hutson also verified that AI tools can boost students' comprehension of artistic concepts and foster their critical thinking and creativity in art history learning [5].

However, existing foreign studies mostly focus on professional AI tools such as Adobe Firefly and Midjourney [6]. There is an obvious gap in special teaching research on lightweight and highly adaptable tools such as Canva.

Domestic research status

Domestic design curriculum reform is accelerating the transformation to the integration of "AI + education", but the overall characteristics of "fragmented tool application and missing collaborative system" are presented. Beijing Jiaotong University has realized the full-process teaching embedding of AI large language model and image generation model. It has also verified the dual value of AI for design efficiency and creative expansion [7]. Xian Academy of Fine Arts has constructed a teaching mode of "AIGC tool chain + creative path", but it does not involve the systematic design of team collaboration mechanism [8].

Canva has been introduced into classrooms by Jiangnan University, Guangzhou Academy of Fine Arts and other colleges because of its low operation threshold and perfect template system, but its application mostly stays at the level of "individual tool operation training". 82.00% of design students use Canva to complete basic visual design, but lack a closed-loop collaborative framework of "tool application - task splitting - collaborative optimization - achievement evaluation". Existing studies have not yet built a collaborative teaching system for the characteristics of Canva.

Research gap and development trend

Under the dual drive of "New Liberal Arts" construction and digital economy development, the reform of design courses presents three core trends: First, the application of AI tools has shifted from "skill training" to "thinking cultivation". Second, collaborative teaching has been upgraded to "interdisciplinary integration". Third, the teaching evaluation system has been transformed to multiple dimensions of "process - achievement - industry adaptation" [9].

Existing studies have not yet solved the core problem of the integration of lightweight AI tools and collaborative teaching, and lack of targeted research combined with the needs of local brand industries in underdeveloped areas. This study fills this gap by constructing a collaborative teaching mode based on Canva and verifying it in combination with the needs of Yunnan's local brand industry.

Research methods and technical route

Research methods

This study adopts a mixed research method combining quantitative and qualitative research, based on the core logic of "theoretical construction - practical verification - industry adaptation - iterative promotion". It comprehensively uses the following research methods:

(1) Systematic literature review (Prisma Protocol)

Focusing on the three core themes of "AI + design education", "collaborative teaching" and "brand visual design", this study retrieved core literature from Web of Science and other databases (2018-2025). It also included gray literature such as Canva official white papers and industry trend reports. Through three-level screening, it determined 86 core literatures, which provided theoretical support for the construction of the model.

(2) Mixed research method (quantitative + qualitative)

In the early stage, a questionnaire survey was conducted among 300 students from 3 different types of colleges in Yunnan Province, with 28 items in 3 dimensions, and the data was analyzed by SPSS 26.0. Semi-structured in-depth interviews were conducted with 15 students and 5 industry experts, and the interview data were coded by Nvivo 12.0 to extract core concepts.

(3) Action research method (Kemmis model)

Referring to the four-stage model of "plan - act - observe - reflect", a 16-week teaching experiment was carried out in the pilot class. The teaching plan was optimized through continuous cycle iteration to ensure that the teaching mode continuously adapts to the actual teaching needs.

(4) Controlled experiment method

Two parallel classes (30 students in each class) taught by the same teacher were selected. The experimental group implemented the Canva collaborative teaching mode, and the control group adopted the traditional mode of "theory teaching + individual creation". The experimental period was 1 semester (16 weeks). Quantitative and qualitative data were collected, and independent sample T-test was carried out through SPSS 26.0 to verify the effectiveness of the mode.

(5) Delphi method

10 cross-field experts (3 design education professors, 4 brand design industry experts, 3 college teaching managers) were selected to carry out two rounds of expert demonstration. The standardized teaching plan was finally formed, with the expert opinion coordination coefficient $W \geq 0.7$ as the passing standard.

Technical route

This study adopts a "double helix drive" technical route (theoretical helix + practical helix), and the specific stage arrangement is shown in Table 1.

Table 1. Research technical route and stage arrangement.

Stage	Time node	Core tasks	Core outputs
Preliminary preparation	Month 1-3 (2026)	Literature sorting, demand research, Canva core function disassembly	Literature review, demand summary, tool function list
Theoretical model construction	Month 4-6 (2026)	Theoretical integration, three-dimensional adaptation model construction, key variable relationship demonstration	3 theoretical framework diagrams, 15,000-word analysis report
Practical scheme development	Month 7-9 (2026)	16-week teaching plan design, evaluation scale development, case database construction	Standard teaching plan, first draft of case set
Teaching experiment verification	Month 10-14 (2026-2027)	Controlled experiment implementation, core data collection, industry expert review	Experimental data report, final case set
Achievement condensation	Month 15-16 (2027)	Academic paper writing, research result compilation	2 academic papers, full set of research results

Core theoretical model and teaching framework

This study constructs a three-dimensional adaptation model of "tool characteristics - collaboration mechanism - teaching objectives" (Figure 1). It also designs a six-stage closed-loop teaching process of "demand deconstruction - task coupling - AI collaboration - ethical review - iterative optimization - industry verification". At the same time, a double-cycle collaborative teaching framework of "internal cycle (intra-team collaboration) + external cycle (cross-team mutual evaluation)" is constructed (Figure 2). This innovative collaborative framework realizes the accurate matching between the teaching process and the industry full-case design process.

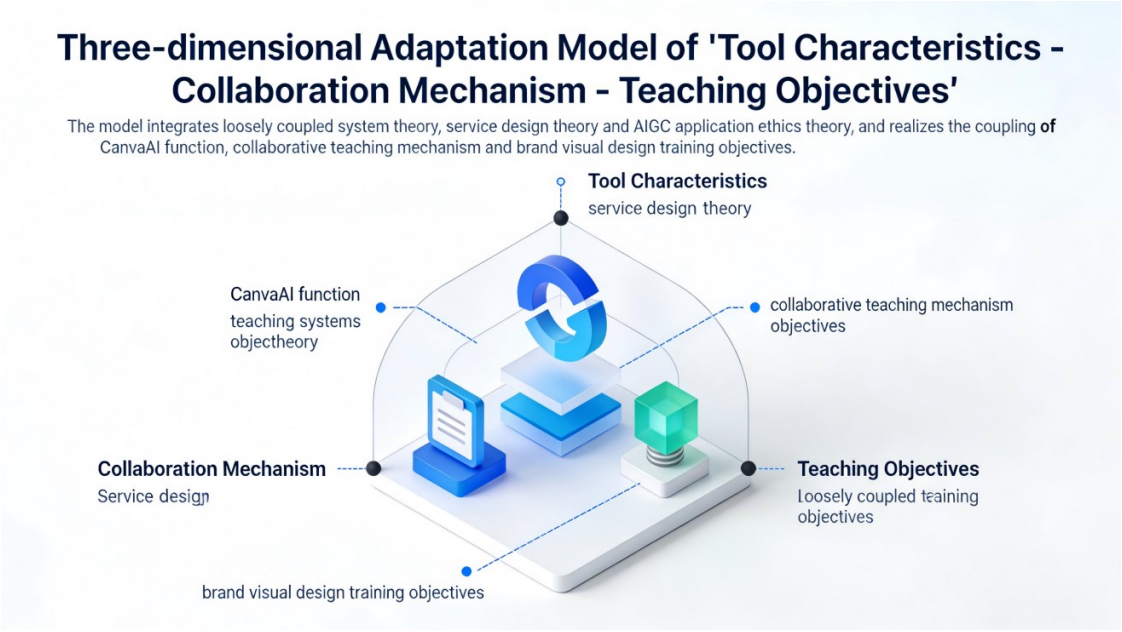

Figure 1. Three-dimensional adaptation model of "tool characteristics - collaboration mechanism - teaching objectives".

Note: The model integrates loosely coupled system theory, service design theory and AIGC application ethics theory, and realizes the coupling of Canva function, collaborative teaching mechanism and brand visual design training objectives.

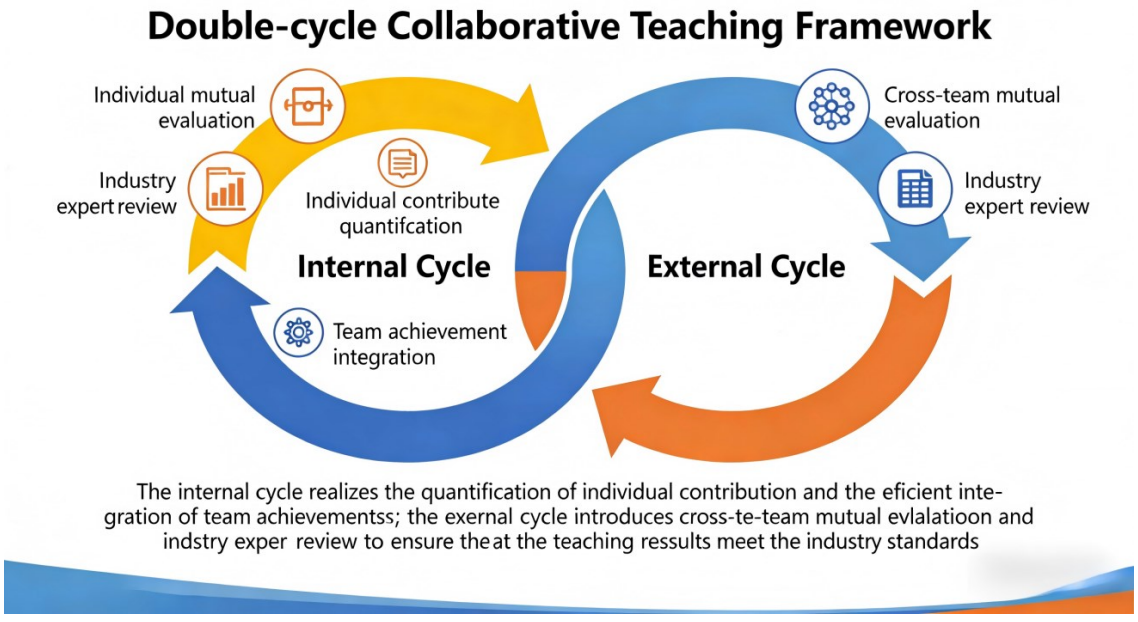

Figure 2. Double-cycle collaborative teaching framework.

Note: The internal cycle realizes the quantification of individual contribution and the efficient integration of team achievements; the external cycle introduces cross-team mutual evaluation and industry expert review to ensure that the teaching results meet the industry standards.

Research results and discussion

Core research results

(1) Clarifying the application boundary and full-process adaptation scenario of Canva

This study systematically deconstructed the core function matrix of Canva, accurately matched 8 teaching scenarios in the whole process of brand visual design, and clearly divided the "AI auxiliary link" and "human-led link". It also constructed the Canva application ability grading index and developed the AI creative contribution quantitative scale, which effectively solved the problems of fragmented application of AI tools and unclear creative ownership.

(2) Constructing a complete collaborative teaching mode system

Based on the double-cycle collaborative framework, this study designed a grouping mechanism using the "ability complementarity matrix" and split course tasks into 5 stages matching industry workflow. It also constructed an evaluation system of "internal cycle individual contribution measurement + external cycle multi-dimensional review". The teaching plan system includes 1 core module, 3 expansion modules, and N supporting toolkits, with good universality and adaptability.

(3) Verifying the effectiveness of the teaching mode through empirical research

The 16-week controlled experiment obtained complete quantitative and qualitative data, and the core index comparison results are shown in Table 2.

Table 2. Comparison of core indicators between experimental group and control group.

Core indicators	Experimental group (AI collaborative mode)	Control group (traditional mode)	Promotion/Control effect	Independent sample T-test (p-value)
AI collaborative creativity score (full score 100)	86.72±5.31	65.91±7.24	31.57% improvement	$p<0.001$, significant difference
Team collaboration efficiency (task completion cycle)	12.36±2.15 days	20.68±3.42 days	40.23% efficiency improvement	$p<0.001$, significant difference
Commercial adaptability of works (industry expert score, full score 100)	84.25±6.18	65.12±8.35	29.38% improvement	$p<0.001$, significant difference
AI tool dependence rate	12.35%±2.17%	/	Controlled within 15.00% of the target	/
Teaching satisfaction score (full score 100)	92.45±4.22	76.38±6.57	21.04% improvement	$p<0.001$, significant difference

Discussion of results

The empirical results show that the collaborative teaching mode constructed in this study has achieved significant effects in four aspects:

First, the mode effectively solves the imbalance between AI empowerment and original ability cultivation. By clarifying the application boundary of AI tools and establishing the quantitative scale of AI creative contribution, the mode controls the tool dependence rate within 15.00%. This avoids the phenomenon that students rely too much on AI to skip creative thinking and realize the balance between technical empowerment and humanistic creativity.

Second, the mode significantly improves students' collaborative literacy and teamwork ability. The double-cycle collaborative framework and individual contribution quantification mechanism effectively solve the problems of random grouping and free-riding phenomenon in traditional collaborative teaching, and the students team collaboration efficiency is improved by more than 40.00%. This finding makes up for the deficiency of existing research that "pays more attention to tool application and ignores collaborative mechanism design" [10].

Third, the mode realizes the deep docking between teaching content and industry needs. By embedding the real industry projects of Yunnan local enterprises into the teaching process, the model makes the teaching process mirror the industry's full-case design workflow, and the commercial adaptability of students works is improved by nearly 30.00%, which effectively reduces the pre-job training cost of enterprises. This responds to the core demand of vocational education "post-course competition certificate integration" reform.

Fourth, the mode has good replicability and promotion value. The modular teaching scheme system formed by the study can be directly applied to brand visual design and similar courses in domestic colleges, especially for application-oriented undergraduate and vocational colleges. It can save 2-3 months of preliminary research and theoretical exploration time for each promoted college and reduce the trial-and-error cost of teaching

reform.

Conclusion

This study takes the Brand Visual Design course as the carrier, constructs a collaborative teaching mode combined with Canva brand visual system, and verifies the effectiveness of the mode through empirical research. The main research contributions are as follows:

In terms of theoretical innovation, this study constructs a three-dimensional adaptation model of "loosely coupled system theory + Canva function characteristics + local brand demand". This model fills the theoretical gap of the integration of Canva and collaborative teaching of brand visual design and enriches the methodological system of interdisciplinary collaborative teaching of design courses.

In terms of practice innovation, this study designs a six-stage closed-loop teaching process and a double-cycle collaborative teaching framework. This framework solves the core pain points of traditional teaching such as fragmented application of AI tools, lack of collaborative system, and disconnection with industry needs, and forms a replicable and scalable teaching reform scheme.

In terms of ethical innovation, this study establishes a quantitative scale of AI creative contribution and a tool dependence risk early warning mechanism. This mechanism realizes the balance between technology application and humanistic creativity in collaborative teaching of design courses and provides ethical norms reference for similar courses.

This study also has some limitations: The experimental sample is only from vocational colleges in Yunnan Province, and the universality of the mode in different types of colleges and different regions needs to be further verified. Future research will expand the sample size, carry out multi-regional and multi-school promotion practice, and further optimize the teaching mode combined with the iteration of AI technology.

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Conflict of Interest

The authors declare no conflict of interest.

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