

# Exploration of Design Teaching Model for Chinese Local Food Cultural Transforming to Relevant Product

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## ABSTRACT

Food culture is part of the rich historical and cultural heritage of a region or country. China's traditional food culture is extremely rich, and its cultural value should be demonstrated and inherited in modern eating utensil design. The study chosen for specific objects is the "Nine Big Bowls" banquet transforming into a series of related product designs that aim to provide a reference for a teaching design for traditional culture-integrated product design education and inspire designers to use creative thinking to discover traditional culture. The study used the Design Development Research (DDR) research design and employed a qualitative approach using document analysis and group nominal techniques (NGT) as the data gathering instrument.

**Keywords:** Design Education; Teaching Design; Chinese Cultural Product Design; Nine Big Bowls Banquet

## INTRODUCTION

In the era of globalisation, on the one hand, design pursues the uniqueness of products and highlights regional culture; on the other hand, the functions of local traditional products face industrial shrinkage and failure of inheritance and development due to loss to keep up with the demands of modern new lifestyles and work styles. In this context, product design education is exploring and innovating in the overall cultural involvement in design thinking as well as the deep integration of product design and culture to develop a suitable design teaching system that can transform cultural heritage and acquire innovative value, thus creating and cultivating design competitive advantages (De Massis, 2016).

Different from the previous cultural and creative product design, this project-based course explores the traditional Sichuan "Nine Big Bowls" rural banquet culture of the profound connotation and form of extension into the modern banquet product innovation and design. Firstly, it responds positively to the national "rural revitalisation" strategy proposed by the Chinese government in recent years. As design workers, we combine our professional expertise to tap into local rural elements to help its revitalisation construction to explore the road of development. Secondly, the traditional rural banquet of "Nine Big Bowls" in Sichuan is relatively lacking in the innovative design of related products under the modern rural population structure and lifestyle change. Whether for the existing countryside banquets or the new immigrants from the countryside to the city, the experience of the "Nine Big Bowls" banquets can be inherited or renewed. Finally, the origin of modern design and design education can be traced back to the Bauhaus. After a century of development, design aesthetics is no longer confined to a single industrialisation and technological advancement, but rather to spread and combine the local culture and ultimately to form a design culture that blends perfectly with daily life (Sun, 2022). The study explores how to transform local traditional food culture into modern product design in the project practice course, which provides a reference for design teaching of traditional culture in product design education.

The study is based on a compulsory course for undergraduate students of product design in Year 3, Design Project: Cultural Creative Product Design. This course has been a part of the product design undergraduate programme at the Chengdu Academy of Fine Arts in Sichuan Province in China for nearly ten years. The course "Cultural and Creative Design Project" is expected to incorporate the teaching mode of "multi-party co-operation between school and enterprise, school and design company, and learning competition". The teaching mode of the course is based on participation in design project practice, and the course focuses on leading students to learn about local cultural knowledge and product creativity. At the same time, the design works of the course also contribute to the transformation of local culture into modern innovative design, accumulating specific experience for the promotion of teaching and social participation in the application of design courses in colleges.

## LITERATURE REVIEW

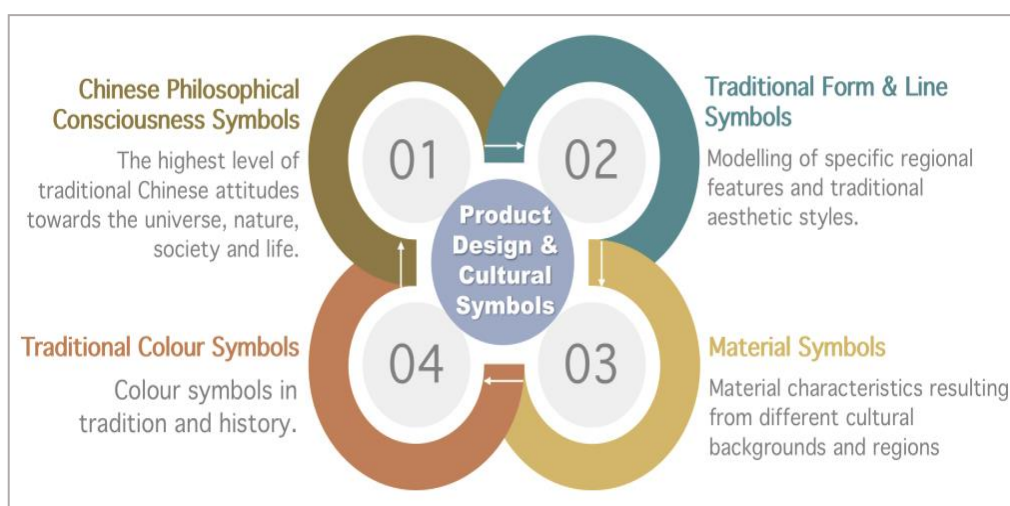
### Culture-based Product Design Attributes

"Culture" embodies a way of life, while "creative design" reflects a zest for life. Design is a manifestation of life, where "creative design" epitomises a taste for life. Product design underscores the "social" component within the sphere of "human-object" interaction, and it merges "physiological function" and "psychological function" with a rational framework. Ultimately, design is woven into the fabric of "economic activities", where it crafts a way of life, moulds a vibrant culture, and ultimately realises an ideal state of harmony and humanity (Lin, 2018). According to McDermott (1997), the future of product design should rediscover its roots in humanistic and aesthetic principles, with technology playing a supportive role rather than taking control of the design process. Therefore, design thinking and its associated concepts should prioritise humanistic empathy, considering the nuanced shifts in consumers' emotions during their product interactions (Sun, 2022).

### Theory of Traditional Cultural Elements Transformed into Modern Product Design

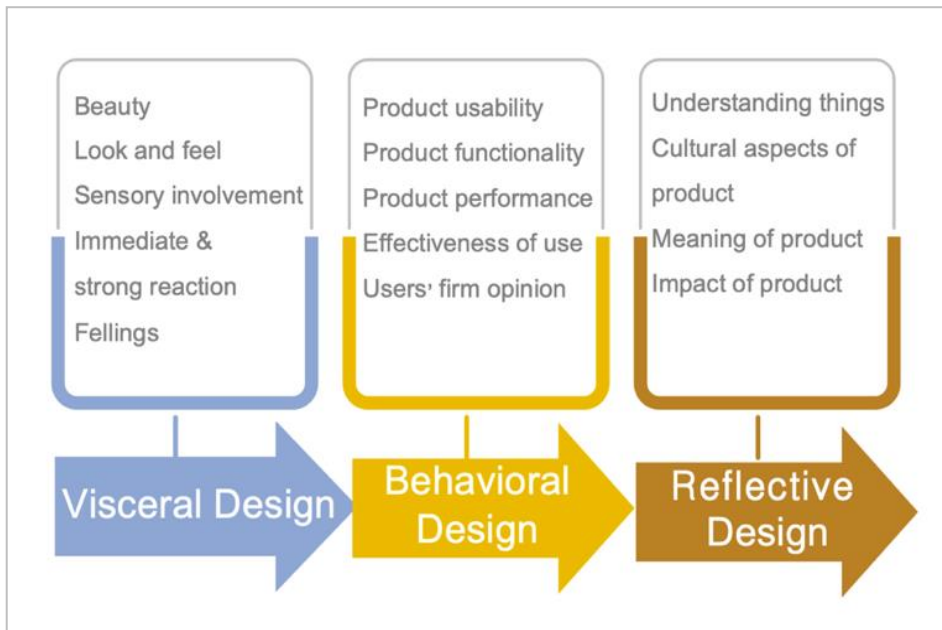
Scholars have recently proposed some theories and principles for transforming traditional culture into modern design. At the same time, these studies have verified their research results through a large number of relevant teaching application research and design practices, providing a practical basis for the integration of traditional and modern design practices:

Zhang (2019) focuses on the semantic study of regional products. The research revolves around the combing and redesigning of traditional cultural symbols of creation, encompassing Chinese philosophical consciousness symbols, traditional form and line symbols, traditional colour symbols, and material symbols. Additionally, the study validates its findings through relevant research practice in teaching, offering practical evidence of the integration of traditional and contemporary design practices, as shown in Fig. 1.



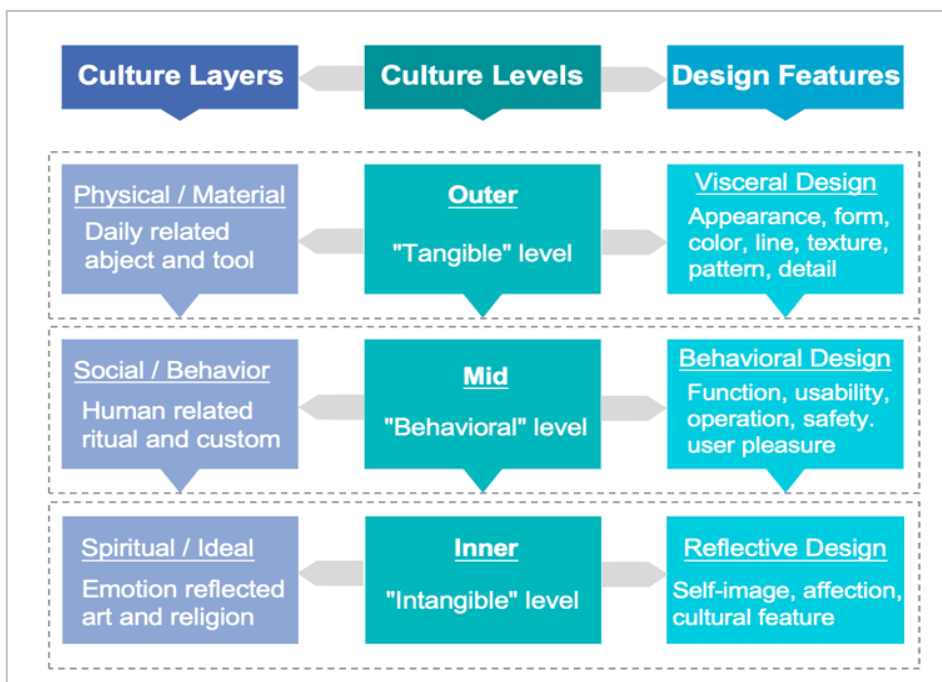
**Fig. 1:** Product design and cultural symbols. (Adapted from Zhang, 2019; redrawn for this study)

According to Norman (2005), the division of the design hierarchy in his book *Emotional Design: the experience of a product* is generally divided into three increments based on the profoundness of the user experience, both the user's experience of the product and the user's experience of the product. The second is that the user is delighted and gives feedback; the third is that the user plays a role and has a particular experience from which he or she can learn from the experience; the third is that the user plays a role and has a particular experience. The second is that the user is delighted and gives feedback; the third is that the user plays a role and has a particular experience, and from this experience, the user has a more refined requirement. The third is that the user plays the role and has a particular experience, from which he or she has better requirements and even reflects on it, as shown in Fig.2.



**Fig. 2:** Design levels of emotional design. (Adapted from Norman, 2007; redrawn for this study)

Building on previous studies (Hsu et al., 2004), Fig.3. below is a framework of three levels of culture that can be used as a reference for cultural products (Hsu & Lin, 2011).



**Fig. 3:** Three layers and levels of cultural objects and design features

(Adapted from Hsu & Lin, 2011; redrawn for this study)

In summary, the tradition is not just a specific shape, style or symbol. Still, it contains a more profound philosophy of daily life, value perceptions, emotions of cultural heritage, etc., and from the different paths in the education system all-round into the multi-faceted fusion of culture to bring the humanities to the students to infuse contemporary innovation and design. Therefore, the creative design of food-related cultural products engages in a reevaluation and contemplation of traditional cultural artefacts, employing design thinking and methodologies to attain a fresh configuration in harmony with contemporary sensibilities for these cultural items. After the new design is finalised, it is imperative to assess its capacity to deliver spiritual contentment to the end-users (Sun, 2022).

## COURSE TEACHING DESIGN METHODOLOGY

### Design Development Research (DDR)

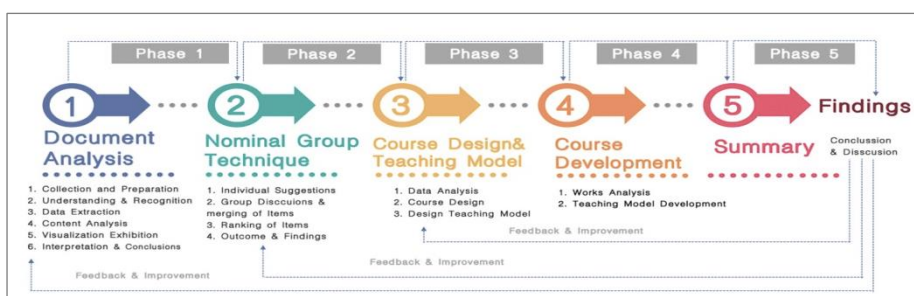
This study uses design development research as a teaching tool for design process and development. The assessment of the teaching outcomes relies on the theoretical principles of modern design transforming in Chinese culture to evaluate the effectiveness of instructional design. Richey Klein (2014) noted the differences and relationships between the two general design and developmental research types, as shown in Table 1.

**Table 1:** Two types of developmental research by Richey & Klein (2014).

Aspect	Type 1	Type 2
Emphasis	The study of a special product or design program, the development and evaluation of projects	The study of design, development, or evaluation processes, tools, or models
Product	Lessons learned from developing specific products and analyzing the conditions that facilitate their use	New design, development, and evaluation procedures and/or models, and conditions that facilitate their use
Result	Context-specific Conclusions →	Generalized Conclusions

The modern transformation of traditional cultural elements and related content does not incorporate user feedback evaluation regarding strengths and weaknesses. The study highlights the importance of teaching design evaluations to specific projects. Therefore, the researcher used the first research design and development type to create a teaching design.

Based on the DDR research method, this study employed qualitative research. It divided the course teaching design into five phases: (1) in the pre-course design phase: document analysis and group nominal techniques (NGT); (2) in the second phase: teaching design; (3) in the third phase: implication of the teaching design into a cultural project-based course; (4) assessment the learning outcomes of the design work; (5) the final phase: findings and conclusions for development the new teaching model. In short, as shown in Figure 5, a more efficient teaching model is constantly upgraded and developed through the final assessment results and the feedback from each session on the previous one.



**Fig. 4:** Research design and process by the author.

## Document Analysis

Document analysis examines written, printed, or electronic documents to extract meaningful information, understand the content, and gain insights. Document analysis in this study involves the following steps: (1) Collection and Preparation; (2) Understanding and Recognition; (3) Data Extraction;(4) Content Analysis;(5) Visualization Exhibition;(6) Interpretation and Conclusions.

**Analysis of the course objectives and syllabus:** This research was conducted as part of the "Cultural Creative Product Design" course offered during the third year of the product design BA program. The design project centred around the traditional Sichuan "Nine Big Bowls" rural banquet culture and involved 42 students in the class. The entire process spanned approximately 90 study hours over 45 days.

As a comprehensive senior compulsory professional course, Cultural Creative Product Design is a comprehensive application of design fundamentals, basic skills and design methods learnt in the first and second years. The syllabus of this course requires focusing on cultivating students' design application ability of cultural understanding and conversion, which can be achieved through the research of local cultural concepts combined with the fusion of specific products, the analysis and extraction of cultural elements and functional innovation, the design creativity ability of material extension and integration, and at the same time, focusing on the combination of design with the current market innovation and consumption field and the modern way of life. (see Table2)

**Table 2:** Summary of document analysis in this course.

Phase Steps	Course Targets	Details in the design Project
1.Understanding of Basic Knowledge	Understanding and transforming the core value of culture	Knowledge and understanding of the cultural connotation of “Nine Big Bowls” (humanity, rituals, parties, food) ;
2.Understanding & Applying	Knowledge and understanding of function and materials in product design	Knowledge of the making process and Environment of “Nine Big Bowls”; Understanding of the food cuisine type Development of the traditional “Nine Big Bowls” related products and the new function
3.Understanding & Analysis	Analysis and understanding of the user’s needs	User analysis and design concept
4. Analysis & Application	Creative redesign	Design thinking and ideas
5. Extended Capabilities	Cultivating cultural heritage orientated design thinking	Explore and study the influence and modern transformation of culture heritage and design

**Project understanding: “Nine Big Bowls” banquet tradition:** Traditionally, feasting has been part of larger ritual events such as weddings and funerals in China (Harmon, 2010). "Nine Big Bowls" is the name of a traditional Sichuan rural folk banquet, in which the main dishes on the table are meat and vegetables, a total of nine bowls, and the dishes are served bowl by bowl and finished nine times. It is commonly known as "NineBowls". However, Sichuan's "Nine BigBowls" of deep traditional cultural background lies in its "nine" characters. In ancient China, the odd number is auspicious, and the odd number is Yang, and nine is the



largest number among the odd numbers, which is also the extreme Yang number. Nine is the largest of the odd numbers, and it is also the number of extreme Yang. "Chu Rhetoric" claimed: "Nine, the number of Yang, and the outline of the road also." Nine numbers constitute a feast. It implies the meaning of long-lasting happiness and well-being. With the change of time, the functions and significance of the "Nine Big Bowls" banquet have not been lost but have been continuously adjusted and passed on in the life of towns and villages. Therefore, it is necessary to develop and design related peripheral products to meet the needs of the times (Zhu, 2021).



**Fig. 5:** The typical traditional Sichuan “Nine Big Bowls” rural banquet.

### Nominal Group Technique

The Nominal Group Technique can be used with groups of many sizes who want to make decisions as quickly as a vote but want everyone's views to be considered (McMillan; King & Tully, 2016). The NGT-based teachers' meeting process in this study is as follows: (1) the group members give their opinion on the solution and a short explanation; (2) duplicate solutions are eliminated from the list of all solutions; (3) the members then rank the solutions, as shown in Fig.6. and Fig.7.



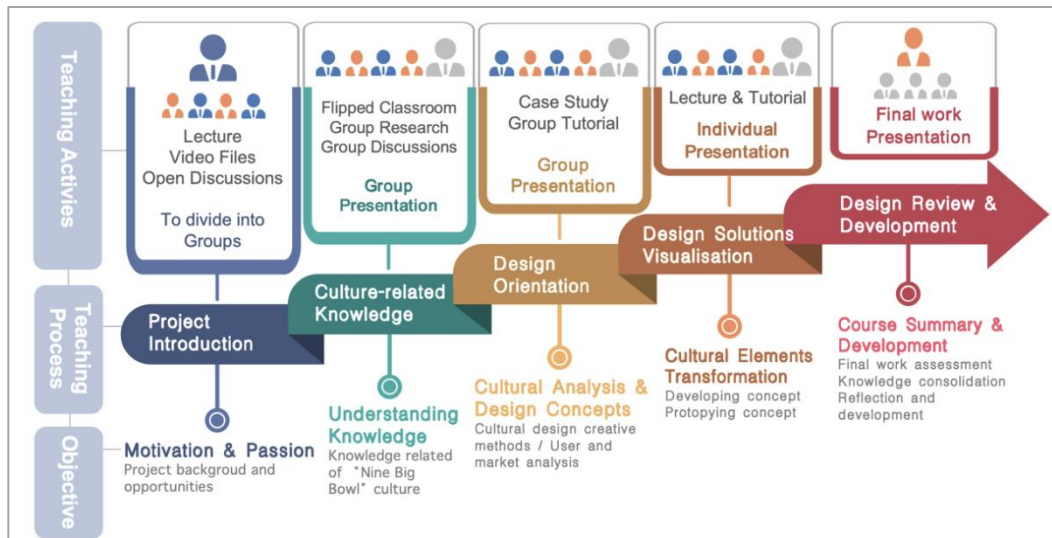
**Fig. 6:** The NGT process of the teaching design by the author.

Teacher Meeting		Discussion Topics
Wang L. You X. M. Song J.	Teaching content	Knowledge related to “Nine Big Bowls”
		Cultural food-related product design case studies, design methods and core elements transformation
		User and Market Analysis
	Teaching Method	Lecture
		Group Working
		Process presentation & tutorial
	Course Outcomes	Design process analysis & presentation
		Final work

**Fig. 7:** The discussion of teacher meetings in this course.

## COURSE DESIGN AND TEACHING MODEL

The course design and teaching model are based on the analysis of the specific document and discussions with the nominal group technique. Then, the teaching instructional on integrating traditional culture into the culture creative project: "Nine Big Bowls" banquet products redesign, as shown in Fig. 8, was designed.



**Fig. 8:** The teaching design model by the author.

### Student-centred Learning Model Driven by Group Work and Presentation

The teaching design teachers in the "teaching part" only account for a small part of the overall teaching; more of the role is the classroom convenor and teaching planner, which emphasises the interaction of students in the classroom will be inclusive of everyone. The teaching design emphasises the design process and the "invisibility" of the thinking process to be seen so that the paths and rules of thinking can be fully developed and presented.

Stage (1): group work on integrating information based on awareness of the design project;

Stage (2): based on the full sharing and digestion of information in the first stage, the design direction and cultural transformation are formed by extracting elements from cultural concepts.

Stage (3): Re-grouping case studies, discussions and conceptual translation studies based on students' design direction desires, and product function and innovation design teamwork to user and market analysis;

Stage (4): a lecture on the methods and principles of cultural and creative transformation, group discussion and understanding, and then individually determine their own design concepts and design elements to start visualisation and development;

Stage (5): presentation and review of the final design proposal, course summary and reflection.

### Visualised Teaching Management of Design Analysis and Processing

For each stage of group work, the visualisation (hand-drawing, charts, data) of the analysis process and presentation is used as the process of grading standards, breaking the single requirement for students to submit general design descriptions and sketches to report on the programme, and guiding the process of understanding, extracting, transforming and innovating the core of the complex and diversified cultural theme into a logical layer-by-layer decomposition of the organic whole of the product that is rich in humanities, functions and business. The whole process was organic.

Type of Design Direction	Categorisation	Number of Students	Proportion
Product Type Design Direction	A. Tableware design	6	14%
	B. Table and chair combination design	15	36%
	C. Single table design	6	14%
	D. Additional derivative product design	20	48%
Transforming Levels of Traditional Culture	a. Visceral Design (Outer)	8	21%
	b. Behavioural Design (Middle level)	16	38%
	c. Reflective Design (Inner level)	2	3%
	a+b. Visceral & Behavioural Design	13	31%
	b+c. Reflective & Behavioural Design	2	7%

To sum up, through the innovative design of furniture and equipment, food utensils and related derivatives of the "Nine Big Bowls" banquet of the local traditional system, the final design work embodies the main teaching goal of integrating modern design, science and technology with cultural innovation. Effective group work in the design of teaching and learning plays a balanced and diversified role in the selection of the design direction of the students, in the various design direction of the work of the satisfaction of some differences due to the depth of the teamwork of different groups and the degree of variation in the ability of students. For the tableware group with the largest number of students in the design direction, due to the closest proximity to traditional tableware products and the high similarity of the materials used, the degree of creativity is relatively low, and the expression of the design concept is mainly obtained through the optimisation of the shape.



**Fig. 9:** The design works from the group of tableware design.

For the "Nine Big Bowls" banquet, the table is obtained after an analysis of the users and the environment's use. The "repeated heating" concept group has made a good breakthrough in new modern functions and cultural feature combinations.





**Fig.10:** The design works from the group of single table redesign.

Some design solutions for the portability of tables and chairs and convenient transportation also show traditional culture in tangible and behavioural design innovation.



**Fig.11:** Some design works from the group of table and chair set redesign.

Finally, a few new product designs are suitable for the new young generation in the urban lifestyle, whose concept of "gathering dinner" with countrymates, constructed from the emotional experience perspective, is this course's highlight.



**Fig.12:** Design works from the concept of "gathering dinner with countrymates".

## DISCUSSION

Firstly, regarding the students' product design direction, the number of students concentrated more on the group of small accessories. Students were not fully motivated to design the challenging "Nine Big Bowls" banquet core product innovation. Therefore, the researcher found that when future traditional cultural redesign

projects are carried out, both teachers and students need to carry out as much participatory and experiential field research as possible in the teaching & learning to get a better understanding and perceive the local culture to translate into enthusiasm for the work into the design.

Secondly, from the submitted works, we did not see excellent works with local characteristics of traditional cultural connotation, modern innovative functions and experience empathy. Reflecting on the highly comprehensive ability of students in this design project, students in the third year of the undergraduate product course at Chengdu FineArts Academy have limited opportunities to contact culture and integrate it into the classroom in the basic courses of their first and second years, so the training of thinking and methods for the introduction of culture into modern design is at the initial stage (Huanget al., 2021; Li, Y. 2022). Should we start with basic products such as banquet utensils, and overall banquet-related product design with strong functions and scientific and technological innovation can be placed in the later courses?

Finally, the NGT method contributed to the teaching design and the students' group work of the whole project-based course. However, since the participants are all teachers engaged in modern design, there are certain limitations in view and vision, especially for traditional culture-related design projects. Scholars (Tu et al., 2021) have pointed out that relevant professionals from diverse backgrounds can help to achieve the common goal of design education and social impact while being one of the driving forces behind the continuous development and improvement of the programme. The participants of NGT in future research on integrating traditional culture into teaching can be introduced to different backgrounds, especially the participation of relevant craftsmen designers from industry in the discussion, which will be more enriching and comprehensive.

## CONCLUSION

In general, the teaching design constructed by design development research (DDR) and nominal group techniques (NGT) has been implemented in the innovative design of the "Nine Big Bowls" banquet to complete the teaching objectives of the course. During teaching design, the transformation of cultural connotation and extension forms has been reflected in students' design works to varying degrees. The rich heritage of Chinese food culture can enhance the value of design and gain the recognition of contemporary consumers through their internal rituals, stories and emotions, as well as the external shape of food utensils and related products. Designers and design education should commit to exploring local cultural traditions.

Moreover, the design works of this project-based course will be expected to contribute to the development of design education and our local cultural heritage for society. The impact of the course has yet to be particularly highlighted because this project needed to link industry with interdisciplinary professionals sufficiently. However, an in-depth exploration of establishing a social collaboration platform would help enable the design course to connect with society, with more opportunities to incorporate culture into interacting with product companies and gaining access to public displays and commercial opportunities (Manzini, 2014). At the same time, with a more open teaching process, the public can better understand design and cultural heritage and establish a better social impact for design education.

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