REFLECTING ON THE CHANGING ROLES OF STUDENT DESIGN TEAMS IN GLOBAL DESIGN PROJECTS

Yang ZHANG[1], Yun FAN[1], Erik BOHEMIA[2] and Jianglong YU[3]
[1]Nanjing University of the Arts & Shandong University of Art & Design, China
[2]Western Norway University of Applied Sciences, Norway & Shandong University of Art and Design, China
[3]Shandong University of Art & Design, China

ABSTRACT
This study explores how Chinese design students assumed dual roles of designers and clients in an international design project using these six skills categories: Communication, Confidence, Concentration, Cultural Diversity and Collaboration. Firstly, we briefly introduce the project content and teaching process of this course and outline the roles and tasks of students in different stages of the design process; Secondly, through the questionnaire data collected in the middle and final stages of the course, we analyse the student collaboration design team process. Finally, we use specific 6C framework categories to reflect on the effectiveness of the course supporting development of design practice. The data indicate that most students have a strong interest in this course with different cultural backgrounds, but they often find it difficult to assume appropriate roles, which is largely caused by different teaching modes and cultural backgrounds.

Keywords: Culture exchange, team collaboration, distributed design, design process

1 INTRODUCTION
In 2024, the Chinese Ministry of Education outlined a strategy for opening the education [1]. The aim of the initiative is to “to equip the next generation to meet the challenges of a rapidly evolving world” by “develop[ing] students’ learning abilities, cognitive skills, emotional intelligence and higher-order thinking” and increase participation international students and scholars in the national Chinese universities [2]. The goal of the Global Studio is not only to meet the national standards for talent development, but also to develop a series of processes and knowledge areas to enhance the participants' ability to provide more reasonable, fair and sustainable learning and doing for the city and society [3,4].The emergence of distributed design, as a new design method and the core of the Global Studio, realises remote link through digital platform and solves common problems on a global scale while acting locally, which provides a new vision for open design education and the creation of hybrid learning environment, and also offers students with opportunities to “learn by doing” [4,5]. Thus, the Global Studio learning activities were structured to support experiential learning. Based on the principles of distributed design, such as open learning space, collaborative, sustainable and inclusive practices [6], The project utilised an open online platform provided students with a flexible online environment to exchange information and share the knowledge.

2 DESIGN ACTIVITY LABORATORY
Fullan expanded the 4C theory proposed by the OECD [7] that talents in the 21st century should possess from the educational perspective to the 6C theory of "creativity, communication, collaboration, critical thinking, citizenship, and cultural character". He believed that learning skills in the 21st century should place greater emphasis on breakthrough learning. When conducting deep learning from the perspective of the overall system, it is necessary to adjust the teaching methods at any time, so that the 6 different ‘C’s can adapt to the course teaching through more personalised measures. However, the new teaching methods must be novel to both students and teachers. Any solution must meet these 4 standards: (1) It

is attractive to both students and teachers. (2). Efficient and easy to use. (3). Based on technology (4). Solve real-life problems [8].

We adopted amended 6C framework to reflect specific goals of the Global Studio course and to established common signposts for the students participating from different countries. The adopted 6C framework incorporated these six categories: Communication, Confidence, Concentration, Creativity, Culture, and Collaborative. Thus, replace these three categories: critical thinking, citizenship, and cultural character by these three categories: confidence, concertation and cultural diversity. (FIG.1),

Figure 1. 6C evaluation model

The 10-week long the Global Studio, international design project, on the theme of "Celebrating Daly Little Joyce of Life" is used to explore how Chinese undergraduate design students took on dual roles of designers and clients. Students' course feedback was collected during the mid-project and at the end of the project. The collected data was used to evaluate how the Chinese students perceived their design practice. Prior joining the course the students were asked to demonstrate they were able to operate a design software, and had a sufficient English listening, speaking, reading and writing abilities, in addition having a strong interest in the project.

First, we outlined the schedule of the project, then we discussed the roles and activities that students were required to assume. Afterwards, we summarised students' perceived performance when they are completing the design projects and draw a conclusion.

In the stage of C1-C6, teachers in charge of the curriculum need to undertake the following 5 tasks, the course responsible teacher needs to undertake the following five tasks to help students complete phased reflective thinking on the design tasks at different stages.

Table 1. Five Key Teachers' Tasks

Task	Context	Details
1	Remind students that they can choose the social platform that is convenient for communication.	Wechat/Discord/Skype/Viber/Kakaotalk/Line/Snapchat, Messenger/Google Hangouts/Whats App/Zoom/ FaceTime/QQ/Instagram/Direct/Slack/Microsoft Teams (or other 'Voice Over the Internet Protocol' - VOIP - software you might have used)
2	Teach students how to use global studio's web interface to complete weekly work progress updates.	
3	Encourage students to complete weekly learning feedback through story boards, social software and other forms.	Communicate with the student groups they work with.
4	Urge students to complete the questionnaire information in the middle and final stages of the project.	· The questionnaire contents in the mid and final stages contain some same questions, but the focus is different. · The mid-stage survey focuses on the early stage of the design process (STAGE1–3 in Figure 2), and the final stage focuses on the later stage of the design process and project evaluation (STAGE4–6 in Figure 2).
5	At the end of the course, the teacher needs to conduct semi-structured interviews with the 6 leaders of the student team, who are mainly responsible for promoting the project progress and determining the division of labour among the project members. The purpose of the interview is mainly to find out	· Before the interview, the outline of the interview had passed the ethical review, and the suggestions of relevant professional teachers were adopted to optimise and adjust the outline. · 6 students participated in the interview, they are the leaders of 6 Chinese design teams, responsible for promoting the project progress and determining the division of labour among project members.

	whether the students' overall evaluation and feedback on the course project are updated.	

According to the 6C evaluation model (FIG.1), the course interprets the map of students' experience in the course in detail (FIG. 2). From the first week to the tenth, students need to complete different learning content and design practice respectively.

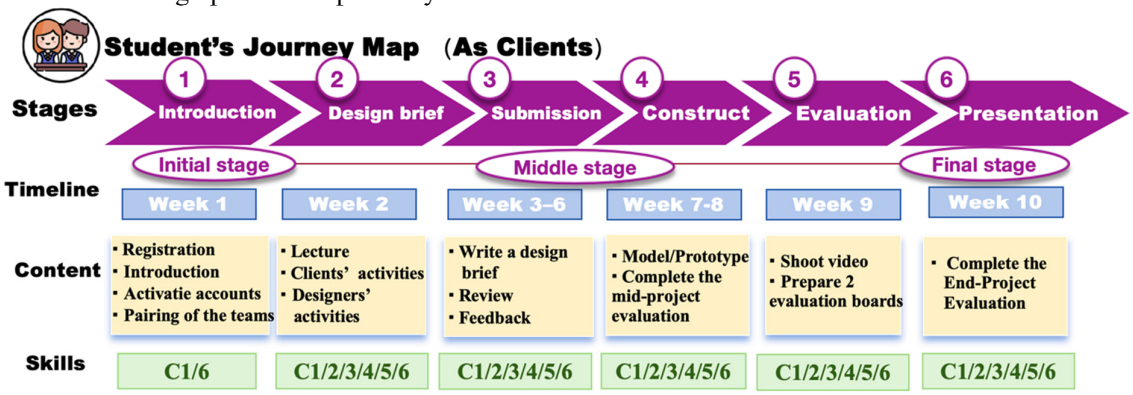

Figure 2. Student's journey map

Among them, in stage 2, students need to clarify the activities of designers and clients (Figure 3), and they need to complete different tasks and design practices corresponding to different roles in the later stage 3–6 (Figure 2).

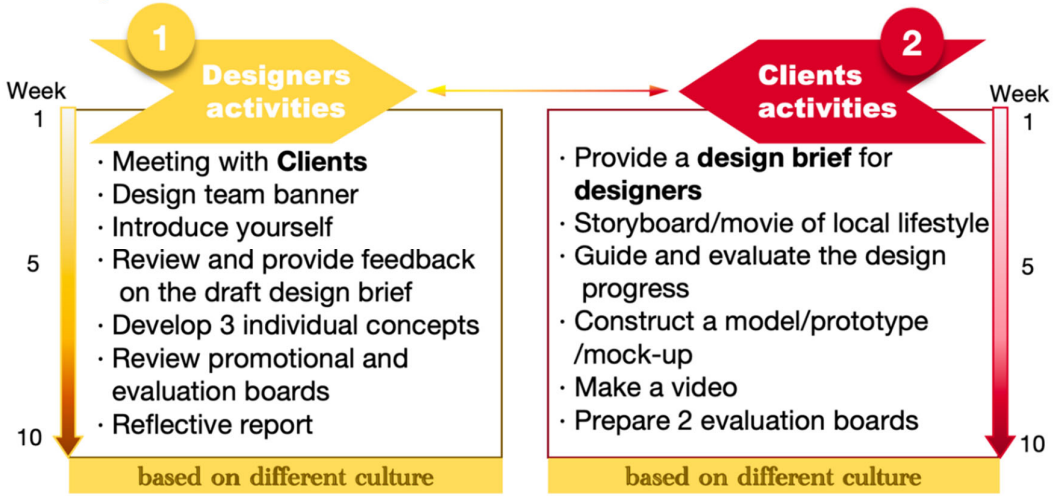

Figure 3. Designers and Clients activities

3 PRODUCTIVITY - FEEDBACK

Although students had a strong motivation to communicate with others, they experienced several difficulties in the communication process. For example, the students had limited experience of managing projects remotely; they familiarity with specific types of social and communication applications meant a steep learning curve to become confident using new social and communication applications; and network restrictions also limited communication exchange amongst the student teams. Based on the 6C evaluation model, and the questions found in the questionnaire and interview data are summarised into 6 categories, so as to analyse and discover the real feedback and practical problems of the student design team in the process of assuming different roles.

3.1 C1: Communication – Connectivity

In week 1–2, after the teacher assigned the roles and functions of course cooperative production, students needed to choose the appropriate social software to complete the process of cooperative production. In

the early stage, we found that the students took the initiative to build a design team with personal cultural characteristics, such as completing the group banner and self-introduction. However, in the middle stage, the data showed that more than half (54%) of Chinese students believed that their English level limited the in-depth communication with the other students located at the international project partner universities. A quarter of the Chinese students (25%) indicated that the time zone as well as cultural background differences have hindered them completing the project-related tasks. Also, students' established preference for specific social platforms in different countries has initially hindered connectivity between the students. Nevertheless, the biggest problem for the Chinese student affecting communication was related to a language proficiency. Although, they have been learning English since kindergarten, opportunities to demonstrate English use is done through set exams. This way of demonstrating language proficiency makes the students unable to express their ideas in English in real time and in different environments.

Although, at the start of the project the students were provided with a general schedule outlining the weekly tasks and required delivery outputs, the Chinese students struggled implement it to manage their teamwork. They also struggled to clarify their role tasks and time divisions. When communicating with their counterparts, rather clearly indicating a specific time node, they often used expressions such as "as soon as possible" and "timely" indicating their uncertainty about when a specific activity should have been completed. Over the time, this has negatively impacted on their level of enthusiasm, which to a certain extent increases the communication cost.

When it comes to choosing a communication method, majority (96%) of Chinese students indicated that using an online platform (zoom/email) has helped them improve their communication skills, but when using social software for daily communication, students spend a lot of time screening applications with multilingual operations. In addition, in the early stage of the project, due to the different levels of students' personal activity and enthusiasm for the project and social activities, students were often reluctant to turn on the camera to participate in the communication activities on the online platform, which increased the communication difficulties as well as increasing the time cost.

3.2 C2: Confidence – Switch Roles

The questionnaire and interview data indicated that students' overall evaluation of the course was positive and only a minority (4%) of the students cited difficulties in playing the role of client and designer during the design process, which was quite surprising as it was quite different from the data collected in the middle of the project and what was observed by the teachers. In the middle of the project, a majority (79%) of the Chinese students in their roles as clients rated the progress in completing the design brief as smooth, such as timely communication, providing solutions to different topics, and effectively addressing the problems raised. However, by end of the project less than half (42%) of the students indicated that communication was smooth.

The English was used as common language between the paired student teams. In the case of Chinese students playing the role of "designer," most of Chinese students (71%) indicated that working with international collaborators made them feel confident. However, at the end of the project only less than a third indicated this (29%). We assume that this was largely due to the unclear division of roles among students in the process of team collaboration, which led to their inability to establish effective communication in the process of project promotion. Information feedback during course presentation and student completion interaction indicated that the language boundary is still the core problem and contributed to Chinese students' lack of confidence. For example, in the communication and presentation stage, students often worried that their ability to express English will be laughed at by others, so they communicate in silence by typing. This meant that the teams were unable to reached consensus in a timely manner and thus the students were unable to keep up with the project's general schedule. In addition, in the final data, a fifth of the Chinese students (17%) would have liked that the teachers manage the design process. They hoped that teachers would have guided them through a specific design method. At the same time, this also indicates that students face certain difficulties in the process of switching roles, and they wanted the teachers to intervene and guide their design practice.

3.3 C3: Concentration – Management ability

At the middle stage of the project, the most (87.5%) of students indicated that preferred to manage the design process by themselves. They stated that they can enjoy more freedom and think independently in the design process, instead of being told by teachers what they should do. In addition, students have

higher expectations for the design projects under their own management (such as the ability to manage time, extract key information, timely communication and feedback, etc.). This is consistent with the majority (96%) of the students mentioning that they learned to complete the design independently, such as optimising the shape and form of the product through their own design skills and paying attention to the design output.

3.4 C4: Creative – Design innovation

According to the final questionnaire data, the most (87.5%) of Chinese students believed that the different tasks undertaken in the project can well explore the problems and concepts of different cultures, such as different living habits and daily behaviours, and they believed that this project helped them to explore the local culture and the living habits of the elderly more deeply. However, the data obtained from questionnaires and interviews did not find that students mentioned any key words related to "innovation" in the design process, which seems to indicate that students did not have a clear definition of the concepts related to "innovation", such as: In their overall comments on the programme, most students mentioned that the experience in the programme was "new" and "completely different" from other courses, but they were unable to articulate their own specific opinions.

3.5 C5: Culture difference – Understand the culture

In cross-cultural design teams, most design discussions are carried out by designers as problem situations, and designers need to understand the cultural background of target users in order to better complete co-creation in cross-cultural design teams [9]. Therefore, in the second week of the project, students as designers are required to independently develop 3 realisable design ideas based on the client's local cultural environment, so as to promote the evaluation and feedback of the designers and clients in the later stage of the project. However, the data in the middle stage of the project was not satisfactory, only 33% of the students thought that they have understood the cultural backgrounds of different countries. By end of the project this level has decreased to only 21%. For example, an interviewed student said that: "Although I am very familiar with and adapted to my own cultural environment, it is more difficult than expected to simply show and introduce the local culture to my classmates, not to mention the limitations of language and cultural differences." Half of the students (50%) indicated that effective communication is the key to promoting understanding of different cultures.

3.6 C6: Collaborative team environment – Teamwork

Successful organisational transformation is the result of the conditions created by the leader as the host, and he/she and his/her team members share the same design goal or vision, which requires the team leader to change together with the team members, rather than change or command the team members. These conditions encourage and motivate team members to contribute to the team's process of innovation transformation and to achieve personal growth from it [10]. According to the collected interview data, as the person in charge of a team project, the six students agreed that it was very challenging to be responsible for promoting the work progress of team members. At the early stage of the project, 71% of the students thought it was challenging to communicate the design concept, and they did not know how to find the entry point of design. With the improvement of team collaboration and communication and students' concentration, the proportion of students who found it challenging to complete the design summary decreased to 58%, while the proportion of students who found it challenging to complete the final design presentation increased to 75% compared with the initial stage. This is consistent with the attention curve proposed by Palladino [11]. In the process of project advancement, the attention of students will form an inverted U-shaped curve along with the duration and progress of the project. At different stages of the project, the team leader identified language difficulties, communication difficulties, time constraints, and inability to reach a quick consensus as the main reasons for the challenges in the design project. This may be related to the most mentioned purpose of why the students selected to participate in this project which was to improve their English level.

4 DISCUSSIONS

Due to the limitations of the sample size and the survey area, this study cannot represent that the evaluations and feedback of all Chinese students participating in this course are completely consistent.

The results showed that students still had cognitive difficulties in the process of switching between the roles of "client" and "designer" (Confidence C2). Students tend to pay more attention to their design output, such as whether the shape and form of the product are beautiful or not (Concentration C3). Although, some students have expressed their interest in the focus of the course, students were mostly confused about how to connect the collected cultural information with the design practice process resulting in practical difficulties and challenges (Collaboration 6). However, almost all of the students expressed a keen interest in the programme because it was a new learning experience that moved away from the traditional teacher-led teaching model and allowed the students to explore different cultures from their own perspective. As Xin mentioned, major reforms are urgently needed in undergraduate design education in contemporary China, and the focus should be placed on cultivating students' future leadership skills [6]. This kind of leadership stems from the ability to effectively connect different aspects of things and to find appropriate solutions to problems through strong motivation.

5 CONCLUSIONS

In this design practice project, most students have discovered the importance of culture to design and have a deeper understanding of design issues，which is consistent with Tony mentioned that design will never be culturally neutral, it always conveys social and cultural values, and design is both a product of culture and a means to create culture [12]. Therefore, this also makes us rethink that the core value of design is no longer to solve design problems with the experience of designers, but to discuss design products in a larger volume, such as how human beings should live a better life，and how to rethink the design problem. As Palladino mentioned, it is only from the experience of everyday life that focus can be found, thereby helping us to better understand our increasingly fast-paced world. This is also the benign goal that this course hopes to achieve in practice: to design for complex daily life.

REFERENCES

[1] *Documents of the Ministry of Education of the People's Republic of China*. Available:http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/2024/2024_zt16/dyjd/2024_zl13/202409/t20240908_1149669.html [Accessed on 2024. September], (2024). September.

[2] Yan L. (2025, February 27, 2025). Foundation of the Future: China's plan to strengthen its education system over the coming decade. Beijing Review, 68(9), 20–21.

[3] Rubbo A. Towards Equality, Social Inclusion and Human Development in Design Education: The Case of Global Studio 2005–2008. *Architectural Theory Review*. 2010, 15(1), pp.61–87. https://doi.org/10.1080/13264821003629253

[4] Dewey J. Experience and Education. *Free Press.*1938.

[5] Gerodimou M. D., Juggins O., Dominguez S. F. X. and Chamorro E. Prototyping Hybrid Learning Environments through Distributed Design. This is distributed design. Making a new local & global design paradigm. *Distributed design Platform.* 2021, (3), pp.52–61.

[6] XIN X. Y. *A proposed for A New Undergraduate Design Curriculum @ Xiangyang XIN.* Available: https://mp.weixin.qq.com/s/UayzogEa5ftOvKcekvB8yw. [Accessed on 2024.Dec], (2024). December.

[7] Foster N. and M. Piacentini (eds.) (2023), Innovating Assessments to Measure and Support Complex Skills, OECD Publishing, Paris, https://doi.org/10.1787/e5f3e341-en.

[8] Fullan M. Breakthrough Learning. *Deeper Learning: beyond 21st century skills*. 2015, pp.275–284.

[9] Clemmensen T., Ranjan A. and Bødker M. How cultural knowledge shapes core design thinking–a situation specific analysis. *CoDesign.* 2017, 2(14), pp.115–132. https://doi:10.1080/15710882.2017.1399146

[10] Aurora S. W. and Suniartie S. Nurturing Future Leaders: adapting leadership development approaches to changing context. *ETHOS.* 2021.23, pp.88–89.

[11] Palladino L. J. *Find Your Focus Zone: an effective new plan to defeat distraction and overload.* 2007(New York: Free Press).

[12] Tony F. T. Design futuring:#Sustainability, Ethics and New Practice, Design Activism: Beautiful Strangeness for a Sustainable World. *Journal of Design History.* 2011. 24(4), pp.397–400. https://doi.org/10.1093/jdh/epr032.