

# Integrating Studio Pedagogy in Sustainable Design Education for Social Justice and Global Citizenship

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**Abstract:** *In response to global environmental challenges and social responsibility, sustainable design education has become essential to higher education in art and design. This study aims to investigate how sustainable design education, as delivered through studio pedagogy, changes university students' sense of social justice and duty in China, thereby fostering talents with global citizenship consciousness. The study used a combination of literature review and semi-structured interviews to review domestic and foreign literature while interviewing six teachers and six students from three design universities in Beijing. The study found that studio pedagogy greatly improves students' cooperation abilities, social responsibility, and inventive thinking skills. Students get a deeper grasp of societal concerns and generate innovative solutions via hands-on projects and constructive teamwork.*

**Keywords:** Art and design education, Global citizenship, Social justice, Studio pedagogy

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## 1. Introduction

Global citizenship education is essential in light of the environmental crisis and the growing social responsibility concern. Education systems can tackle these global concerns effectively by equipping students with a worldwide perspective and social responsibility (Fu, 2022). In higher education, sustainable design education plays a significant role in developing students' sense of social responsibility and global citizenship, in addition to fostering design innovation by encouraging students to consider environmental protection and social equity issues in design practice (Jiang, 2022).

In the Chinese educational context, developing students with a sense of social justice, global citizenship, and accountability requires successfully including sustainable design education into the design curriculum through studio pedagogy. Through hands-on projects and collaborative teamwork, the studio pedagogy dramatically enhances students' capacity for cooperation (Ayu et al., 2023), social responsibility, and inventiveness (Shahabedin et al., 2022). This method encourages students to develop creative, sustainable design solutions in addition to assisting them in comprehending and resolving environmental and societal issues (Shaffer, 2003). However, comprehensive sustainable design education curricula and explicit teaching strategies are still lacking in China's present design education, which has limited effects on educating students about social responsibility and environmental awareness.

This study focuses on how studio pedagogy influences Chinese college students' perceptions of social justice and accountability. In light of this, the current study aims to answer the following major research questions:

RQ 1: How does studio pedagogy effectively integrate into sustainable design education in Chinese higher education to foster students' social justice awareness and global citizenship?

RQ 2: What specific role does studio pedagogy play in enhancing students' collaborative skills, social responsibility, and innovative thinking?

RQ 3: How do teachers and students evaluate the effectiveness of studio pedagogy in cultivating global citizenship and social justice awareness through actual design projects?

## 2. Literature Review

Sustainable design education integrates sustainability into design courses, focusing on critical thinking, problem-solving, and strategic planning to promote social justice and sustainable solutions (Agarwal, 2023; Zainudin et al., 2021). It encourages designers to consider their work's social, economic, and environmental impacts, promoting eco-friendly materials, recycling, and resource conservation (Agarwal, 2023). To enhance sustainability literacy and design skills, sustainable design education uses strategies like Service Design, Designing the Future, and Systems Design (Jiang, 2022). Universities have increasingly prioritized sustainability education through Education for Sustainable Development (ESD) across various disciplines (Kholiavko & Didenko, 2023; Zaki et al., 2024). As Zaki et al. (2024) note, universities are crucial in addressing sustainability challenges through ESD.

Design for Sustainable Development (DfS) considers the entire life cycle of products or processes (Zainudin et al., 2021). Teaching methods such as Service Design and Systems Design promote long-term solutions and awareness of societal and environmental impacts (Jiang, 2022). Sustainable design education should shift from market-driven to socially and environmentally responsible approaches (Meth et al., 2023a). Successful examples, like the Kolding School of Design, show the benefits of integrating sustainability into curricula (Agarwal, 2023). However, challenges remain in aligning education with the Sustainable Development Goals (SDGs). To address these, sustainability should be integrated throughout education, fostering lifelong learning and empowering students to make responsible decisions (Zainudin et al., 2021). This approach not only prepares students for the workforce but also encourages them to become agents of change for a more sustainable society (Agarwal, 2023; Meth et al., 2023b). Research has highlighted the benefits and challenges of incorporating various teaching methods into sustainable design education. For instance, studio teaching methods face advantages and difficulties (Albright et al., 2022; Boling et al., 2020; Crabbe et al., 2022). Park et al. (2022) suggest that ESD approaches can enhance learning environments and equip students with necessary skills, indicating the need for improvements in traditional curricula.

Global Citizenship Education (GCED) equips students with the knowledge, skills, and values to actively engage in a globalized world and promote a just, sustainable society. UNESCO highlights GCED's role in fostering positive local and global impacts, creating safer and more inclusive communities (Fu, 2022). It focuses on developing empathy, respect for diversity, and awareness of global issues, often through student-centered, project-based learning (Ahmed & Mohammed, 2022; Fu, 2022). Rooted in critical pedagogy, GCED promotes critical thinking, human rights, and environmental sustainability (Egan-Simon, 2022). GCED encourages participatory media like digital storytelling to enhance student engagement and moral

development, particularly in diverse cultural settings (Fu, 2022). It prepares students to confront global challenges such as social inequality, climate change, and economic development (Amna et al., 2022), fostering a sense of responsibility for a sustainable world. Studio Pedagogy and GCED aim to prepare students for a complex global environment. GCED helps students tackle issues like inequality and migration (Bosio, 2023; Kang et al., 2017), using critical pedagogy to promote reflective dialogue (Ghassan & Bohemia, 2015, 2016). Studio Pedagogy places students in real-world scenarios, fostering peer collaboration and problem-solving (van Amstel & Gonzatto, 2020), with models like Global Studio and international planning studios integrating global citizenship and the SDGs into education (Jones, 2019; Dill, 2012). GCED is particularly relevant to textile and apparel education due to the industry's ongoing environmental and social issues. Integrating GCED into curricula prepares students to address these complex challenges.

Studies show that incorporating studio pedagogy within the Global Citizenship Education (GCE) framework enhances student learning, providing them with the skills and perspectives needed to address global challenges (Dill, 2012). This approach fosters social justice and responsibility and encourages support for policies prioritizing social justice, environmental sustainability, and economic viability—the triple bottom line (Bosio, 2023). Several studies highlight the textile and apparel industry's (TAI) shift toward sustainability, with GCE playing a key role in accelerating this change (Kang et al., 2017). The youth-led global climate strikes demonstrate GCE's power in mobilizing youth as social and environmental justice advocates, underscoring its importance in textile education. GCE, by bridging theoretical knowledge with practical application, empowers students to become change agents in a sector grappling with significant sustainability issues.

### **3. Methodology**

This qualitative study was carried out to look into how studio pedagogy affects the growth of social justice and global citizenship in the context of teaching sustainable design. Three institutions in Beijing, China, were used as the selection site, and six faculty members and six students were chosen randomly to participate in structured interviews. A set of eight interview questions was utilized to get viewpoints from the participants regarding studio pedagogy and education for sustainable design. A strict three-level coding procedure that included open, axial, and selective coding was used to analyze the data. With this methodical methodology, it was possible to determine how vital studio pedagogy is in helping students pursuing degrees in sustainable design to develop a sense of social justice and global citizenship.

#### **3.1 Research Design**

This study used a qualitative research methodology to explore the complex relationship between studio pedagogy and the development of social justice and global citizenship within the framework of sustainable design education.

#### **3.2 Research Participants**

Twelve people—six instructors and six students—enrolled in three Beijing, China-based design schools made up the study population. Participants were carefully chosen based on their deep expertise and breadth of experience in sustainable design and design education. Before data collection, all participants gave written informed consent to guarantee voluntary participation and thorough comprehension of the study's goals.

### 3.3 Data Collection

Data were collected using a semi-structured interview methodology. The interview guide was painstakingly created to extract in-depth viewpoints on studio pedagogy and teaching sustainable design from educators and students alike. To shed light on participants' perceptions and experiences, the investigation covered eight major theme areas listed in detail in the Table 1.

**Table 1: Teacher Interview Outline**

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1. Please briefly introduce your background and current position.
  2. In design education, which global citizenship traits and social justice awareness do you consider most important, and why?
  3. How do you specifically apply studio pedagogy in your courses to promote students' understanding and practice of social justice and global responsibility?
  4. Could you share a specific example that illustrates how studio pedagogy has helped students understand and apply these responsibilities?
  5. What teaching methods and learning experiences do you use to help students develop global citizenship traits and social justice awareness?
  6. How do you assess students' progress in social justice, global citizenship responsibility, and sustainable design?
  7. Could you share some student works or cases that demonstrate the effectiveness of studio pedagogy in these areas?
  8. How do you think future designers with global citizenship awareness and social responsibility should be cultivated?
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Thirty to forty-five minutes were allocated for semi-structured interviews with participants. To enable thorough analysis, every interview was audio-captured and transcribed verbatim.

### 3.4 Data Analysis

A methodical, three-tiered theme analysis framework was used to extract significant insights from the interview data.

- **Open Coding:** First, a thorough line-by-line analysis of the transcripts was conducted to pinpoint and extract key ideas directly associated with the study goals. 'Collaborative ability development', for instance, was the code applied to participant narratives that described how their collaborative skills developed while working on real projects.
- **Axial Coding:** The selected concepts were further developed, categorized, and incorporated into more abstract secondary codes, building on the first coding step. For example, the codes "experience in teamwork" and "development of collaborative abilities" were included in the larger category of "collaboration and teamwork."
- **Selective Coding:** After secondary codes were combined and abstracted into central theme constructs, the study reached its conclusion. For instance, the general category of "educational impact of studio pedagogy" was formed by combining the topics of "development of innovative abilities" and "collaboration and teamwork."

Through this in-depth qualitative inquiry and rigorous analytical process, this study delved into the implementation of studio pedagogy within sustainable design education and its efficacy in cultivating students' social justice and global citizenship orientations. The findings unequivocally demonstrate that studio pedagogy is a pivotal component of design education in fostering these essential competencies. To ensure the reliability and correctness of the data, this study employed several methodological safeguards:

**Triangulation:** This was used to increase the validity and reliability of the study findings. The study sought to develop a thorough and reliable knowledge of the phenomenon being studied by collecting data from several sources, particularly teacher and student interviews. Because of this scientific approach, information from many data sources may be corroborated, increasing the validity of the findings.

**Member Checking:** A member-checking procedure was implemented to improve the research findings' validity and reliability. To help validate research constructs, early interpretations were shared with a selection of participants once data processing was finished. The iterative technique guaranteed the study's proper representation and interpretation of the participants' perspectives and experiences.

**Peer Review:** A peer review procedure was used to improve the rigor and reliability of the research. This entailed asking eminent academics for their critical evaluations and comments. Their knowledgeable assessments were crucial in assessing the research design, results, and overall contribution to the corpus of knowledge.

## **4. Results**

The results are arranged following the initial Research Questions: (A) How can students' knowledge of social justice and global citizenship be promoted by effectively integrating studio pedagogy into sustainable design education? (B) In what particular ways does studio pedagogy help students develop their capacity for social responsibility, teamwork, and creative thought? and (C) How do educators and learners assess how studio pedagogy uses real design projects to foster social justice consciousness and global citizenship? To protect the respondents' anonymity, this study refers to interview content using anonymous IDs (such as "Teacher 1-6" or "Student 1-6"). This method guarantees uniformity and clarity in the research data's quotation and analysis while safeguarding the participants' identities.

### **4.1 Section A (RQ1)**

Section A (RQ1): How does studio pedagogy effectively integrate into sustainable design education to foster social justice and global citizenship awareness among students?

Firstly, the precise comments in Teacher 1's interview manuscript offer compelling evidence to back up our discussion in the research findings regarding "the internalization of social justice and responsibility," in particular in response to question 4 of the interview, which asks, "Could you please share a specific example of how the studio pedagogy has helped students understand and apply these responsibilities?"

Secondly, by comparing the contents of teacher interviews, this study found that the answers of Teacher 2 and Teacher 6 provided strong persuasive support for interview question 4. For example, Teacher 2 said: "Through studio pedagogy, set up a project transformation mechanism, and set the subject direction with humanitarian care and sustainability as the guide... Through the school-enterprise cooperation model, students' teaching results can be transformed to the greatest extent in society." Teacher 6 said, "In the course" Sustainable Fashion Design "that I used to teach, I will use the form of" story collection "to communicate the concept of sustainability to the public".

In answer to interview question 2, Student 5 mentioned: "In designing the course, I believe that cross-cultural understanding and respect, critical thinking and social responsibility are at the core of global citizenship and a sense of social justice".

In addition, when referring to issues related to critical thinking, Student 5 believes that through studio pedagogy, students can apply critical thinking in practical design projects to analyze the possible impact of design works on society and the environment. This cultivation of critical thinking is closely related to forming a sense of social justice, an answer that directly responds to the cultivation of social responsibility in RQ 1 of this study. The sense of social responsibility mentioned by Student 5 emphasizes that designers must consider their impact on society and the environment in the design of their works. This may mean that students need to take social and environmental sustainability as an essential reference in the design process, and this is highly compatible with the emphasis on practicality and application of studio pedagogy.

The interview with Student 5 also highlighted the critical role of practice in the integration of studio pedagogy into sustainable education: Through market research, fashion trend analysis, and real design processes, the student experienced the collision and integration of different cultural backgrounds in the team cooperation and gained an in-depth understanding of the importance of social justice and global responsibility. For example, Student 5 replied: "In the course, we follow the enterprise process method through market research, fashion trend analysis, and design process, and use the real design environment to experience the collision and integration of different cultural backgrounds in the team cooperation."

It is worth mentioning that Student 4's answers strongly supported Student 5's views, especially concerning the emphasis on environmental awareness, sustainable development, and the practical application of the studio pedagogy. Student 4 said: "The studio pedagogy is targeted in promoting social justice and global responsibility, without generalizing... Follow-up wear in people's lives recycling value and environmental solutions." By analyzing the interview texts, this study found that applying studio pedagogy in sustainable design and environmental protection actively promoted the cultivation of students' sense of social responsibility and global citizenship.

#### **4.2 Section B (RQ2)**

Section B (RQ2): What specific role does studio pedagogy play in enhancing students' collaborative skills, social responsibility, and innovative thinking?

As found in the teachers' answers, teachers mentioned: "problem-oriented learning", "project presentation and review" (Teacher 1), "interdisciplinary learning" (Teacher 5), and "ecological assessment method" (Teacher 5: "For student evaluation and assessment, I generally adopt an ecological method, and we cannot get answers from only a set of test papers.

The students' reference to "teamwork cooperation" in their responses (Student 2: "Teamwork cooperation and field research are most helpful in developing cooperation skills and empathy."), "Participation in real projects" (Student 5: "Improved my ability through participation in real projects."), "Reflection and Feedback" (Student 4: "Constantly reflect and improve their awareness and abilities through participation in various projects and activities." I regularly review my work and projects, think about how best to incorporate these ideas into my design, and continually ask for feedback to improve."), "Interdisciplinary cooperation" (Student 4: "Engaging in community projects, international exchanges and case studies has played a key role in developing my sense of global citizenship and social justice").

### 4.3 Section C (RQ3)

Section C(RQ3): How do teachers and students evaluate the effectiveness of studio pedagogy in cultivating global citizenship and social justice awareness through actual design projects?

In response to research RQ 3, by analyzing all the interview texts of teachers and students, this study found that teacher 3 mentioned in interview question 6, "The studio pedagogy has stronger teacher-student interaction." This enhanced interactivity gives students more guidance and feedback, prompting them to innovate their designs. In addition, some teachers also mentioned using an ecological approach in the evaluation system, such as Teacher 5's use of an "ecological approach" to assess students' progress, mainly by observing students' innovative abilities through interdisciplinary assignments and work exhibitions. "In this process, I can see the growth of students' discourse ability, logical ability, and thinking Angle," he said. This kind of evaluation helps students improve the design through reflection and feedback, thus enhancing their ability to innovate. Teacher 6 emphasized the importance of group work sharing. This participant mentioned that the process of sharing can help students show their creativity in the design, and through online and offline simultaneous speech and homework display, students' creative expression has been more widely displayed and recognized.

When discussing their views on social responsibility and environmental protection, all respondents showed a strong sense of environmental protection and clearly understood social responsibility. For example, Teacher 1 emphasized in the "Sustainable Fashion Design Project": "Students designed a series of fashions using organic cotton, recycled fibers, and other environmentally friendly materials, emphasizing low-carbon environmental protection and recycling." This kind of design project raises the students' environmental awareness and inspires them to innovate in the choice of materials and design concepts. Student 2 expressed a similar view. She mentioned, "Team cooperation and field research are most helpful in developing cooperation ability and empathy." In such projects, students are directly exposed to social issues, enhancing their sense of social responsibility and considering environmental and social impacts in design, and this practical experience helps them to come up with innovative solutions in design.

## 5. Discussion

Results from RQ1 show that the Sustainable Fashion Design Project allows teachers to develop their students' feelings of social and global responsibility in addition to helping them acquire professional skills, as stated by Teacher 1. This statement directly addresses Question 4 of the interview. It demonstrates how the studio pedagogy helps students comprehend and internalize a sense of social and global responsibility in the actual design process through tangible, hands-on projects like the Sustainable Fashion Design Project. This underlines the critical role that studio pedagogy plays in encouraging social responsibility and global citizenship among students, and it also directly supports the selected coding of "Internalization of Social Justice and Responsibility" as the core category.

In particular, Teacher 6's interview highlighted the importance of sustainable design and cultural communication and demonstrated how to apply these concepts in the curriculum through concrete teaching practices. This resonates strongly with Teacher 1's Sustainable Fashion Design Project, particularly in combining design with a sense of social responsibility, providing strong support.

Cross-cultural understanding and respect directly relate to the core concepts of global citizenship. In design education, this understanding and respect means that students must not only pay attention to the local culture but also be able to understand and respect the values and needs of other cultures. This global perspective is an essential part of global citizenship, and the studio pedagogy fosters this global citizenship by enabling students to design in different cultural contexts through teamwork and practical projects. According to student 5's answers, this study learned that studio pedagogy can help students naturally contact and understand the needs of different cultural backgrounds in the design process by implementing cross-cultural practical design projects and promoting the formation of global citizenship.

The studio pedagogy allows us to understand better the practical importance of social justice and global responsibility and learn to incorporate these ideas into our designs." This shows that the studio pedagogy not only plays a catalytic role in helping students master design techniques but also enhances their sense of social responsibility and global citizenship through authentic design environments and cross-cultural cooperation.

In the interview, it was found that although most respondents did not have a clear definition of "studio pedagogy", the key elements mentioned in their descriptions, such as "practical project orientation, group cooperation, teacher-student interaction, reflective assessment", are the core components of studio pedagogy. Shaffer (2003) provides a comprehensive definition of studio pedagogy, pointing out that this pedagogy is learning through project creation and feedback from teachers and peers in a studio environment. Students develop skills progressively through practice and reflection in this instructional environment, emphasizing the importance of the design process and encouraging students to refine their work and ideas through continuous effort and criticism. In fact, through reading more literature, Shaffer (1998) have emphasized the importance of problem-solving and iterative work in studio pedagogy in their definitions, and these elements are particularly critical in design education. Together, these definitions constitute the theoretical framework of this study and support the feasibility and effectiveness of studio pedagogy in enhancing students' cooperation, social responsibility, and innovative thinking ability.

In summary, this study further clarifies the role of studio pedagogy in design education. Through discussion of RQ 1, this study explores how the studio pedagogy can be effectively integrated into sustainable design education to promote students' sense of social justice and global citizenship. The interviews with all participants show that the studio pedagogy successfully cultivates students' social responsibility and environmental awareness by enhancing teacher-student interaction, actual project participation, and reflective feedback. For RQ 2, this study examines the specific role of studio pedagogy in improving students' cooperation, social responsibility, and innovative thinking ability. The feedback shows that the studio pedagogy improves the students' group cooperation ability and enhances the students' innovative thinking ability in design through team cooperation, interdisciplinary tasks, and ecological assessment. RQ 3 focuses on how studio pedagogy promotes innovation. Through teachers' and students' descriptions of actual projects and creative expressions, it can be confirmed that studio pedagogy provides students with a free exploration and innovation platform, effectively stimulating their creativity. Thus, integrated into sustainable design education, studio pedagogy promotes social responsibility, innovative thinking, and global citizenship.

Students' sense of social justice and global citizenship can be successfully fostered by incorporating studio pedagogy into sustainable design education. This study suggests the

following strategies, which may provide valuable insights for integrating studio pedagogy into sustainable design education to cultivate students' social justice awareness and global citizenship:

- Encourage students to work in groups and on practical projects to develop their creativity, social responsibility, and teamwork abilities.
- Give students the opportunity to absorb sustainable design principles through hands-on projects and apply them to real-world situations.
- Offer students multidisciplinary and cross-cultural practice opportunities to extend their sense of social responsibility and global perspective.

## 6. Conclusion

This research aims to investigate how students' perceptions of social justice and global citizenship are shaped by the integration of sustainable design education through studio pedagogy. The studio pedagogy dramatically increases students' capacity for cooperation, social responsibility, and invention through hands-on projects and teamwork. In addition to being reflected in the curriculum, sustainable design education also permeates students' everyday lives and real-world initiatives, strengthening their sense of civic engagement and social duty. Future research can incorporate quantitative empirical investigations to validate these results even more, investigate the efficacy of these educational approaches in greater detail, and offer more thorough evidence to support educational practices.

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