

SET UP TO FAIL: REFLECTIVE PRACTICE AND CULTURAL ADAPTATION IN TEACHING DESIGN AT A TRANSNATIONAL INSTITUTION IN CHINA

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ABSTRACT

Teaching design within UK–China partnered higher education institutions is increasingly common. In these TNE contexts, students encounter Western iterative, failure-driven design processes alongside educational expectations shaped by filial piety (xiao) and Confucian principles. Where public embarrassment or loss of face is significant, openly sharing creative experimentation can become difficult, requiring failure-led studio practice to be carefully scaffolded.

Drawing on the author’s experience, this paper examines how Dweck’s Growth Mindset and Kolb’s Experiential Learning Cycle can be adapted for design teaching in China through an AI-assisted creative module. Students transformed sketches into AI-rendered outputs and used AI-generated “failures” as prompts for critique, reflection, and refinement. This created psychological distance between students and their work, making failure acceptable - and at times humorous, while re-framing iteration as a core component of creative development. The structured cycle of iteration and self-evaluation supported open discussion of mistakes and strategies for improvement.

The AI-mediated reflection model preserved face while fostering creative risk-taking, offering insights for educators navigating cultural expectations in transnational learning environments.

Keywords: Growth mindset, AI in design education, cross-cultural pedagogy, filial piety

1 INTRODUCTION

China hosts an expanding number of transnational education (TNE) programmes [1], increasing the need to examine how Western pedagogies and ideas such as Design Thinking (DT) are enacted in Confucian environments. In UK–China partnered institutions, students engage with DT while shaped by xiao (孝), where success honours family and failure risks loss of face. Visible failure, public critique, and disagreement can create ethical discomfort; risk-avoidance may reflect responsibility to teachers, peers, and family rather than limited creativity. This study tests AI-assisted design to adapt DT so iterative failure becomes acceptable while preserving face.

RQ1: How do AI outputs create psychological distance for reflective iteration?

RQ2: What critical thinking behaviour changes emerge across DT cycles?

1.1 Confucianism, face, and rote learning

Confucian Heritage Culture (CHC) education prioritises moral, intellectual, and ritual instruction, organised around a “tripod” of xiao, ren, and li that reinforces hierarchy and social harmony [2]. Academic effort is framed as familial duty, and saving face (miànzi) discourages public mistakes. Rote memorisation (repetition for mastery within teacher-led instruction) can clash with exploratory, failure-driven studio learning in TNE design education, and must be addressed for both approaches to coexist.

1.2 Design Thinking as pedagogical orthodoxy

In contemporary Western education, Design Thinking (DT) is a key pillar of design education [3,4] and is often positioned as a neutral, transferable framework [5]. DT is frequently presented as a failure-driven learning model that encourages iterative experimentation, user-centred thinking, and reflective mindset [6]. These frameworks frame failure as productive and open critique as beneficial, promoting

individual autonomy, visible experimentation, and critical debate. This concerns imported pedagogical assumptions; Western design students may conceal imperfect work and struggle to learn from failure. In Chinese TNE systems, DT must therefore be re-interpreted through Confucian learning environments. The apparent neutrality of failure in DT rests on assumptions about how learners relate to error, critique, and identity. Growth-oriented pedagogies frame failure as informational rather than evaluative, supporting development through strategy and revision rather than fixed ability [7], yet this is context-sensitive: when critique carries relational or moral consequence, responses to failure may reflect threat rather than capability. DT also draws on experiential learning traditions, cycling experience through reflection, conceptualisation, and renewed experimentation [8], which presumes learners can publicly engage with provisional work without identity threat. As Winnicott argues, creativity flourishes within a ‘transitional space’ where ideas can be explored provisionally without immediate risk to the self [9]. Where this separation is not culturally assumed, the productive framing of failure cannot be transplanted and must be deliberately scaffolded.

1.3 AI as an ethical disturbance in transnational design education

Within design education, AI is most commonly framed through instrumental narratives that emphasise efficiency, creativity enhancement, or productivity [10]. However, teaching and learning using AI needs to be taught in a responsible way with integration that foregrounds critical engagement rather than technological solutionism [11]. Critically, it risks shifting responsibility away from students’ evaluative judgement and towards algorithmic output. In educational contexts shaped by hierarchical or authority-oriented learning cultures, AI outputs can be perceived as inherently correct or superior. [12].

Exhortations to value effort or failure without changing learning conditions risk producing a “false growth mindset” [7]. This paper argues that AI should not be understood merely as an innovation or productivity tool within design education, but as an ethical disturbance that destabilises established relationships between authority, authorship, and evaluation. The ethical challenge is not whether AI is used, but how responsibility and judgement are retained by the learner. Positioning AI as a design assistant [13] rather than a solution generator exposes these tensions directly, forcing students to confront questions of evaluation, refusal, and justification rather than passive acceptance of outputs.

Learning depends on context [14]; environments shape willingness to face challenge and failure. This paper examines AI as a co-agent in a TNE design classroom, surfacing authority/failure tensions to cultivate self-evaluation.

2 METHODOLOGIES

The research took place within a TNE partnership between two HE institutions: a university in Lancashire, UK, and a partner institution in Hebei, China. The AI-Scaffolded Reflective Critique was implemented with one cohort of 29 second year (Level 5) design students at the Hebei institution.

2.1 The AI-Scaffolded Reflective Critique

The intervention followed Kolb’s Experiential Learning Cycle [8] to ensure iteration was reflective rather than repetitive and was embedded in existing modules as three stages of using AI within critical DT: (1) Introductory, (2) Design assistant, and (3) Analytical tool.

Across stages, students moved from sketching and AI visualisation (concrete experience) to collective critique of AI outputs (reflective observation), then articulated success criteria and output limitations (abstract conceptualisation) to guide subsequent iterations (active experimentation). This cycle framed failure as a learning stage and supported evaluative judgement. Students chose their own GenAI text-to-image and LLM tools; this reduced early language barriers compared with enforcing a fixed UK-standard toolset.

2.2 Data Sources and Reflective Materials

Data comprised student visual outputs (sketches and AI iterations), studio fieldnotes, and anonymous questionnaires (n=15). Visual outputs traced iterative development and refinement across cycles. Fieldnotes were analysed qualitatively for shifts in critique behaviour (e.g., reluctance to upload, humour, refusal, comparison, justification) and links to iteration. The questionnaire used a 5-point Likert scale to capture evaluative judgement, comfort sharing imperfect work, and confidence in human-driven design judgement; responses were voluntary and not assessed.

2.3 Reflexivity and Researcher Positioning

The lead author is a Western product design educator teaching on the course at the Chinese institution. Reflexivity was maintained through fieldnotes that separated description from interpretation, and by treating silence and delayed critique as culturally situated responses to evaluative threat rather than disengagement.

3 RESULTS - AI-SCAFFOLDED REFLECTIVE CRITIQUE

Prior to this workshop students' verbal perception of AI was as a correct, helpful, and authoritative tool.

3.1 Stage 1: Initial Student Expectations of AI

During the stage 1 exercise students were tasked with creating AI designs based on simple items found around them. Outcomes as displayed in figure 1 were purely to explore what can be created to provide output in the creative process. Students were then tasked to evaluate unavailable items to use as influences for creating initial design ideas. Below is an example where a student created an initial design using a picture of a cat, an unusual choice for inspiration, however providing change of perception in the creative design process.



Figure 1. Student cat photo (left) generated design concepts using image-to-image AI tool

Students uploaded their AI generated images to explore what they had created and could quickly generate content regardless of if the work is deemed successful or not. With the sole purpose of identifying what could be created from their initial pictures, this stage was designed as a way for students to explore AI in its most basic form, exploration.

3.1.1. Early Encounters with AI Failure

Early encounters produced generic, poor outputs that challenged assumptions of AI reliability and created discomfort. Students began judging what was “good” or “bad,” but initially avoided sharing work, as public evaluation risked conflict with xiao (孝). Within the scaffold of “failure to succeed,” these outputs—sometimes humorous—helped students treat results as neither inherently “good” nor “bad,” enabling personal judgement and use within the design process.

3.1.2. Externalising Failure Through AI

Attributing failure to AI preserved face and made critique psychologically safer. Silence or delayed critique reflected norms around authority and the relational significance of public error, rather than lack of critical capacity. By externalising error into artefacts not wholly owned by students, AI created a transitional space for play and critique without identity threat [9]. Structured through Kolb's cycle [8], students moved from sketching/AI visualisation to collective critique, criteria for improvement, and re-experimentation; without this, critique often defaulted to teacher correction. AI redistributed evaluative risk and scaffolded reflective participation rather than shortcutting ideation.

3.2 Stage 2 Shifts in Critical Behaviour - The Design Assistant

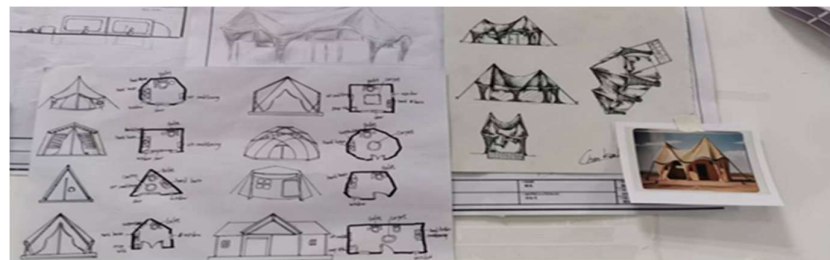


Figure 2. Student sketches and GenAI image-to-image rendered tent product concepts

As students built their understanding of structured ethical AI, behaviours shifted: they began rejecting, comparing, and justifying decisions rather than accepting outputs. AI outputs were not taken on face value but used for critical reflection, and as a design assistant it supported students’ ability to self-criticise design work as can be seen in the student sketches and AI generated render in figure 2. In Stage 2, students designed camping equipment for complex scenarios to create space for rapid self-critique. As current students are surrounded by fast paced content while design processes can be lengthy and lead to disinterest, AI enabled creativity to develop quickly. Students had less time to become overly attached to designs and instead used outputs to communicate ideas.

3.3 Stage three: Iteration as Evaluation Analysis with academic applications



Figure 3. Student work using AI as an analytical tool to recognise cross-cultural patterns

Within the academic application of iteration as evaluation, students used learned skills to create academic posters, as shown in figure 3 comparing a western art movement and Chinese historical art items, then combine both into an artistic design or product. They had to showcase not only the result but the iterations used to develop the final image. This encouraged reflection on AI outputs through their own acquired knowledge, rather than accepting outputs as factual, recognising their knowledge as key to judging whether outputs were correct or incorrect. Iterations slowed, becoming reflective rather than performative, creating depth of understanding that could be applied to further creative learning.

3.4 Student interpretation survey

Table 1 shows the results (1 = strongly disagree, 5 = strongly agree) of the short post- course questionnaire in teaching the use of ethical AI within the context of design thinking.

Table 1. Post-Course Results Table

Student Feedback Questions		Response/score (%)				
		1	2	3	4	5
1	The activity of using AI in the design process helped me improve how I evaluate design outcomes?	0	0	13.3	40	46.7
2	I felt comfortable sharing work that was imperfect during discussions?	0	0	26.7	73.3	0
3	The activity helped me build confidence in my design judgement rather than assuming AI generated images was ‘correct’?	0	0	0	66.7	33.3

Table 1 shows the intervention strengthened students’ evaluative judgement and independent decision-making with AI. Comfort sharing imperfect work was comparatively weaker, suggesting face (miànzi) still shaped participation. Respondents agreed the programme supported independent design judgement.

4 DISCUSSION - RESTRAINT AND JUDGEMENT IN DESIGN THINKING

The results indicated that the activity first altered students’ epistemic position toward AI (reduced assumption of correctness), then strengthened evaluative judgement, and only subsequently influenced willingness to publicly expose incomplete work. Highlighting that cognitive change preceded social confidence. This pattern suggests the intervention primarily functioned by externalising error, allowing students to critique artefacts before critiquing themselves, rather than directly increasing confidence.

4.1 Rethinking Failure as Ethical Practice

Within the framework of TNE systems ‘failure’ is reframed as moral and relational, not merely procedural. Higher Education systems need to be able to evaluate and understand that students need to approach failure in an alternative way, breaking these standards, students come to universities to not only ‘do’ but to understand ‘why’. Within TNE systems, educators need to understand cultural expectations around questioning and support students’ Design Thinking development through culturally responsive scaffolding. We need to ask ourselves as educators to not only build upon these principles but make students to feel comfortable to thrive, moving away from the ‘standard’ method of design thinking of speed and production but lead first into ethical judgement and structure restraint to provide a scaffold for TNE students to thrive before the scaffold is removed.

4.2 Design Thinking Beyond “Fail Fast”

Student feedback challenges the assumption within Design Thinking that learning emerges through immediate ownership of failure [6,15]. While students expressed confidence in evaluating and rejecting AI outputs, they were less comfortable presenting imperfect personal work, indicating that reflection preceded public ownership. The AI assistant functioned as a transitional site of failure. When outputs were perceived as unsuccessful, students attributed error to the system rather than themselves (“the AI got it wrong”), creating evaluative distance. In Winnicott’s terms, the artefact operated within an intermediate space between self and other [9], enabling critique without immediate threat to identity.

In TNE contexts where public error carries relational consequence, immediate authorship may inhibit participation. AI-mediated iteration did not remove failure but relocated it, staging critique before self-exposure and allowing reflective judgement to form prior to ownership. Pedagogy in transnational classrooms may therefore need to scaffold ownership rather than demand it at the outset.

4.3 Cultural Implications for Transnational Design Education in Confucian Heritage Culture educational environments

Universal pedagogical models in design education are often treated as transferable across contexts; however, in transnational environments they may function as incomplete rather than incorrect frameworks. Western studio pedagogy assumes participation through open critique, individual positioning, and visible iterative failure even though students may present this process selectively within assessed work. In cohorts shaped by Confucian Heritage Culture (CHC), values such as respect for hierarchy, preservation of harmony, and avoidance of public error can significantly shape classroom behaviour. What may appear as disengagement can instead reflect culturally embedded approaches to knowledge and self-presentation.

Western models frequently assume that confidence precedes critique. In CHC contexts, confidence may instead develop through relational trust and gradual demonstration of competence. When immediate public ownership of failure is required, participation may be constrained. Embedding staged “failing successfully” processes through AI as a co-agent relocates error from the individual to the artefact before students are asked to own imperfect work. This enables evaluation without immediate loss of face, supporting reflective engagement while remaining culturally responsive. Over time, such scaffolding can foster designers capable of critical judgement within culturally coherent modes of participation.

4.4 Toward a Post-Method Design Thinking

Design Thinking is reframed as reflective capability rather than toolkit.

- Design thinking will need to be refined to be in line with existing teaching frameworks while working with delicacy in delivery TNE systems coexisting in CHC educational environments.
- Reflexivity in the design process is the focus and foundation of this process, to ensure students are not just completing because they are being told but because they understand the importance
- Define that they are the designer, and there is a learning point within failure
- Failure does not equal fail.

Beyond this UK–China TNE context, these principles can transfer to learning environments where open critique is expected but socially, culturally, or institutionally challenging.

5 CONCLUSIONS

Drawing on Growth Mindset and Kolb’s Experiential Learning Cycle, this paper shows how AI-mediated failure can create psychological safety for critique, preserve face, and support the development

of judgement in culturally complex learning environments. Rather than proposing a universal solution, it offers a culturally responsive approach to integrating AI into design education that prioritises ethical reflection over efficiency or output.

In HE TNE systems, culturally responsive engagement with Confucian Heritage Culture (CHC) is needed when adapting imported Design Thinking pedagogy. Cultural awareness of how CHC shapes classroom engagement is crucial for supporting students' participation and critique. Developing foundational ethical AI in TNE systems can strengthen students' academic and real-world skillsets and help bridge gaps between educator and student within Confucian rote-learning traditions in the context of Design Thinking. If educators do not adapt approaches defined for Western systems, we risk limiting students' confidence in critical thinking and Design Thinking methods within product design and wider practice.

This study is limited by sample size (a single cohort) and potential bias in student feedback, which may be shaped by Confucian teachings around xiao. As a culturally situated qualitative study, the findings are context-specific rather than statistically generalisable. Future work should replicate across cohorts to identify consistent trends in students' responses to AI tools and examine impacts on comparative assessment as students' progress, while accounting for cohort differences in ability and skillset.

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