

# Rethinking Hybrid Human–AI Intelligence in Learning: The AI-Augmented Creative Resilience Framework

Henry MA <sup>1</sup> & Ka Yan CHUNG <sup>1</sup>

<sup>1</sup> School of Design, The Hong Kong Polytechnic University, Hong Kong, China

## Abstract

The increasing adoption of Generative Artificial Intelligence (GenAI) in creative learning environments is reshaping how intelligence, creativity, and agency are understood within higher education. This integration introduces significant psychological stressors, particularly Creative Displacement Anxiety (CDA). This conceptual paper proposes the AI-Augmented Creative Resilience Framework (AICRF) to conceptualise hybrid human-AI intelligence as a cyclical process of recognition, reframing, co-creation, and regeneration. The framework demonstrates how learners transition from fears of obsolescence toward sustained agency. By positioning AI as a collaborative partner, the AICRF provides actionable pedagogical strategies for design education. The model highlights that AI literacy requires both technical mastery and the emotional regulation necessary for effective human-AI collaboration.

**Keywords:** Creative resilience; Generative artificial intelligence (GenAI); Creative Displacement Anxiety (CDA); Human–AI collaboration; Design education

## 1. Introduction

While GenAI expands ideational capacity in higher education, it introduces significant psychological challenges regarding authorship and creative identity. Creative Displacement Anxiety (CDA), characterised by fears of skill obsolescence and diminished creative value (Caporusso, 2023), represents a significant challenge in creative education where originality and personal expression are central objectives. This phenomenon signals the emergence of hybrid human–AI intelligence, in which cognition and creativity are distributed across human learners and intelligent systems. The construct is empirically operationalised via the validated Creative Displacement Anxiety Scale (CDAS), which identifies seven psychosocial stressors, including skills atrophy and loss of creative identity, relevant to AI-augmented environments (Chung et al., 2025).

To address these challenges, this conceptual paper proposes the AI-Augmented Creative Resilience Framework (AICRF) to explain how learners adapt through reflective and co-creative engagement with AI to sustain creative agency.

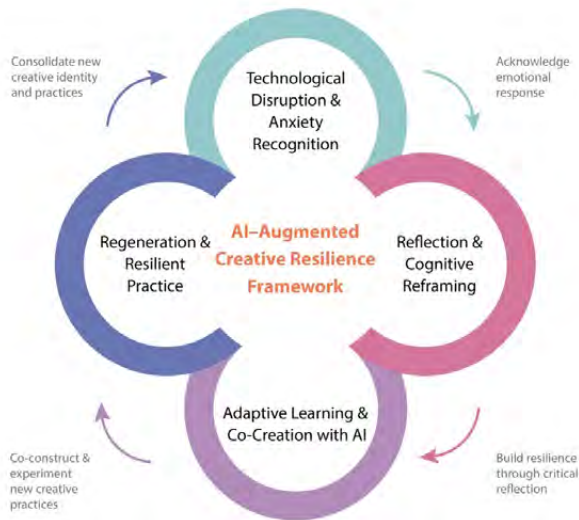
2. Methodology

This study utilises narrative synthesis to develop a conceptual framework by integrating research across three primary domains: generative AI and creativity (Wingström et al., 2024), creative resilience (Lin & Chen, 2024), and human-AI co-creativity (McGuire et al., 2024). Through iterative thematic analysis, recurring constructs concerning emotional response, cognitive adaptation, and collaborative intelligence were synthesised into a theoretically grounded structure. This methodology provides a coherent lens for interpreting how hybrid human–AI intelligence develops within creative learning environments supported by technology.

3. Results and Discussion

The AICRF (Figure 1) conceptualises hybrid human–AI intelligence as a cyclical process of emotional and cognitive adaptation. The cycle initiates with **Anxiety Recognition**, where encountering sophisticated GenAI outputs triggers CDA related to perceived threats to creative identity and skills. This affective response serves as the critical catalyst for the transition to **Cognitive Reframing**, which is facilitated by reflective engagement rather than resistance (Hwang & Wu, 2025).

Figure 1: The Proposed AI-Augmented Creative Resilience Framework



By reinterpreting AI as a collaborative partner, learners align with resilience theory's focus on meaning-making under disruption (Masten et al., 2021), enabling the shift into **Adaptive Co-creation**. In this phase, cognition becomes distributed, merging human intentionality with machine-generated variation (Rezwana & Maher, 2023). Finally, the iterative success and mastery achieved during collaboration drive the transition to **Regenerative Learning**, where creative confidence and agency are restored. This continuous loop reinforces hybrid intelligence as a developmental capacity sustained through ongoing human-AI interaction.

#### 4. Implications and Conclusion

The AICRF provides a conceptual blueprint for integrating GenAI into curricula by framing hybrid intelligence as a socio-emotional process rather than a purely technical one. Educators can operationalise the framework through structured pedagogical interventions that build observable resilience. For instance, in a visual identity design studio, students often encounter CDA when comparing manual ideation speed to rapid AI outputs. Instructors facilitate Cognitive Reframing by positioning AI as a lateral thinking partner rather than a replacement. During Adaptive Co-creation, students curate and refine diverse AI-generated permutations to sustain creative agency, while the Regenerative Learning phase requires students to document their specific aesthetic interventions. This process makes creative resilience observable through the learner's ability to articulate their agency over the machine.

Ultimately, the AICRF suggests that AI literacy must transition from technical mastery toward the emotional and cognitive regulation required for human-AI collaboration. By emphasising reflection and co-creation, the framework supports pedagogical approaches that prepare learners to navigate evolving technological landscapes while sustaining creative well-being across diverse educational contexts.

#### Generative AI Policy

The author utilised ChatGPT-5 for language refinement and proofreading to ensure clarity and grammatical accuracy. No other AI tools were employed. All conceptual content, including ideas and conclusions, is original. The author assumes full responsibility for the final manuscript.

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