POLITECNICO DI TORINO
Repository ISTITUZIONALE

Mapping the Landscape of AI in Design and Creative Education

Original
Mapping the Landscape of AI in Design and Creative Education / Wadinambiarachchi, S., Jung, H., Lupetti, M.L., Dingler, T., Murray-Rust, D., Dove, G., El Ali, A.. - (2026), pp. 21-24. (C&C '26: Creativity and Cognition London (UK) July 13 - 16, 2026) [10.1145/3803784.3804470].

Availability:
This version is available at: 11583/3018188 since: 2026-11-20T10:19:43Z

Publisher:
Association for Computing Machinery

Published
DOI:10.1145/3803784.3804470

Terms of use:

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)

29 November 2026

Mapping the Landscape of AI in Design and Creative Education

Samangi Wadinambiarachchi
University of Melbourne
Melbourne, Australia
samangi.w@unimelb.edu.au

Heekyoung Jung
University of Cincinnati
Cincinnati, USA
junghg@ucmail.uc.edu

Maria Luce Lupetti
Politecnico di Torino
Turin, Italy
maria.lupetti@polito.it

Tilman Dingler
Delft University of Technology
Delft, Netherlands
t.dingler@tudelft.nl

Dave Murray-Rust
Delft University of Technology
Delft, Netherlands
d.s.murray-rust@tudelft.nl

Graham Dove
Tandon School of Engineering
New York University
New York, USA
gd64@nyu.edu

Abdallah El Ali
Centrum Wiskunde
Amsterdam, Netherlands
Informatica and Utrecht University
Utrecht, Netherlands
abdallah.el.ali@cwi.nl

Abstract

Artificial intelligence is increasingly diffusing into design and creative education, reshaping how students ideate, iterate, and produce work. While these tools offer clear benefits in terms of speed and experimentation, they also challenge long-standing pedagogical assumptions regarding the importance of process, authorship, and studio-based learning. Educators are therefore faced with a dual task: mitigating the risks AI poses to reflective, process-oriented design while simultaneously exploring ways to meaningfully integrate these technologies into curricula. Through working group activities, this workshop examines these tensions to identify emerging strategies for the critical and transparent use of AI. Ultimately, we aim to address current knowledge gaps, establish a collaborative research agenda, and build a network to support AI collaboration in design and creative education.

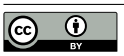
CCS Concepts

• **Applied computing** → **Interactive learning environments**; **Arts and humanities**; • **Human-centered computing** → *HCI theory, concepts and models.*

Keywords

Generative AI, Design Education, Creative Practice

ACM Reference Format:
Samangi Wadinambiarachchi, Heekyoung Jung, Maria Luce Lupetti, Tilman Dingler, Dave Murray-Rust, Graham Dove, and Abdallah El Ali. 2026. Mapping the Landscape of AI in Design and Creative Education. In *Creativity and Cognition (C&C '26), July 13–16, 2026, London, United Kingdom.* ACM, New York, NY, USA, 4 pages. https://doi.org/10.1145/3803784.3804470



This work is licensed under a Creative Commons Attribution 4.0 International License.
C&C '26, London, United Kingdom
© 2026 Copyright held by the owner/author(s).
ACM ISBN 979-8-4007-2583-8/26/07
https://doi.org/10.1145/3803784.3804470

1 Background

Since the rapid expansion of generative AI (GenAI) in 2022, these technologies have permeated design and creative classrooms at an unprecedented rate, causing significant instability across both pedagogical and andragogical frameworks [6, 12]. While some studies have found that GenAI tools lower barriers to visualisation and accelerate production [17], others argue that GenAI frequently collapses creative processes by acting as a catalyst for premature idea synthesis [4]. This acceleration poses a substantial risk of design fixation [16], reinforcing students' urge to jump immediately into solutions, bypassing the critical, process-focused inquiry essential to creative thinking. In addition, the exercise of critical judgment and iterative refinement – the essence of design practice – is diminishing, and over-reliance on AI tools leaves students vulnerable to cognitive atrophy [2, 11].

The speed of this adoption has not allowed for sufficient reflection, leading to significant risks: GenAI tools are often brought into the classroom without the benefit of robust testing or strategic planning. We observe behaviours that signal a growing gap in AI literacy and fluency; students frequently struggle to determine when and how to disclose their AI usage in accordance with the ethical appropriation of technology [13]. Furthermore, students remain susceptible to the effects of *GenAI enchantment*, necessitating pedagogical strategies that nurture critical thinking to "unmake" or demystify their perceptions of the technology as magical [7].

Educators in design and creative practice navigate a broad spectrum of personal and professional response to these shifts. These positions span from enthusiastic experimentation and rapid adoption [5, 14] to refusal and resistance, including institutional efforts to discourage GenAI use to protect traditional skills [9]. Between these poles lie intermediate positions that acknowledge both opportunities and risks. Some practitioners attempt to blend practical engagement with critical and reflexive exercises, often carrying the responsibility of preparing students for a "rapidly changing digital

world" [3]. To support this, new pedagogical resources are emerging, such as "Experiential Exercises" designed to help designers anticipate the societal effects of these technologies [10]. In addition, emerging discussions focus on introducing frictions to make AI interactions slower and more reflective, deliberately decelerating human-AI collaboration to encourage critical reflection [1, 8, 15].

However, significant barriers remain, particularly regarding equitable access to AI and the technical complexities of integrating rapidly evolving infrastructures into stable curricula. Educators therefore face a dual task: mitigating the risks AI poses to reflective, process-oriented design while simultaneously exploring ways to meaningfully integrate these technologies into the heart of creative education.

1.1 Open Questions/Challenges

In this workshop we focus on the following questions to create dialogue about the current state of AI in design education and creative practice.

(1) How should GenAI be integrated into existing design curricula, and where should its use be limited? How are these boundaries defined, and how might applications and guidelines differ across creative practices? What practical barriers and challenges arise in this process?

(2) How can technical, economic, and infrastructural barriers along with dependencies on proprietary tools be addressed when integrating GenAI into creative and design education?

(3) What core values do we share as creative and design educators in support of (or in resistance to) AI integration, such as: iterative, embodied skill development; process-oriented practice; and embracing imperfection? Which values vary across media and disciplines?

(4) How might the integration of AI reshape or shift these core values within creative and design education?

(5) How do these challenges and considerations above shape specific AI literacies around design and creative practice? What components and strategies are needed to build AI literacy tailored to design and creative practices?

(6) What institutional strategies currently exist for bringing these tools into the classroom? How should the use of AI be governed within design and creative communities?

2 Workshop Goals

Our workshop is compiled to achieve the following three goals.

- Goal One: Build a shared understanding of the current landscape of AI integration in design and creative education.
- Goal Two: Identify specific pedagogical, technical, and economic areas that require intervention.
- Goal Three: Initiate a collaborative research agenda and establish a network to support AI integration in creative and design practice.

To achieve these goals we aim to conduct the following activities.

3 Pre-workshop Plan

The *workshop website* will serve as the central hub for all related information. To ensure high engagement and a diverse cohort, the following pre-workshop strategy will be implemented.

Prior to the event, the website will host the formal Call for Participation, detailing workshop objectives, core themes, submission instructions, and organiser profiles.

The organisers will circulate the recruitment and promotional materials through professional networks, university mailing lists, and design research groups. We will also utilise social media and direct outreach to target professionals in policy, industry, and community advocacy, ensuring the representation of stakeholders outside of traditional academia.

Interested participants will be required to complete a Expression of Interest (EOI) via the website (see Section 7.1). This serves as the primary mechanism for collecting abstracts and identifying the specific expertise of applicants.

Once the selection process is complete, participant biographies and abstracts will be published on the website, based on their consent. This visibility phase is designed to encourage early networking and allow attendees to familiarise themselves with each other's work before arriving at the venue.

4 Workshop Activities

We structure this full-day workshop (09:00 - 16:15) in two sessions. The morning session focuses on small-group discussions to map participants' backgrounds in research and practice, pedagogical and practice-based interests, and current challenges regarding AI in design education. The afternoon session is dedicated to collaborative brainstorming and the development of focus group proposals. These are designed as actionable initiatives that participants can continue to explore and evolve through a shared research network following the workshop.

4.1 Morning Session

Activity 1: Opening, introductions, and goal setting (09:00–9:30)
The workshop commences with a welcome session by the organisers that introduces the dual challenge of integrating AI and mitigating its risks, along with provocations for exploring opportunities of AI in design and creative education. Participants will engage in an icebreaker to establish their specific creative backgrounds and initial perspectives on AI.

Activity 2: Mapping participants' research and pedagogical interests and challenges (9:30–10:45)
Participants will work in small focus groups to identify their research backgrounds and map the practical, technical, and economic barriers they face. This activity focuses on identifying pain points in integrating AI into current curricula and uncovering existing practices and challenges. We will be providing participants with activity aids (prompts based on the aforementioned questions in Section 1.1 and participants' interests) and worksheets to guide participants through the process.

Morning Tea Break 10:45–11:00

Activity 3: Group presentations and landscape mapping (11:00–12:00)
Following a brief break, groups will present their findings to the whole group to build a shared understanding of the global landscape. This session aims to synthesise individual challenges into a collective list of areas that require pedagogical or institutional intervention.

Lunch Break 12:00–13:00

4.2 Afternoon Session: Strategic Application

Activity 4: Focus group lab and mini-project development (13:00–14:00)
The afternoon shifts to hands-on collaborative brainstorming where groups select one of four lenses – AI as material, tool, inspiration, or infrastructure, to develop a mini-project proposal. Participants will design a specific intervention, such as a toolkit component or an initial curriculum module concept, based on their chosen lens.

Activity 5: Project presentations and peer critique (14:00–14:45)
Groups will pitch their mini-project proposals to the room for feedback and refinement. This activity serves to validate the projects and identify potential partners for future collaborative research.

Afternoon Tea Break 14:45–15:00

Activity 6: Collaborative roadmap and network launch (15:00–16:15)
Following the afternoon tea break, the workshop will culminate in a collaborative roadmap plenary rather than a traditional panel discussion. Participants will work together to synthesise the day's mini-projects into a timeline for 'Strategic AI containment and sustainable practice'. This session focuses on defining immediate actions, shared infrastructure needs, and long-term research goals. The workshop concludes by formalising the collaborative network and setting clear milestones for ongoing collaboration in design and creative education.

5 Post-workshop Plan

One of the primary aims of this workshop is to create a platform for educators to share pedagogical resources and establish best practices for AI integration. This initiative is intended to evolve into an open forum where practitioners can discuss emerging issues and engage diverse stakeholders-including educators, students, and industry partners-to co-create AI usage policies for creative classrooms. Ultimately, this collective effort seeks to develop a generative toolkit designed to foster the sustainable appropriation of AI within creative and design education.

6 Venue

The workshop will be held in a hybrid format, with the main event occurring at the conference venue and detailed transit instructions provided to participants. To facilitate this, we request a venue with Wi-Fi and power access for a Bring Your Own Device (BYOD) workflow. The space should be equipped with a display projection system to integrate remote and in-person attendees, along with microphones and speakers to ensure clear communication across both environments.

7 Audience and Promotion

7.0.1 Expected size of attendance. We anticipate 15-20 participants. This will enable us to form groups of 3-5 participants to collaborate on the topics listed. We invite submissions from researchers, educators, practitioners, artists, and students, as well as AI tool developers across various disciplines, including Human-Computer Interaction (HCI), Human-AI Interaction (HAI), Design, Creative Studies, the Arts, and Social Sciences. We also encourage participation from policymakers, industry professionals, and community advocates. Contributions from both emerging and established researchers – including undergraduate and postgraduate students – are vital to this dialogue. To apply, participants must submit a short abstract outlining their research background, current practice, or a specific challenge they wish to address. The organisers will ensure the final selection represents a diverse range of expertise and perspectives.

7.1 Expression of Interest

Participants should complete an *Expression of Interest (EOI) form* by the submission deadline – 23rd April 2026. The form requires:

- Personal Details: Name, affiliation, and contact email.
- Professional Context: Research area or sub-field (e.g., HCI, Design).
- Biography: A brief bio (max. 100 words) outlining relevant experience.
- Abstract: A brief summary (max. 300 words) describing current research, emerging problems, or new perspectives on AI in creative education, alongside specific goals for the workshop.
- Accessibility: Any specific requirements to ensure full participation.

7.1.1 Inclusion and Accessibility. We are committed to an inclusive environment, adhering to the conference's accessibility guidelines. A wheelchair-accessible venue has been requested, and workshop materials will be provided in accessible digital or printed formats. Activities support varied participation styles-verbal, written, and visual-to accommodate diverse participants with varied communication preferences

7.2 Selection Process

The organising committee will review submissions based on the quality, novelty, and relevance of the ideas presented in the abstracts. We aim to select 15–20 participants to ensure a diverse and inclusive representation across career stages, disciplinary backgrounds, and stakeholder groups (academia, industry, policy, and community advocacy). Selected participants will be notified via email by the notification date. To encourage early engagement, a list of participants and their abstracts will be published on the workshop website.

8 Organisers

Samangi Wadinambiarachchi is a PhD Candidate at the University of Melbourne, Australia. Her research examines the cognitive effects of AI appropriation in design workflows, specifically how AI-powered Creativity Support Tools influence design fixation and divergent thinking. Her thesis focuses on how design professionals and students, particularly in visual design domains, incorporate AI tools during the early phases of the design thinking process. She is a former lecturer in Human-Computer Interaction at the University of Sri Jayawardenepura Sri Lanka.

Heekyoung Jung is an Associate Professor in Design at the College of Design, Architecture, Art, and Planning at the University of Cincinnati. With a background in human-computer interaction and studio-based design practice, her work explores technology as material, tool, and subject of design. Her research centres on experiential and critical AI literacy in design education, using reflective and hands-on methods, and extending them through speculative inquiry into the future of learning.

Maria Luce Lupetti is an assistant professor in Design at the Department of Architecture and Design at Politecnico di Torino, Italy. Her research is concerned with all matters of human entanglement with the artificial world, especially concerning complex technologies such as AI and robotics. She is the PI of *Participatory Design Justice for Ethical AI Transitions*, a three-year project funded by the Italian Ministry of Education and Research. She also serves as Exhibit X section editor for *ACM Interactions Mag.*

Tilman Dingler is an Associate Professor in the Faculty of Industrial Design Engineering at TU Delft. His research lies at the intersection of human-computer interaction, cognition-aware systems, and immersive media. Drawing on more than a decade of work on attention, information processing, and reading interfaces, he investigates how interactive technologies and AI shape how people focus, imagine, learn, and make meaning.

Dave Murray-Rust is an Associate Professor at TU Delft whose work in human-algorithm interaction explores the messy terrain between people, data, and things through a combination of making and thinking. The core of his work is relational prototyping, finding ways to explore and make vivid the relationships formed through and around technology to build better futures.

Graham Dove is an Assistant Professor at New York University, where his research within the People+Technology Lab focuses on human-centred and participatory design approaches to Artificial Intelligence. His work explores the intersection of design and machine intelligence, specifically in creating data-enabled products, services, and artifacts that prioritise human agency.

Abdallah El Ali is a Research scientist in HCI at Centrum Wiskunde &; Informatica (CWI), and part-time Assistant Professor at Utrecht University. Chair of CHI Nederland (CHI NL), the ACM SIGCHI Netherlands Chapter. His research focuses on Affective Interactive Systems and Trustworthy Human-AI Interaction.

References

[1] Peter Dalsgaard. 2025. Thinking through Prompting: Cognitive Mediation in Human–AI Interaction. In *Proceedings of the 36th Annual Conference of the European Association of Cognitive Ergonomics (ECCE '25)*. Association for Computing Machinery, New York, NY, USA, Article 24, 6 pages. doi:10.1145/3746175.3747192

[2] Tilman Dingler. 2026. Learning in the Loop: AI, Feedback, and the Future of Human Thought. In *The Future of Education with AI: Communications of NII Shonan Meetings*, Andreas Dengel, Laurence Devillers, Koichi Kise, and Andrew Vargo (Eds.). Springer Nature Singapore, Singapore, 171–185. doi:10.1007/978-981-95-1622-3_9

[3] Ahmad Faisal Choiril Anam Fathoni. 2023. Leveraging Generative AI Solutions in Art and Design Education: Bridging Sustainable Creativity and Fostering Academic Integrity for Innovative Society. In *E3S Web of Conferences*, Vol. 426. EDP Sciences, 01102.

[4] Sabrina Habib, Thomas Vogel, Xiao Anli, and Evelyn Thorne. 2024. How does generative artificial intelligence impact student creativity? *Journal of Creativity* 34, 1 (2024), 100072.

[5] Kuntong Han, Keyang Tang, and Meng Wang. 2024. Tangible Diffusion: Exploring Artwork Generation via Tangible Elements and AI Generative Models in Arts and Design Education. In *Proceedings of the Eighteenth International Conference on Tangible, Embedded, and Embodied Interaction* (Cork, Ireland) *(TEI '24)*. Association for Computing Machinery, New York, NY, USA, Article 46, 13 pages. doi:10.1145/3623509.3633394

[6] Lilly Hope Borchardt, Marie Bodén, Skye Doherty, and Sanjana Bhatnagar. 2025. Using what makes us human: Reflecting upon the use of AI in design education. In *Proceedings of the 36th Australasian Conference on Human-Computer Interaction (OzCHI '24)*. Association for Computing Machinery, New York, NY, USA, 883–886. doi:10.1145/3726986.3727941

[7] Maria Luce Lupetti and Dave Murray-Rust. 2024. (un) making ai magic: a design taxonomy. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems*. 1–21.

[8] Nicolai Marquardt, Asta Roseway, Hugo Romat, Payod Panda, Michel Pahud, Gonzalo Ramos, Steven M Drucker, Andrew D Wilson, Ken Hinckley, and Nathalie Riche. 2025. ImaginationVellum: Generative-AI Ideation Canvas with Spatial Prompts, Generative Strokes, and Ideation History. In *Proceedings of the 38th Annual ACM Symposium on User Interface Software and Technology*. 1–19.

[9] Nora McDonald, Aditya Johri, Areej Ali, and Aayushi Hingle Collier. 2025. Generative artificial intelligence in higher education: Evidence from an analysis of institutional policies and guidelines. *Computers in Human Behavior: Artificial Humans* 3 (2025), 100121.

[10] Dave Murray-Rust, Maria Luce Lupetti, Iohanna Nicenboim, and Wouter van der Hoog. 2023. Grasping AI: experiential exercises for designers. *AI & SOCIETY* (2023), 1–21.

[11] Peinuan Qin, Chi-Lan Yang, Jingshu Li, Jing Wen, and Yi-Chieh Lee. 2025. Timing Matters: How Using LLMs at Different Timings Influences Writers' Perceptions and Ideation Outcomes in AI-Assisted Ideation. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (CHI '25)*. Association for Computing Machinery, New York, NY, USA, Article 25, 16 pages. doi:10.1145/3706598.3713146

[12] Ismaila Temitayo Sanusi, Sunday Adewale Olaleye, Friday Joseph Agbo, and Thomas KF Chiu. 2022. The role of learners' competencies in artificial intelligence education. *Computers and Education: Artificial Intelligence* 3 (2022), 100098.

[13] Prakash Shukla, Suchismita Naik, Ike Obi, Jessica Backus, Nancy Rasche, and Paul Parsons. 2025. Rethinking Citation of AI Sources in Student-AI Collaboration within HCI Design Education. In *Proceedings of the 7th Annual Symposium on HCI Education (EduCHI '25)*. Association for Computing Machinery, New York, NY, USA, Article 11, 8 pages. doi:10.1145/3742901.3742909

[14] James Smith-Harvey. 2025. Designing with Generative AI: Towards Technical, Ethical, and Critical Pedagogies in Interaction Design. In *SIGGRAPH Asia 2025 Educator's Forum (SA '25)*. Association for Computing Machinery, New York, NY, USA, Article 6, 5 pages. doi:10.1145/3757372.3771861

[15] Vera van der Burg, Gijs de Boer, Alkim Almila Akdag Salah, Senthil Chandrasegaran, and Peter Lloyd. 2023. Objective Portrait: A practice-based inquiry to explore AI as a reflective design partner. In *Proceedings of the 2023 ACM Designing Interactive Systems Conference* (Pittsburgh, PA, USA) *(DIS '23)*. Association for Computing Machinery, New York, NY, USA, 387–400. doi:10.1145/3563657.3595974

[16] Samangi Wadinambiarachchi, Ryan M Kelly, Saumya Pareek, Qiushi Zhou, and Eduardo Velloso. 2024. The Effects of Generative AI on Design Fixation and Divergent Thinking. *Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24), May 11-16, 2024, Honolulu, HI, USA* 1 (2024), 18. doi:10.1145/3613904.3642919

[17] Ting Zhang, Yuwei Liu, Hongwei Lou, Zhe Huang, and Guoying Lu. 2025. Exploring the Integration of Generative AI into Art and Design Education Practice. In *Proceedings of the 2025 2nd International Symposium on Artificial Intelligence for Education (ISAIE '25)*. Association for Computing Machinery, New York, NY, USA, 871–876. doi:10.1145/3775073.3775209