



Conceptualizing Design in Research and Developmental Work

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EDITORIAL



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ABSTRACT

This special collection features articles from participants at the *8th International Designs for Learning Conference*, “*Conceptualizing Design in Research and Developmental Work*”. The focus of the conference and the special collection is the versatility of the design concept, which extends from the theoretical and analytical level to the more practical level, where it can be used to shape concrete activities and tools for multimodal communication, teaching, and learning.

The conference was held in August 2024 at Stockholm University’s Department of Education. A total of 43 abstracts, workshops, and symposia were presented, and delegates were invited to submit a full paper to the *Designs for Learning Journal*. Eight articles were finally included in the special collection and are presented below.

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INTRODUCTION

The 8th International Designs for Learning conference had the title *Conceptualizing design in research and developmental work*. The overarching theme of the 2024 conference shifted from technology to design. Design can serve as a concept for innovation in teaching, learning, and new assessment methods. This concept can be utilized as a mindset in education or to shape activities and artifacts. By positioning design as the central theme, we aimed to engage a diverse group of international researchers from various disciplines and topics, including AI and semiotic resources for learning.

By positioning design at the center, the conference invited participants to reflect on how design can enable new pedagogical models, support learning in multimodal and digitized environments, and contribute to equitable and sustainable education. This broadened perspective attracted a diverse group of international researchers across disciplines, engaging with topics such as artificial intelligence, multimodality, resources for learning, and knowledge representations. Thus, the 8th Designs for Learning Conference employed design as a foundation to investigate interconnected themes, including learning, teaching, interaction, digitization, assessment, learning resources, and new socio-digital ecologies—both within and beyond formal educational settings. Keynotes and contributions further emphasized that conceptualizing design is not only about method or form but also about reimagining educational futures, in which design serves as a bridge between research, practice, and innovation.

In her talk, Professor Carey Jewitt discussed design directions for the future development of touch technologies and the potential to give rise to new kinds of touch. She argued that understanding the social factors within the contexts for which digital touch is designed is key to its rethinking. In so doing, design can combine the multimodal and multi-sensory concepts and categories employed or imagined by designers and users, as well as the social and semiotic resources that people use to interpret digital touch communication in meaningful ways.

Ola Knutsson moderated a joint talk by The Designs for learning team, with contributions from Anna Åkerfeldt, Eva Insulander, Fredrik Lindstrand, Staffan Selander, Eva Svärden Åberg, and Susanne Kjällander. After an outline of some basic theoretical concepts within the designs for learning approach, a discussion followed on how the DFL perspective has been used in various empirical studies. Work conducted from this perspective often involves collaboration among researchers, teachers, and learners to develop approaches to learning, valuing diverse insights and cooperative efforts. The team emphasized understanding the design process in relation to iterative design, redesign, and change. It can be compared to how

designers introduce iterative design into their processes; the resulting artifacts can be continuously refined to reflect users' preferences.

Professor Ola Erstad presented his work on 'learning lives' (Erstad, 2023) and 'platformisation of family life', both of which are characterized by an interdisciplinary understanding of how meaning-making is developed and shaped over time and across spaces. Erstad defined design as a process by which trajectories of participation and engagement are shaped within evolving socio-digital ecologies.

In their talk, Robert Ramberg and Patrik Hernvall reflected on the design processes of two school developmental projects. Both processes aimed to develop pedagogical practice through iterative, critical discussions with teachers, as well as to develop research methods and theoretical concepts. These projects are examples of co-design processes where teachers and researchers design pedagogical practices together.

ARTICLES FEATURED IN THE SPECIAL COLLECTION

Eight articles are featured in the special collection, which relates to design differently.

Arlene Archer contributes with a discussion paper entitled *Multimodality and the Affordances of Co-Presence for Inclusion in Higher Education*. It explores the affordances of face-to-face interaction and co-presence within the context of increasingly digitized learning environments in higher education. In settings marked by inequality, a growing reliance on digital platforms for teaching and learning can deepen disparities in student access and inclusion. Archers' paper examines a variety of higher education spaces, focusing on how copresence is expressed through different forms of engagement and representation. It begins by analyzing the affordances of large-scale lectures, then shifts to smaller-scale contexts—such as design studios, service-learning courses, and informal writing groups—where co-presence takes on diverse forms. The paper concludes by considering the role of humor and laughter in face-to-face pedagogies, alongside the significance of silence in shared presence. Finally, it argues that expanding the semiotic possibilities of face-to-face interaction through multimodal learning designs can foster inclusion and address diversity in compelling ways (Archer, 2025).

The article *A Subject Language Model of Interpreting Representations in their Intended Senses*, IRIS by Anneli Dyrvold and Judy Ribbeck Nyström, proposes a model for understanding how learners interpret different representations—such as words, symbols, and images—in subject-specific contexts. The key finding is that comprehension in disciplines like

mathematics depends not only on vocabulary but also on recognizing the intended sense of each representation and distinguishing between everyday, academic, and subject-specific or technical language. The IRIS model supports this by guiding learners through a process of identifying the nature and meaning of each representation, helping teachers and students make disciplinary language use explicit. The article conceptualizes design as both a theoretical and pedagogical construct—a way to design for learning by creating frameworks and learning environments that make interpretive processes visible. In this sense, design refers to structuring models (like IRIS) that intentionally shape how learners engage with multimodal representations and develop disciplinary literacy (Dyrvold & Ribeck Nyström, 2025).

Ola Knutsson, Mikkel Godsk, and Kolbrún Friðriksdóttir describe in their article *Learning Design at Nordic and Baltic Universities*, how Learning Design (LD) is gaining momentum globally in higher education, driven by its structured approach to helping educators design teaching practices grounded in pedagogical theory and supported by various design tools. Although substantial research has been conducted, there is limited sharing of practical applications across Nordic and Baltic universities, undermining LD's core objective of promoting the exchange of effective learning designs. To address this gap, the article explores LD practices through a systematic literature review, targeted web searches, and study visits. The aim is to identify existing LD practices within Nordic and Baltic universities. As of August 2024, the study uncovered 26 LD practices across 16 institutions and identified 22 distinct design tools. These practices range from open-ended, do-it-yourself (DIY) approaches to more structured and often coordinated efforts led by educational developers or peers. The article also highlights that key phases of the learning design process are often overlooked—both in terms of institutional support for educators and the capabilities of current design tools (Knutsson, Godsk & Friðriksdóttir, 2025).

The article *Charting Out Safety Training Goals for Developing a Pedagogical Model for Immersive Virtual Reality Safety Training: A Qualitative Study*, by Anu Lehiko and Heli Ruokamo, explores how immersive virtual reality (IVR) can be used for workplace safety training by identifying the goals that organizations, trainers, and learners bring to the process. Through interviews with 18 safety trainers, the study found that organizations primarily aim to maintain a strong safety culture and comply with regulations, and to develop a conceptual pedagogical model for IVR safety training. Drawing on sociocultural and cognitive learning perspectives, the authors emphasize the importance of balancing realism and cognitive load in IVR design. In this context, design

is conceptualized in two ways: as part of a design-based research (DBR) approach, where pedagogical models are iteratively developed and refined through collaboration with practitioners; and as the practical structuring of learning experiences, aligning organizational, trainer, and learner goals with the affordances of IVR technology. Design is thus understood both as a research methodology and as a pedagogical act of shaping tools, scenarios, and reflective practices that mediate learning and support the transfer of safety culture into everyday work. They propose a four-phase pedagogical model—introduction, IVR briefing, IVR scenario, and debriefing—that combines virtual experiences with human-facilitated reflection. The study concludes that IVR safety training should be closely aligned with organizational safety culture, carefully scaffolded to support learners, and complemented by discussion to ensure knowledge transfer (Lehiko & Ruokamo, 2025).

Robert Prince and Zach Simpson's reflective article, *A Transformative Approach to Admissions Assessment: The South African Case*, advocates for transformative approaches in South African school-leaving and higher education admissions assessments. Traditionally, these assessments have been summative and normative, comparing students for university admission. However, Prince and Simpson propose a transformative approach that impacts the curriculum and empowers students to explore their agency. The authors adopt a literacies perspective, distinguishing between the autonomous view of literacy, which focuses on competencies, and the ideological mode, which views literacy as social practices. The ideological model values diverse literacy practices and challenges normative approaches that assume homogeneous student populations and stable disciplines. Current assessments rely on cultural capital and socioeconomic status, potentially disadvantaging poorer students and perpetuating inequities. To transform higher education, assessments must shift from normative, summative practices to transformative, inclusive, and empowering approaches. These assessments should not merely rank students but also provide input for curriculum development and feedback from students to improve learning, enabling self-reflection and growth (Prince & Simpson, 2025).

The study by Sylvana Sofkova Hashemi, Emma Edstrand, and Jeanette Sjöberg, *Designing for Multilingual Conceptual Learning in Immersive VR environments: Teachers' Didactical Strategies in Study Guidance*, investigates how multilingual study guidance (MSG) teachers design for learning, alongside the potential of immersive and interactive Virtual Reality (VR) technology to support students' development of disciplinary knowledge through multilingual conceptual learning. As part of a co-design research project, the study draws on two teachers' didactical designs, their creation of subject-

specific VR environments, and their reflective evaluative discussions. Teaching and learning are framed as design-for-learning processes, supported by a meta-thinking framework that guides the planning and evaluation of didactical designs. The participating teachers identified learning objectives, instructional strategies, and organizational structures for each activity. The findings show that the teachers adopted multimodal, dialogic, and experience-based approaches to co-construct disciplinary knowledge and language within contextually rich VR environments—fostering critical thinking and enhancing multilingual metalinguistic awareness. While immersive VR holds promise for inclusive and equitable learning, the study underscores the need for structured collaboration between MSG and subject teachers to ensure pedagogical coherence and curricular alignment. These findings contribute to the expanding discourse on immersive learning design and its role in multilingual education (Sofkova Hashemi, Edstrand & Sjöberg, 2025).

The article *Enhancing Knowledge Representations and Student Agency: A Study on Digital Assessment Designs in Higher Education* by Eva Svärdemo Åberg, Eva Edman Stålbrandt, and Anna Wiik explores the impact of assessment design in digital environments within higher education on students' ability to demonstrate knowledge and realize agency. As digital tools become more prevalent and concerns about academic integrity intensify, assessment methods become increasingly regulated and monitored. This development raises concerns about potential restrictions on students' academic freedom and their capacity to shape how they present their knowledge. Assessment design plays a crucial role in determining the types of knowledge students demonstrate and the influence of design elements on their agency and engagement. This article presents a study examining assessment designs across three professional programs at two Swedish universities. The analysis focused on digital examination formats to identify prioritized knowledge. The findings revealed that assessment designs can simultaneously facilitate and constrain students' independence and creativity. These discoveries underscore the significance of assessment design in fostering student agency and knowledge engagement within higher education (Svärdemo Åberg, Edman Stålbrandt & Wiik, 2025).

The study by Rubkwan Thammaboosadee explores the practical implementation of *Stardust Odyssey: City's Last Stand*, a tabletop game developed to facilitate experiential learning about socio-economic inequality within Thailand's neoliberal education system. Grounded in Process Drama and Design-Based Research (DBR), the study investigates the game's educational potential by analyzing how participants engaged with its mechanics during workshop sessions. These workshops, held with university students, educators, workers, and welfare

activists, illustrate how interactive gameplay can spark critical conversations about systemic injustice and encourage participants to envision alternative forms of civic engagement. Moving beyond purely conceptual frameworks, the paper emphasizes the iterative nature of game design, facilitation, and reflective analysis, positioning *Stardust Odyssey* as a compelling example of how participatory drama and game-based learning can be integrated into educational practice (Thammaboosadee, 2025).

CONCLUDING REMARKS AND THE NEXT DESIGNS FOR LEARNING CONFERENCE

The contributions in this special collection collectively demonstrate that design is a creative, situated, and collaborative endeavor that unfolds in specific social, cultural, and methodological contexts. Across the different studies, design is understood not merely as the production of artifacts or tools but as a process of participation, engagement, and transformation—a means through which learning, teaching, and meaning-making are continually negotiated within evolving socio-digital ecologies.

Several authors approach design through a learning design perspective, as seen in the works of Knutsson et al. (2025) and Lehikko and Ruokamo (2025), and Thammaboosadee (2025), who uses a design-based research approach. These studies highlight the iterative and cyclical nature of design, where researchers, teachers, and learners collaboratively develop, test, and refine models and pedagogical practices in authentic settings. Thammaboosadee's use of game design extends this idea, showing how participatory and reflective design processes can be mobilized to address societal challenges and promote civic engagement.

Dyrvold and Ribeck Nyström's (2025) contribution expands the notion of design by introducing the IRIS model, which structures how learners interpret representations in their intended senses across verbal, visual, and symbolic modes. Their work conceptualizes design as both a theoretical and pedagogical construct. An essential insight that runs across the contributions is that learning is no longer confined to formal educational contexts. Instead, it is understood as a dynamic process of engagement and meaning-making that unfolds across diverse environments—virtual, physical, professional, and social. This expanded perspective invites reflection on the evolving relevance and purposes of schooling and education in contemporary society: *why* and *where* do people learn, and what counts as valuable learning today?

Design in educational practice also involves re-design—a continuous process of adaptation and

reflection. As teachers and learners interpret and respond to how subject content is understood, they iteratively reshape their approaches. This cyclical understanding of design aligns with how professional designers refine artifacts and systems to meet users' needs. Ramberg and Hernvall's co-design projects exemplify this, showing how iterative collaboration between teachers and researchers can produce sustainable pedagogical development grounded in shared reflection and experimentation.

Carey Jewitt's keynote further expanded the conceptual landscape of design by focusing on digital touch and multi-sensory communication, illustrating how social, semiotic, and technological dimensions of touch can be reimagined through design. Similarly, Ola Erstad's keynote situated design within trajectories of participation and socio-digital ecologies, framing design as an ongoing process of shaping learning lives across time, space, and media. His perspective underscores how design operates as a connective force—linking everyday practices, institutional frameworks, and digital infrastructures in the co-construction of meaning and identity.

Other contributions, such as those by Prince & Simpson (2025) and Archer (2025), foreground co-presence and multimodality as key aspects of inclusive learning design. By expanding the semiotic possibilities of face-to-face and digital interaction, they demonstrate how design can foster diversity, equity, and belonging—responding to issues of access and inclusion in increasingly digitized learning environments.

Taken together, these studies and reflections position design as both a mindset and a methodology—a way to understand and shape participation, learning, and transformation in a complex educational landscape. Design emerges as a bridge between research and practice, theory and implementation, innovation and reflection.

Building on these insights, the forthcoming 2026 *Designs for Learning Conference* will take the concept of design as a starting point to explore participation and engagement in relation to critical global challenges such as sustainability, democracy, peace, equality, and rapid technological change—both within and beyond formal education. The focus will be on designers for learning—students, educators, museum curators, educational leaders, and policymakers—who shape these evolving landscapes. As education and knowledge continuously evolve through technological and social innovation, these actors must navigate a complex environment where design serves as a vital tool for inquiry, collaboration, and transformation.

COMPETING INTERESTS

The authors have no competing interests to declare.

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REFERENCES

- Archer, A.** (2025). Multimodality and the Affordances of Co-Presence for Inclusion in Higher Education. *Designs for Learning*, 16(1), 1–8. <https://doi.org/10.16993/dfl.230>
- Dyrvold, A., & Ribeck Nyström, J.** (2025). A Subject Language Model of Interpreting Representations in their Intended Senses, IRIS. *Designs for Learning*, 16(1), 88–99. <https://doi.org/10.16993/dfl.231>
- Erstad, O.** (2023). Understanding Learning Lives in Transition: The Cultural Dynamics of Education Among Migrant Children. In: W. O. Lee, A. L. Goodwin & A. Green (Eds.), *International Handbook on Education Development in Asia-Pacific*. Springer. https://doi.org/10.1007/978-981-19-6887-7_114
- Knutsson, O., Godsk, M., & Friðriksdóttir, K.** (2025). Learning Design at Nordic and Baltic Universities. *Designs for Learning*, 16(1), 36–49. <https://doi.org/10.16993/dfl.239>
- Lehikko, A., & Ruokamo, H.** (2025). Charting Out Safety Training Goals for Developing a Pedagogical Model for Immersive Virtual Reality Safety Training: A Qualitative Study. *Designs for Learning*, 16(1), 9–21. <https://doi.org/10.16993/dfl.237>
- Prince, R. N., & Simpson, Z.** (2025). A Transformative Approach to Admissions Assessment: The South African Case. *Designs for Learning*, 16(1), 64–74. <https://doi.org/10.16993/dfl.232>
- Sofkova Hashemi, S., Edstrand, E., & Sjöberg, J.** (2025). Designing for Multilingual Conceptual Learning in Immersive VR Environments: Teachers' Didactical Strategies in Study Guidance. *Designs for Learning*, 16(1), 50–63. <https://doi.org/10.16993/dfl.236>
- Svärdemo Åberg, E., Edman Ståhlbrandt, E., & Wiik, A.** (2025). Enhancing Knowledge Representations and Student Agency: A Study on Digital Assessment Designs in Higher Education. *Designs for Learning*, 16(1), 75–87. <https://doi.org/10.16993/dfl.234>
- Thammaboosadee, R.** (2025). Stardust Odyssey: City's Last Stand – Utilising Process Drama and Design-Based Research in Tabletop Game Workshops to Reimagine Active Citizenship in Thailand's Neoliberal Education Context. *Designs for Learning*, 16(1), 22–35. <https://doi.org/10.16993/dfl.235>

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