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Analysing Language Use in Designing: Practices and Performance

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Editorial: Analysing Language Use in Designing: Practices and Performance

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Abstract: The role of language in designing is manifold, including but not limited to representing all aspects of design, enacting roles in design processes, and establishing shared meaning. With the advent of large language models (LLMs), the role of language has further expanded, affording new ways to perform and represent design. This theme track presents five papers that explore how designers use language and language models. We identify themes that cut across these papers to show how language can be used, constrained, adapted, and supplemented in different stages, processes, and domains of designing.

Keywords: Language, Design Practice, Situatedness, Collaboration, Large Language Models

1. Introduction

Language plays a fundamental role in the many ways the design process unfolds through negotiation, discussion, and resolution of conflicts. In other words, when performing design, language “*enacts design and actualizes the designed work*” (Dong, 2006, p.7). Yet this enactment of design is not the only way in which language furthers designing; designers also use language to achieve a shared meaning-making that indirectly emerges from and through conversational turns (Jornet & Roth, 2018) or perform and infer roles in design activity (Oak, 2011). The ambiguity and interpretive flexibility of language make it a highly appropriate medium for designing (Glock, 2022).

Developments in large language models (LLMs) have significantly impacted how we think of intelligence and capability. This is partly due to the capability of such models to generate plausible and surprising text, partly due to the way we conflate these qualities with language, and partly due to our own capacity for meaning-making (Bender et al., 2021). Nevertheless, this development has created new opportunities and challenges in design and



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other creative work. Examples include using LLMs in group ideation (Shaer et al., 2024), as context-sensitive design method recommender systems (Rao et al., 2024), as dynamic representations of personas in designing (Gu et al., 2025), and as evaluators of design creativity (Zhang et al., 2025). While these approaches showcase the potential of LLMs, other studies also showcase the challenges and limitations of LLMs in terms of biased representations (Kotek et al., 2025) and anxieties around human knowledge and performance (Barcaui et al., 2025; Lee et al., 2025). Their adoption into design workflows needs to be cautious as the challenges of biases and lack of diversity already permeate collaborative spaces (Mercer and Moses, 2023).

Aside from the technical aspects of these challenges, it is also important to regard the social ones such as the ambiguity and social situatedness of dialogue. Language can serve to validate lived experiences and shape understanding through a cultural lens (Wittgenstein, 1922) or limit our understanding through a lack of cultural situatedness (Fricker, 2007). A shared language must thus be defined and refined through an understanding of cultural, social, and economic situatedness to dismantle oppressive design approaches. Designers have turned to embodied, material, and gestural forms of communication as functional alternatives, finding meaning making in collaboration that can carry meaning when words fail our ability to communicate. Recent DRS theme tracks on the role of language in designing have examined different roles, limits, and opportunities of language in design and have featured work that highlight the challenges and opportunities such roles offer (Lloyd et al., 2022; Chandrasegaran et al., 2024).

2. Themes

This theme track features a diverse mix of papers that span multiple themes analysing the changing nature of language use in designing across different media, disciplines, education, and practice. Instead of grouping the five accepted papers under themes, we decided to highlight themes that are common and unique across all five submissions, summarised in Figure 1. The five papers come from a range of design domains, i.e. visualization of data equity, product concept exploration, cross-cultural participatory art, service design with AI, and systems and practices for zero-waste fashion. This spectrum is intentional and the track authors have determined four overlapping themes:

- *Acknowledging the limits of language* represents situations in which our understanding is constrained by verbal, visual, and contextual cues. In a collaborative setting the limits of our language can create limits to our shared knowledge. In this track, such limits are acknowledged when language-based exploration is unable to substitute embodied approaches in certain design stages (Li et al., 2026) or in the use of multimodal discourse analysis to provide designers with critical lenses when designing (Wu et al., 2026).
- *Alternatives to language* represents ways of meaning-making that replace or supplement the use of language. In design, this is achieved using gestures, material, diagrams and other ways of sensemaking, exploration, and collaboration. In this track, examples are the use of material in place of language

in late-stage design workflows (Li et al., 2026), the use of sound, colour, and spatial arrangements to create meaning (Wu et al., 2026), embodied practices as a way to transcend language barriers (Luostarinen & Sarantou, 2026), or visual frameworks supplementing language in designer-data interactions (Peng et al., 2026).

- *Language as a way to...* represents instances when language is used to create understanding, analyse a shared understanding where there are differences of meaning, and as a breakthrough in the design process. In the set of papers presented, language is used with LLMs as a substitute for prototyping (Li et al., 2026) or to explore the design space (Song et al., 2026), articulate reasoning with data (Peng et al., 2026).
- *Human language use vs. language needs for processes* represents the tension between the effortless, intuitive use of contextualized language and the need to structure and formalise language in particular environments and tools. In the track, these include relational grammar as a codified way for designers to articulate reasoning with data (Peng et al., 2026), or the challenge of needing to use unambiguous text to prompt LLMs while maintaining conceptual ambiguity required in early-stage design exploration (Song et al., 2026).

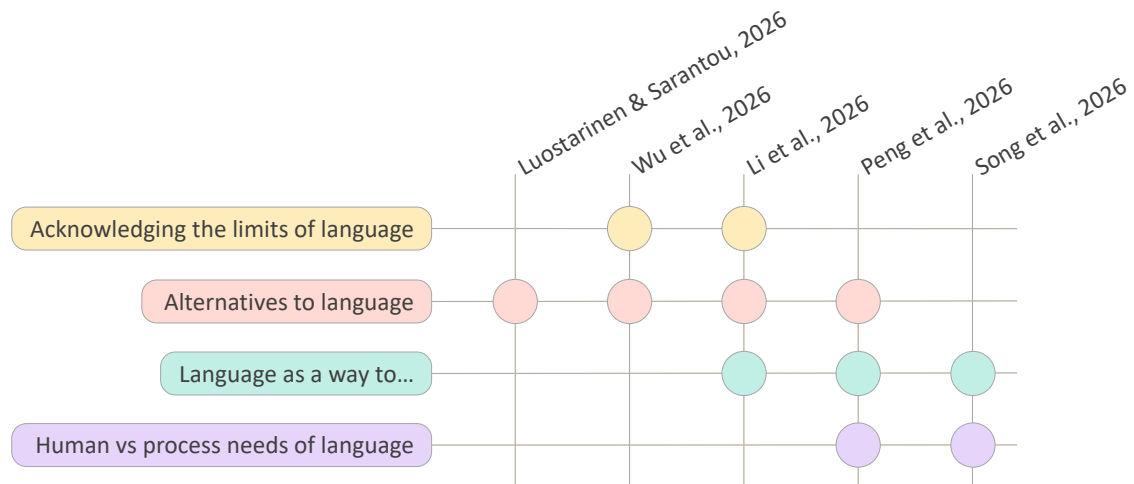


Figure 1 Themes identified in the papers featured in the theme track. A filled circle at the intersection of a theme (row) and paper (column) indicates a presence of the corresponding theme in the paper. The papers in the track are described in Section 3.

The above themes can be used to explore how the papers presented in our track are related, while the following section provides more granular descriptions of what each paper explores and contributes.

3. Papers

In *“Dialoguing with Design: How LLMs Mediate Multimodal Workflows in Zero-Waste Fashion”*, Li et al. (2026) report on an AI-supported workflow in Zero-waste fashion design. Using an autoethnographic approach, they use two Large Language Models (LLMs) for concept ideation, digital pattern development, *toile* construction, and sample production. The authors find that LLMs can help explicate aspects of the process that were previously tacit, and through the use of language, can reduce cognitive and technical barriers. However, the manner and extent to which LLMs were used depended on the stage of the work. For instance, “negotiation” with LLMs was found to be an effective substitute for iterative material prototyping in early-stage workflows. Such substitution was not sought in later-stage workflows where embodied craft became more central to the process.

In *“Within the dialogue box: Exploring designer activities and linguistic features in collaboration with textual GenAI”*, Song et al. (2026) examine the role of collaborative language when design processes shift from featuring primarily human-human dialogue to more of human-AI dialogue with LLMs. They found that students’ collaborative language use when interacting with ChatGPT was an indicator of their creative outcome. Students who obtained creative solutions tended to use language that suggested more affiliation, achievement, and insight when communicating with ChatGPT, and focussed more on exploration instead of prompt refinement early in the process. The authors find a tension between the expressive and ambiguous language that promotes ideation and the structured and unambiguous prompt text required of LLMs. They caution against *“linguistic domestication and coercion”* that might emerge with uncritical LLM use.

In *“Conversing with scenario data: exploring experienced designers’ data-informed reasoning strategies in smart product concept exploration”*, Peng et al. (2026) treat *“language in use as the site of practice”* by examining conversations between designers and data in the context of smart products. They introduce a scenario-data-informed (SDI) canvas and a relational grammar through which designers can articulate their reasoning with data. Through design sessions with participating designers, they find that the SDI canvas and relational grammar helped participants (i) infer specific design parameters from vague user descriptions, (ii) reconstruct scenes by unearthing scenario dependencies, and (iii) organise trade-offs based on aspects such as values and feasibility. They illustrate how the SDI canvas and relational grammar can extend dynamic data generated by smart products to multi-stakeholder “traces” that bind scenario data with strategy and regulations.

In *“The Paradox of Richness: A Discourse-Centered Framework for Equitable Visualization,”* Wu et al. (2026) identify a shared language as a co-constructed activity to develop visualizations that enable discourse analysis. They are exploring the proliferation of new technologies, such as GenAI and augmented and virtual reality, that have produced a paradoxical situation in visualization practice. The complexity of these technologies creates new barriers to entry, thereby exacerbating inequality and undermining a democratic approach to design. They are interested in the intentions of the designers’ visualizations and the observers’ construction of meaning, which is shaped by their own lens of understanding. The authors propose *Culture, Context, Meaning, and Expression* (CCME), a four-layer framework as a shared language for the design community to systematically negotiate the tensions between technical possibility, user accessibility, and social equity.

In, *“When play becomes language: Transforming international student experience through environmental art and eco-social design,”* Luostarinen and Sarantou (2026) discuss a participatory land art project in Ōmura City, Japan, a 74-meter installation depicting the Kasumi salamander at a former coal mine site. Eleven international students from Kyushu University's Strategic Design course engaged in arts-based methodologies and an eco-social design approach. The authors note that students who study internationally *“often encounter significant challenges connecting with their host environments, experiencing cultural isolation, language barriers, and difficulty forming meaningful relationships with local communities and landscapes.”* The paper describes how their embodied practices transcend linguistic barriers and serve as a universal medium for communication in design. The approach demonstrates how land art can serve as a powerful tool for higher education institutions (HEIs) to foster environmental awareness, cultural integration, and transformational learning experiences for international students.

4. Conclusion

The themes that emerge in this track demonstrate the versatility and flexibility with which language is used in different aspects of designing, while also acknowledging its limitations and proposing alternatives. The wide-ranging use of LLMs in different aspects of designing highlight a similar flexibility of language with their use of language as an affordance and interaction medium, while also demonstrating the limits of LLMs in exploiting this affordance in design practice. Together with earlier iterations, the theme tracks on language and designing in DRS conferences illustrate a continuing evolution of language, associated technologies, and their implications to designing.

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