Archnet-IJAR: International Journal of Architectural Research

Dwelling in the delay: hybrid temporalities, AI-mediated language practices and design pedagogy

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Received 14 December 2025
Revised 22 April 2026
21 May 2026
Accepted 22 May 2026

Abstract

Purpose – This paper examines how language-based prompts in generative AI reshape temporal and ontological conditions of architectural design pedagogy, positioning prompt crafting as a hybrid practice that bridges linguistic inquiry and spatial imagination, and brings them into productive relation.

Design/methodology/approach – Drawing on critical theories of temporality, semiotics and design literacies, this paper offers a conceptual analysis of pedagogical experiments involving the integration of text-to-image AI systems in architectural studio education. It examines prompt crafting as a semantic and narrative-based mode of design inquiry that disrupts conventional temporal regimes of design production.

Findings – AI language prompts interrupt the rush toward visual resolution, creating temporal space for dwelling in ambiguity, reflection and conceptual development. This condition of "temporal dwelling" reconfigures the ontological foundation of design education by shifting emphasis from outcome-driven production to process-oriented meaning-making that is enacted through linguistic structures.

Research limitations/implications – This paper is conceptual and interpretive rather than a comparative empirical study. It does not evaluate student performance quantitatively, compare AI-assisted and non-AI workflows or provide extended visual case analysis of studio outputs. Its contribution lies instead in theorising how AI-mediated prompting reshapes temporal experience, linguistic mediation and reflective inquiry in architectural pedagogy. The implications are pedagogical and research-oriented: educators may use prompt-based practices to cultivate hybrid literacies, temporal awareness and critical reflection, while future research should test these claims through longitudinal, visual and comparative studio-based studies.

Practical implications – The paper suggests that generative AI should be integrated into architectural education not simply as a tool for faster image production, but as a pedagogical medium for reflective, language-based design inquiry. It offers practical directions for studio teaching, including structured prompt iteration, reflective documentation, temporal scaffolding and hybrid workflows that move between linguistic, visual and material modes of design. These strategies can help educators cultivate prompt literacy, metacognitive awareness and critical AI literacy while resisting purely instrumental uses of AI and supporting more deliberate, conceptually grounded forms of design learning.

Social implications – The paper has social implications in how future architects are taught to engage with AI critically. By framing prompting as a reflective and linguistically mediated practice, it supports forms of education better equipped to address complexity, uncertainty and socially contested futures. It also foregrounds the need to interrogate bias, cultural stereotyping, environmental cost and the politics of representation embedded in generative systems. In this sense, the paper argues for an architectural pedagogy that prepares students not only to use AI, but to question its assumptions, consequences and uneven social effects.

Originality/value – Extending current discourse on prompt crafting, this paper argues that AI-mediated language practices constitute a hybrid methodology capable of reconciling immediate technological affordances with reflective, slowed pedagogical processes. By foregrounding language as a medium of spatial and conceptual exploration, the paper contributes to emergent debates on hybrid practices in architectural education and design research in the Anthropocene.

Keywords Artificial intelligence, Design pedagogy, Temporal design, Hybrid practices, Architectural education, Design literacy, Generative AI

Paper type Research article

Archnet-IJAR: International Journal of Architectural Research
Emerald Publishing Limited
e-ISSN: 1938-7806
p-ISSN: 2631-6862
DOI 10.1108/ARCH-12-2025-0589

1. Introduction

The integration of artificial intelligence (AI) into design education has reopened foundational questions about the nature of creativity, authorship and pedagogical conditions through which knowledge is formed (Sadek and Mohamed, 2023). Within this broader field, generative AI has attracted particular attention for its capacity to produce text and images through prompt-based interaction. In this paper, AI refers broadly to computational systems that simulate or augment forms of human cognition (Smolensky *et al*., 2022; Linden *et al*., 2025), while generative AI refers more specifically to systems that generate new outputs, such as text or images, in response to user prompts (Noviandy *et al*., 2024; Abbate, 2023). Although AI in design education also encompasses analytic, organisational and evaluative applications, this paper focuses on generative AI, especially text-to-image tools (Vinothkumar *et al*., 2024; Dehouche and Dehouche, 2023) and the prompt-based practices they introduce into architectural pedagogy.

While much of the current discourse has focused on generative AI's capacity for rapid visualisation and its potential to accelerate design workflows, less attention has been given to how AI language prompts reshape the temporal and ontological dimensions of design learning (Poleac, 2024; Hashem and Hakeem, 2024). This paper argues that the iterative crafting of AI prompts, understood as a linguistic, narrative-based practice, opens a pedagogical space through which architectural education's relationship with time, language and meaning-making may be reconfigured. In this sense, prompt crafting is approached as a hybrid practice that mediates between technological immediacy and reflective deliberation.

Contemporary design education operates within what Pschetz and Bastian (2018) describe as dominant temporal regimes shaped by neoliberal imperatives of speed, productivity and visible output. Within the culture of architectural design studio education practice, these pressures often privilege outcome-driven production over sustained conceptual inquiry (Dutton *et al*., 1989). As Pasquinelli (2024) note, Generative AI tools share a socio-technical genealogy of automation logic extending from industrial production, consistently orienting computational systems toward the acceleration and maximisation of productive output. Yet pedagogical experience reveals a paradox in that meaningful engagement with text-to-image systems depends upon careful linguistic articulation, iterative refinement and sustained conceptual development. What initially presents as a technology of acceleration becomes, in practice, a site of deceleration; a condition we describe as *dwelling in the delay* (Heidegger, 1927).

AI-mediated prompt crafting is understood here as a hybrid practice operating across multiple dimensions of architectural learning and practice. Drawing on Thomas *et al*.'s (2022) account of the hybrid practitioner, the paper examines how language-based AI interfaces create pedagogical spaces in which immediate computational affordances encounter reflective deliberation and in which established design literacies intersect with emergent forms of computational mediation. In doing so, the paper contributes to ongoing debates concerning architecture's epistemological transformations and the role of pedagogy in cultivating design as a mode of knowledge production (Viganò, 2016; Thomas *et al*., 2022).

In this paper, *dwelling in the delay* is proposed as a conceptual term. While informed by Heideggerian accounts of dwelling, it is not presented as a phrase derived directly from Heidegger (1971). For Heidegger, *dwelling* names a fundamental mode of being in the world. To dwell is to inhabit in a way that preserves and attends to one's relations with place, things and others. In this sense, building is understood not merely as construction, but as an activity that makes meaningful inhabitation possible. Here, "to dwell" is to remain in a relation of care, preservation and belonging, so that building is understood not as a logocentric end in itself (Derrida, 1976), but as that which makes such inhabitation possible (Heidegger (1927)). As a result, the paper instrumentalises *dwelling* as a pedagogical condition in which AI-mediated linguistic articulation introduces a productive pause within accelerated design workflows, opening space for reflection, ambiguity and conceptual development that suppresses focus on a presupposed endnote and productive finitude (Figure 1).

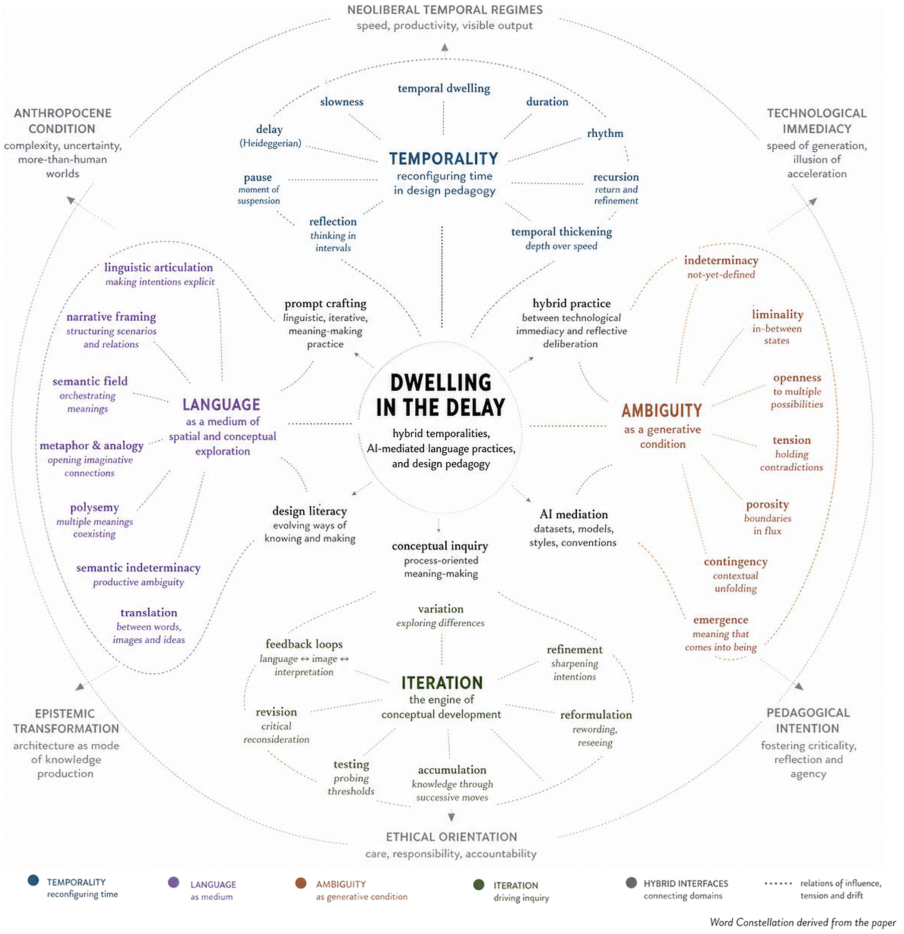

Figure 1. Dwelling in the delay as a conceptual field: hybrid temporalities, AI-mediated language practices and design pedagogy

1.1 Research context and significance

This research responds to urgent calls for architectural education to develop methodologies adequate to assist in addressing contemporary planetary, urban and socio-political challenges (Brenner and Schmid, 2015; Iturbe, 2019). If, as the Anthropocene condition suggests, disciplinary certainties and methods are no longer adequate, then design pedagogy must cultivate capacities for working through complexity, ambiguity and temporal multiplicity. As a process of language crafting, AI prompting offers one such pedagogical instrument. As a hybrid practice, it foregrounds the generative potential of linguistic indeterminacy and temporal deferral, creating the conditions for cognitive focus and deeper conceptual engagement in design.

These pressures are particularly visible in relation to contemporary design questions shaped by climate adaptation, environmental uncertainty, multi-scalar urban complexity and increasingly entangled human and nonhuman systems. Architectural education is also being asked to prepare students for socially contested futures in which design problems are rarely stable or fully knowable in advance (Brogden *et al*., 2022; Schiano-Phan *et al*., 2022). In this

context, the pedagogical value of AI-mediated inquiry lies in supporting forms of exploratory, relational and scenario-based thinking suited to conditions of uncertainty.

Recent scholarship on AI in architectural and design education has documented an expanded range of opportunities (Oxman, 2017; Carpo, 2017; Kee *et al*., 2024), risks and hallucinations (Rana *et al*., 2025; Du *et al*., 2025) and ethical concerns (Wang *et al*., 2025; Labib *et al*., 2025), including creativity support, new forms of prompt-based exploration, changing student perceptions of design tools and the development of AI-related literacies within studio learning. Studies in architectural education have begun to examine prompt engineering as part of creative design work (Lee and Kang, 2025), the role of prompt literacy in structured teaching experiments (Yaşar *et al*., 2025) and the ways students understand the benefits and limitations of genAI image tools in studio-based contexts (Iranmanesh and Lotfabadi, 2025; Huh *et al*., 2025). Other recent contributions have focused on digital literacy (Kee *et al*., 2024), holistic competency development and the practical effects of genAI integration in hands-on design teaching (Rawan *et al*., 2026).

Related work has also begun to extend the discussion beyond workflow and output by foregrounding questions of semiotics, interpretation and agency. Manninger argues through *The Doghouse* project that AI-mediated architecture operates through a dynamic interplay of signs, signals and signifiers, suggesting that generative systems participate in the production and communication of meaning, not merely in formal image generation (Manninger, 2024). In contrast, del Campo contends that AI destabilises the conventional figure of the singular architectural author, repositioning creative production as a distributed process involving human and nonhuman actors, datasets, algorithms and material systems (Campo, 2024). Taken together, this body of work makes clear that AI is already reshaping the pedagogical landscape of architectural education. Yet its emphasis has remained largely focused on workflow, output, adoption or perceived benefit. By contrast, this paper is concerned less with workflow optimisation or output novelty than with the temporal and linguistic conditions through which AI-mediated pedagogy reorganises reflective design inquiry.

By foregrounding these dimensions, the paper contributes to broader debates concerning the future of architectural education. If design pedagogy is to respond adequately to contemporary conditions, it must move beyond narrowly technical or instrumental framings. It must cultivate what Viganò (2016) describes as "the project as knowledge producer," in which research is constructed through the tools and operations of design (*research by design*), thus framing design as an epistemic practice and not simply a producer of artefacts. It must also engage with what Lechner (2021) identifies as *thinking design* as intellectual work *that* draws on collective disciplinary knowledge grounded in typological reasoning and conceptual frameworks. At the same time, it resonates with Easterling's (2021) argument that "solutions are mistakes" and with their account of "medium design" as working conducted within "the medium – the matrix space between objects, events and ideological declarations," where problems are assembled into *productive combinations* rather than eliminated.

AI-mediated pedagogy, we argue, can support these broader transformations, but only if educators resist the seduction of speed and, instead, embrace the generative potential of delay. Only by treating language as a rich medium of conceptual exploration, and by understanding prompt crafting as a hybrid practice that synthesises multiple literacies and ways of knowing, can genAI be mobilised to deepen design's temporal, conceptual and cultural literacies.

1.2 Structure of the paper

The paper is structured in six sections. Section 2 establishes a theoretical framework by drawing together temporal design theory, architectural semiotics and design literacies. Section 3 analyses how AI prompting reconfigures the temporal dimensions of design learning, focussing on the paradox of AI speed, the iterative character of refinement and the pedagogical value of ambiguity. Section 4 then turns its focus to the ontological implications of these shifts, considering language as a spatial medium, narrative as a design method and semantic

indeterminacy as a condition of design agency. Section 5 discusses pedagogical strategies, including prompt crafting as design research, metacognitive development, temporal scaffolding and hybrid models of studio teaching. Section 6 situates these arguments within wider discussions of architectural research, design authorship and critical practice. The conclusion synthesises the main arguments and identifies implications for hybrid practices in architectural education.

1.3 Research approach and pedagogical context

This paper is framed as a conceptual and interpretive analysis grounded in exploratory, practice-based pedagogical inquiry. Its argument emerges from a series of pedagogical experiments conducted between 2022 and 2025 across undergraduate and postgraduate architecture and interior architecture design coursework, ranging from first-year studios to final-year capstone projects and involving more than 500 students. In this context, *pedagogical experiments* do not refer to controlled empirical testing, but to structured teaching interventions in which generative AI tools were incorporated into studio-based design inquiry and reflection.

Students engaged with a broad range of genAI tools, including but not limited to ChatGPT, Copilot, Paletter.ai, Midjourney, Kaiber, DALL·E 2, Adobe Express, Wordtune, Arch-e, Stability AI, Stable Diffusion, Leonardo.ai, Craiyon.ai, Playground AI, Draw Things: AI and Generation, through activities focused on concept development, prompt iteration, representational exploration and critical discussion. The use of multiple platforms also supported a relatively broad range of socio-economic access, enabling participation by students from diverse demographic backgrounds and across different learning contexts, including on campus and at home and in both individual and group-based work.

The paper does not present a quantitative evaluation of student performance, nor does it offer a comparative study of AI-assisted and non-AI workflows. Its contribution is instead developed from a situated pedagogical practice that attempts to theoretically frame an account of delay, hybridity and reflective inquiry in AI-integrated architectural education. In contrast to an empirical study of methodologically controlled entanglements between students and AI, the paper emerges from an effort to interpret and critically reflect on diverse uses of AI within the studio environment. The theoretical framework presented here therefore approaches prompt crafting as an evolution of contemporary design pedagogy, not an empirical account of design studio case studies.

2. Theoretical framework: hybrid temporalities and design literacies

2.1 Temporal regimes in design education

Architectural design pedagogy has long understood studio learning as an iterative process of making, testing, critique and reflection. Schön's influential account of reflection-in-action positions design learning within this cycle of action and judgement (Schön, 1987; Schön (1983)), while work in architectural education has likewise demonstrated the importance of making the design process more explicit for students rather than leaving it tacit within studio culture. Dooren argues that students learn more effectively when the actions and reasoning involved in designing are articulated more clearly, and this aligns with broader accounts of designerly ways of knowing in which design knowledge emerges through iterative enquiry and representational practice (Dooren, 2020). From this perspective, prompt literacy is better understood as a reconfiguration of familiar studio processes, where reflection, iteration and designerly knowledge are mediated through new linguistic and visual forms.

Architectural education has historically operated within complex temporal frameworks. Schön's (1987) concept of *reflection-in-action* recognises design as an iterative practice in which understanding develops through cycles of making, testing and reflection. However, contemporary architectural studio culture increasingly privileges temporal compression,

where speed, productivity and visible output are prioritised over sustained conceptual inquiry. This condition resonates with what Easterling (2021) identifies as problematic assumptions about efficiency and immediacy in spatial practice, where rapid resolution is valorised at the expense of slower processes of critical development.

These temporal regimes become visible across multiple dimensions of design education. Studio schedules compress complex problems into short review cycles, encouraging rapid movement from concept to resolution. Critique cultures often reward visible production, such as drawings, models, renderings, while undervaluing less immediately legible forms of conceptual work. Digital design tools, from CAD to parametric modelling, promise efficiency gains that can paradoxically intensify productivity pressures, reinforcing expectations of continuous acceleration rather than reflective pacing.

Pschetz and Bastian's (2018) concept of *temporal design* provides a useful framework through which we can interrogate these conditions. They argue that design practices actively construct experiences of time through decisions about pacing, rhythm, duration, sequence and synchronisation. In pedagogical terms, this foregrounds the ways educational structures shape students' temporal experience of learning, including how long they dwell with ideas, how frequently they iterate and how reflection is positioned in relation to production (Pschetz and Bastian, 2018).

The introduction of AI tools into this temporal ecology produces what can be understood as *temporal hybridity*: the coexistence of accelerated generation and enforced deliberation. While text-to-image systems promise rapid visualisation and iteration, their effective use depends on careful linguistic formulation, prompt refinement and conceptual clarification. Students must therefore learn to navigate between oscillating temporal logics, developing knowledge about when to move quickly and when to dwell, when to generate abundantly and when to pause for reflection.

In this paper, hybridity refers to four interrelated modes within AI-mediated design practice including temporal hybridity, where speed and delay coexist; methodological hybridity, where prompting combines designing, writing, testing and evaluating; epistemological hybridity, where knowledge is produced across words and images; and pedagogical hybridity, where these shifts affect how studio learning is understood and structured. Each of these modes is elaborated in the sections that follow.

This condition resonates with Thomas *et al.*'s (2022) concept of the *hybrid practitioner* who operates across domains characterised by distinct temporal rhythms, including professional practice, research and teaching. In a similar way, students engaging with AI-mediated design must cultivate temporal flexibility, developing judgement about how different temporal modes support different pedagogical and design objectives.

2.2 Language, semiotics and architectural knowledge

The relationship between language and architectural knowledge has long been theorised. Early semiotic approaches, most notably in postmodern architecture, positioned buildings as communicative systems operating through cultural codes and references (Jencks, 1977). While subsequent scholarship has moved beyond this model, it established language as a central concern in architectural discourse.

More critically, Forty (2000) demonstrates that linguistic categories actively shape architectural thinking and practice. His genealogical analysis of architectural vocabulary shows that terms such as *function*, *space*, *type* and *character* do not merely describe pre-existing concepts, but actively construct what becomes thinkable and designable. Language, in this sense, is neither neutral nor supplementary. It is constitutive of architectural knowledge, carrying ideological and epistemological commitments that shape both design problems and their possible solutions.

Text-based and instruction-led practices have long formed part of the wider cultural and disciplinary field, within which architecture operates. A range of twentieth-century artistic and

experimental practices used text as a generative medium through which actions, images and spatial relations could be produced. In conceptual art, language often functioned as an operative device where written instructions specified how a work might be made while leaving room for variation in execution. Sol LeWitt's "Paragraphs on Conceptual Art" is foundational here, locating the work in the prior idea or concept, not in the singularity of its execution (LeWitt, 1967).

Fluxus extended this logic through event scores and instruction pieces, in which short written prompts structured performances, gestures and perceptual events; as Kotz argues, language in 1960s art frequently functioned as a model for the work itself – it was not simply a site of its discursive explanation (Kotz, 2007). Within this context, Yoko Ono's *Grapefruit* (1964) may be understood as a paradigmatic example of instruction-based practice. Published as a book of instructions and drawings, *Grapefruit* is exemplary in this regard, presenting instruction-based works that can be enacted mentally, materially or collectively. These practices are significant because they establish a precedent for understanding text not as commentary on making, but as an active mechanism of generation (Yoshimoto, 2004).

A related lineage can be traced through Surrealist, Situationist and spatio-critical practices in which language, chance and collective procedure were used to unsettle habitual ways of seeing and making. Surrealist automatism, articulated in Breton's writings on surrealist practice, sought to reduce conscious control in order to release associative or unconscious material, while *exquisite corpse* activities introduced collaborative, sequential composition in which participants contributed without full knowledge of the whole (Breton, 1969). These methods were central to Surrealist experimentation with unconscious and collective image-production.

Situationist practices such as the *dérive* and *détournement* likewise repositioned language and procedure as tools for spatial and cultural reconfiguration: Debord defined the *dérive* as a "technique of rapid passage through varied ambiances," while *détournement* involved the reuse and displacement of pre-existing cultural elements within new ensembles so that meanings could be reorganised (Debord, 1956, 1958). More recently within architectural discourse, Rendell's *site-writing* is especially significant because it frames writing as a spatial and critical practice in its own right that is not a descriptive supplement to design (Rendell, 2010). Taken together, these traditions demonstrate that text has long operated as a medium of conceptual displacement, procedural generation and spatial inquiry. Prompt crafting can therefore be understood less as a wholly novel technical act than as a computational extension of earlier practices in which instructions, fragments, scripts and semantic constraints assist in the generation of visual and spatial possibilities.

This lineage gains renewed relevance in the context of AI-mediated design. Prompt crafting requires what Krippendorff terms *semantic competence*: the ability to understand and manipulate systems of meaning-making systems (Krippendorff, 2006). Unlike conventional architectural writing, AI prompts operate within a generative semantic field in which language actively produces visual and spatial outputs. Each word carries generative consequence, shaping what forms emerge, what spatial qualities are emphasised and what relationships are established. For this reason, prompt writing is more accurately understood as *prompt crafting*.

Prompt crafting constitutes a hybrid practice that bridges linguistic and visual modes of architectural thinking. Students must develop sensitivity to connotation, metaphor, syntax and semantic nuance, while also cultivating spatial imagination, formal understanding and visual literacy. In this process, they learn to think *through* language toward space, understanding that verbal choices do not simply describe design intentions, but help shape the visual and spatial possibilities that emerge.

The generative complexity of this process becomes especially apparent in practice. A prompt such as *a house* produces generic residential imagery. Adding *a modernist house* narrows outputs toward established formal conventions, while specifying *a modernist house in the style of Le Corbusier* further constrains generation toward recognisable precedents. Introducing semantic tension, for example, *a modernist house with warm materiality and*

human scale, disrupts these conventions, producing hybrid outputs that negotiate between competing meanings. Such examples demonstrate that prompt crafting involves orchestrating semantic fields, not simply issuing instructions and that linguistic indeterminacy can function as a productive design resource (Figure 2).

2.3 Design literacies in the computational age

Design has long been understood as a distinct mode of knowledge production. Cross describes *designerly ways of knowing* as characterised by visual-spatial reasoning, abductive logic, pattern recognition and synthetic judgement (Cross, 2006). Design knowledge is embedded in processes, artefacts and practices rather than solely in propositional statements and design learning occurs through iterative exploration and reflection on action.

Building on this foundation, Buchanan and others conceptualise *design literacies* as the multiple competencies required for effective design practice, including visual, material, technical, historical, cultural and critical literacies (Buchanan, 2001). These literacies enable designers to move fluently between visual and verbal, conceptual and material and technical and cultural modes of engagement.

Architectural education research reinforces this account of design literacy by showing that learning to design depends on making process, reflection and translation more explicit within studio practice. Studies in architectural pedagogy have argued that students benefit when the actions and reasoning of the design process are clearly articulated and not left tacit within studio culture, while reflective models of studio teaching understand designing as an iterative movement between proposition, representation, critique and revision. Havik's work is useful here because it extends design literacy beyond visual competence alone, foregrounding the roles of reading, writing and imaginative translation within architectural thinking (Havik, 2015). Seen in this light, AI-mediated prompt practice is not merely a new technical skill, but part of an expanded literacy through which designers work across verbal, visual and spatial forms in reflective studio inquiry.

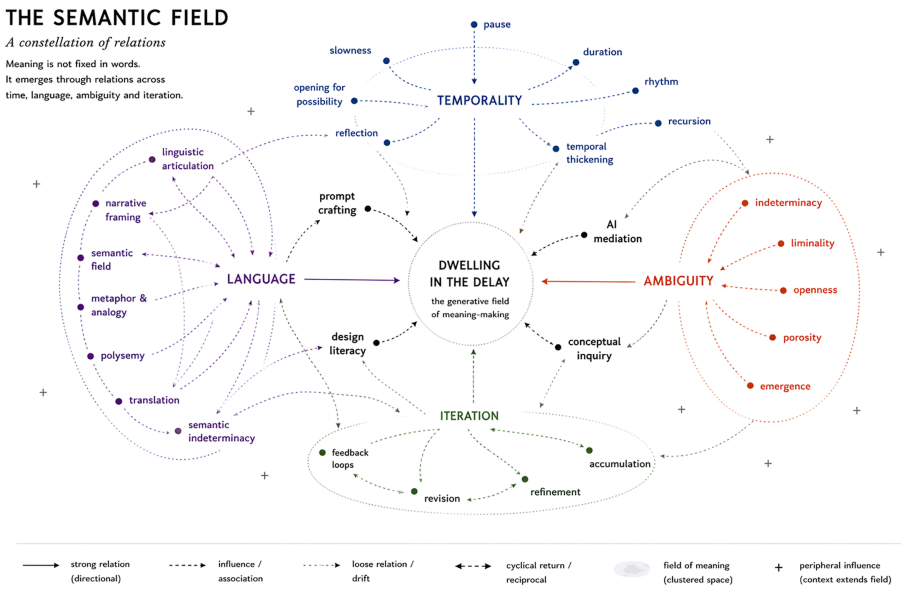

Figure 2. The semantic field of prompt crafting: language, temporality, ambiguity and iteration as relational conditions of AI-mediated design inquiry

The integration of AI into design education necessitates what Knoth *et al*. describe as *AI literacy*, as the understanding AI's capabilities and limitations, critically evaluating outputs, engaging ethically with socio-technical implications, and the ability to use these tools effectively (Knoth *et al*., 2024). However, AI-mediated pedagogy requires a more specific competency, namely *prompt literacy*. Prompt literacy involves several interrelated dimensions. First, *semantic sensitivity* entails an understanding of how word choice, syntactic structure and linguistic framing shape generative outputs. This requires attention to connotation, metaphor and cultural associations embedded in language. Second, *iterative refinement* reframes prompt crafting as an exploratory process involving multiple cycles of generation, evaluation and revision. This demands patience, persistence and willingness to dwell with uncertainty. Third, critical evaluation demands the assessment of AI outputs not merely for visual appeal, but for conceptual coherence, spatial quality and design potential; here, traditional design literacies must be brought to bear on computational outputs. Fourth, *conceptual translation* requires the articulation of spatial intentions, formal qualities and design ideas through language. This involves developing vocabulary for describing atmospheric conditions, material properties, spatial relationships and experiential qualities. Fifth, *systematic experimentation* entails testing how variations in prompts produce different outputs, thereby building intuition about the relation between language and generation through documentation and comparative analysis. Finally, *ethical awareness* develops an understanding of AI's biases, limitations and social implications, including the ways training data shapes outputs, algorithms reproduce cultural stereotypes, systems embed particular worldviews and computational design intersects with questions of environmental sustainability, social justice and professional responsibility.

In this paper, prompt literacy is treated as an architectural and pedagogical capacity involving the reflective articulation of design intentions through language, the critical evaluation of generated representations and the iterative translation between verbal, visual and spatial modes of inquiry. This position prompting within studio traditions of representational experimentation, judgement and design development and resists narrowly instrumental accounts of prompt engineering. Prompt literacy, in this sense, synthesises established design thinking with emergent computational literacies. It requires linguistic sophistication, spatial imagination and technical skill alongside critical reflection and ethical awareness. Developing this literacy supports broader pedagogical aims of cultivating reflective, adaptable and critically engaged designers able to work within complex and rapidly changing professional contexts.

3. Dwelling in the delay: temporal reconfigurations

3.1 The paradox of AI speed

Having established the paper's central temporal paradox, this section examines how prompt crafting produces reflective delay within accelerated AI workflows. Although text-to-image systems generate imagery almost instantly, their meaningful use still depends on sustained temporal investment. This contradiction lies in the cognitive and linguistic demands of prompt crafting, which render speed inseparable from forms of reflective labour.

Unlike traditional design media, AI tools introduce a *linguistic interface layer* through which spatial ideas must be articulated before visualisation can occur. Students are required to translate spatial intuitions into language, anticipate how computational systems interpret semantic cues and iteratively refine prompts in response to outputs that often diverge from initial intentions. This process foregrounds semantic nuance, syntactic precision and conceptual clarity, since even minor variations in phrasing can generate markedly different results.

However, this is not a limitation. We argue that linguistic mediation introduces a pedagogically productive delay. Drawing on Bachelard's distinction between abstract time and lived duration, the pause introduced by prompt formulation can be understood as creating a

temporal thickness that acts as an interval between reflection, reworking and conceptual development (Bachelard and McAllester Jones, 2016). This temporal thickening carries epistemological as well as phenomenological weight. Pasquinelli draws directly on Bachelard's historical epistemology to argue that AI systems are not neutral technical artefacts, but projects shaped by and actively reproducing, historically specific structures of knowledge and intelligence. *Temporal thickening* is therefore a critical-epistemological site in which knowledge formations sedimented within computational systems may be encountered, surfaced and contested (Pasquinelli, 2023). This *temporal thickening* aligns with Viganò's (2016) account of the design project as a mode of knowledge production in which understanding emerges through process, not the delivery of resolved artefacts. This reorientation contrasts with the temporal compression that characterises much contemporary studio culture, where rapid visual resolution can bypass conceptual development. The necessity of linguistic articulation interrupts this trajectory, forcing ideas to be clarified, assumptions to be made explicit and conceptual frameworks to be developed alongside visual exploration.

3.2 Iterative refinement as temporal dwelling

Prompt crafting unfolds through iterative cycles of formulation, generation, evaluation and revision. Rather than progressing linearly from concept to resolution, prompt-based work moves cyclically, with each iteration opening new conceptual and formal territories. Iteration functions here not as incremental optimisation, but as exploratory inquiry. This mode of working resonates with Lechner's (2021) account of typological thinking in architecture, which operates through comparison, variation and gradual refinement, not singular creative acts. As with typological inquiry, understanding in prompt-based work develops through the accumulation of iterations, the identification of patterns and the strategic refinement of parameters.

Students engaged in prompt refinement often report deep absorption, characterised by sustained focus and diminished awareness of external time. While this experience has been described elsewhere as flow or immersion (Agarwal and Karahanna, 2000), its significance here lies less in it as a psychological state than as a temporal structure. Prompt crafting encourages extended engagement with ideas, supporting iterative exploration without premature convergence.

As iteration proceeds, students develop a tacit understanding of how language relates to generation as an emergent *prompt intuition*. They learn to anticipate the effects of semantic choices, recognise productive directions and identify when unexpected outputs warrant further exploration. Crucially, iteration does not merely refine initial ideas; it frequently generates new ones, as unanticipated outputs prompt conceptual shifts and alternative trajectories. In this sense, prompt-based iteration functions as a genuinely exploratory design process in contrast to the execution of predetermined intentions (Figure 3).

3.3 Ambiguity as temporal resource

A central dimension of temporal dwelling in prompt-based work involves learning to work productively with ambiguity. Although many studio traditions value uncertainty and exploration, assessment frameworks often pressure students towards clear, resolved and legible outcomes. Prompt-based inquiry can open a different temporal space in which ambiguity is not treated as a problem to be eliminated quickly, but as a condition that can support reflection, experimentation and iterative design development.

When crafting prompts, students must negotiate between specificity and openness. Excessive determination constrains generative potential, producing predictable outputs that reinforce existing assumptions, while excessive openness yields incoherent or irrelevant results. Productive prompting depends upon working within this tension, allowing indeterminacy to operate without relinquishing conceptual intent.

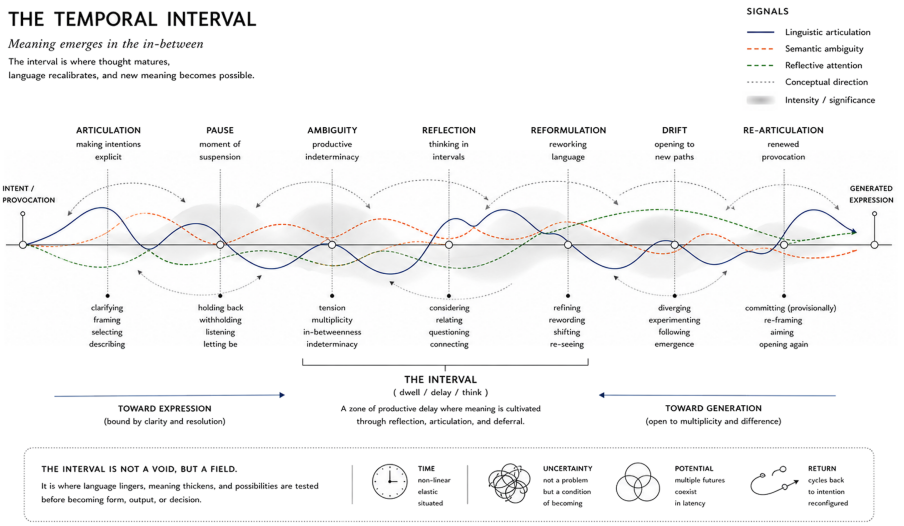

Figure 3. The temporal interval: a signal diagram of meaning-making in AI-mediated prompt crafting

This orientation aligns with broader calls for architectural education to cultivate capacities for navigating uncertainty and complexity (Brenner and Schmid, 2015). As Haraway (2016) argues, responding to planetary-scale challenges requires practices of "staying with the trouble" and remaining present within unfinished and entangled conditions that do not seek premature resolution. Prompt-based pedagogy offers training in precisely this epistemological stance (Haraway, 2016).

Students learn to recognise different forms of ambiguity and the generative effects they can produce. Semantic ambiguity, arising from words with multiple meanings, can generate unexpected formal hybrids. Syntactic ambiguity, resulting from unclear relationships between terms, can produce compositional complexity. Conceptual ambiguity, created by tension between competing ideas, can yield innovative syntheses. Rather than eliminating such ambiguities, skilled prompt designers learn to orchestrate them strategically.

For example, a prompt exploring *transitional spaces between interior and exterior* contains multiple productive ambiguities. *Transitional* may suggest gradual change, liminality or hybridity; *between* may imply separation, overlap or connection; and *interior* and *exterior* invoke both opposition and mutual constitution. Generative outputs interpret these ambiguities differently, producing verandas, courtyards, layered thresholds, glazed envelopes and ambiguous volumes. Each interpretation opens distinct spatial possibilities for further exploration. In this way, ambiguity becomes not an obstacle to design resolution but a temporal resource that sustains inquiry, enabling designers to dwell within multiple possibilities and allowing understanding to emerge through iterative exploration.

4. Ontological reconfigurations: language as spatial medium

4.1 From visual to linguistic primacy

Traditional architectural education has tended to privileged visual and haptic modes of knowing (Cuff, 1991). Drawing, modelling and spatial visualisation are typically treated as core design competencies through which students learn to think, develop ideas and communicate intentions. Language, by contrast, has more often occupied a secondary role in explaining concepts, framing precedents or justifying design decisions. It rarely functioned as a primary medium of design thinking.

AI-mediated design disrupts this hierarchy by positioning language as the primary interface for spatial imagination. In prompt-based workflows, design intentions must be articulated linguistically before visualisation occurs. The prompt becomes the operative design instrument, with images emerging as representational consequences of semantic choices. This inversion carries significant ontological implications, reshaping assumptions about what design is, how it operates and where architectural knowledge is produced.

As Agrest (2018) argues, architecture operates through multiple representational systems including drawings, models, texts and digital simulations with each enabling distinct forms of thinking. Drawings support geometric precision and formal composition; models enable material exploration and spatial experience; digital tools afford parametric variation and performance analysis. Each system structures what becomes thinkable and what kinds of problems and solutions can emerge. AI tools extend this representational ecology by foregrounding language not simply as a descriptive medium, but as a generative one.

By foregrounding language, AI tools make explicit what has often remained implicit, suggesting architectural thinking is always mediated by linguistic categories, semantic frameworks and narrative structures. Designers routinely describe spaces in binary terms such as *open* or *enclosed*, materials as *warm* or *cold*, forms as *dynamic* or *static*. As Forty demonstrates, such terms do not merely describe architectural qualities; they actively participate in constructing them, shaping perception, conception and design judgement (Forty, 2000). The layers of this linguistic construction are illustrated in Figure 4.

Students working with AI prompts must therefore develop what might be called *linguistic spatial imagination*; understood as the capacity to envision spatial qualities, atmospheres, material conditions and formal relationships through language. This does not diminish visual thinking but extends it through linguistic mediation thus requiring students to understand how verbal descriptions translate into spatial and visual effects.

There is a clear precedent for this linguistic turn in architectural thought. Text has long functioned both as a means of describing space and as a spatial practice in its own right (Crane

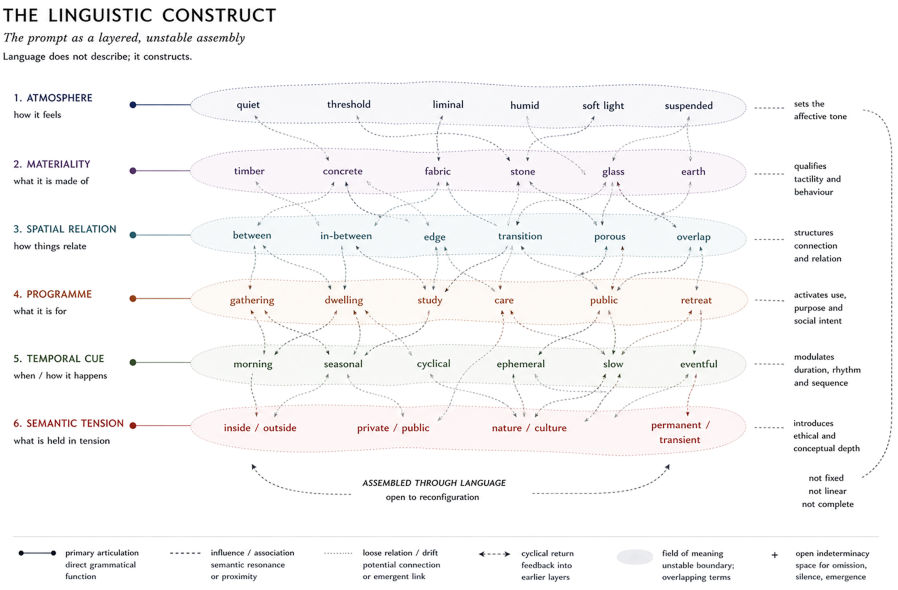

Figure 4. The linguistic construct: prompt language as a layered and unstable assembly of atmosphere, materiality, spatial relation, program, temporal cue and semantic tension

et al., 2019). While this paper does not explicitly engage poststructuralist theory, it draws on a lineage of thinkers for whom writing is productive of spatial meaning. Architectural theory itself generally develops through writing, generating conceptual frameworks that shape how architecture is understood and practiced. Historically, however, such linguistic practices have often been positioned as commentary *on* design, not *design* itself (Bloomer, 1993; Braidotti, 2014; Cixous, 2006; Coyne, 2011).

AI-mediated design challenges this positioning. The prompt does not simply translate a pre-existing visual idea into words; it generates spatial imagination through linguistic articulation. Writing operates here not as documentation *of* design, but *as* a design generator, thus unsettling conventional assumptions about architectural authorship, creativity and knowledge production.

4.2 Narrative as design method

Prompt crafting reveals design as a fundamentally narrative practice in which each prompt constructs a spatial scenario that establishes relations between program, materiality, atmosphere and use. While narrative has always been present in architectural practice through design project briefs, descriptions and presentations, AI tools render narrative methodologically central, not supplementary.

Prompts routinely describe scenes narratively: *a library with natural light filtering through clerestory windows;* or *an urban plaza in a dense city with informal street activity.* These descriptions do more than specify visual characteristics. They construct experiential narratives that organise spatial imagination. Narrative framing foregrounds how spaces are approached, inhabited and experienced over time, thus shifting attention from formal configuration alone to spatial sequence, occupation and use.

This narrative mode of prompting can therefore enable forms of design exploration that are especially attentive to atmosphere, spatial sequencing and compositional variation. Because prompts often combine descriptions of use, materiality, setting, light and mood, they can produce design propositions in which formal and spatial ideas are shaped through narrative framing rather than abstract geometry alone. In this sense, the design process does not begin with the geometric resolution of form, but with the narrative construction of programme, situation and experience, allowing these to play a more generative role in shaping spatial outcomes. The result is often an expanded field of early-stage possibilities, including atmospheric articulations, unusual formal hybrids, unexpected material combinations and scenario-driven variations that enrich conceptual development.

This narrative orientation resonates with Rendell's concept of *site-writing*, in which writing functions as a mode of architectural research, not a descriptive afterthought. Prompt crafting might therefore be understood as a generative extension of site-writing where language produces spatial possibility. Unlike critical writing, which reflects on built or imagined spaces, prompts generate new spatial conditions that can be evaluated, refined and developed through further design work. In working this way, students develop narrative competencies alongside conventional design skills. They learn to articulate atmosphere, mood and experiential qualities that often resist direct visualisation, expanding the repertoire through which architectural ideas can be conceived and communicated.

4.3 Semantic indeterminacy and design agency

Language-based design foregrounds semantic indeterminacy as a condition of design agency. Words are inherently unstable, where meanings shift across contexts, and linguistic descriptions admit pluralistic interpretations. In AI-mediated design, this indeterminacy is not a limitation, but a source of generative design potential.

Students quickly learn that small variations in phrasing can produce dramatically different outputs, and that apparent synonyms are not functionally equivalent within generative systems. Abstract language can open unexpected formal territories, while overly concrete

description constrains generation toward predictable outcomes. Working productively with this indeterminacy cultivates what can be described as *semantic agency* or the capacity to manipulate meaning-making systems toward creative ends.

Semantic agency differs from traditional models of design control, in which form is shaped directly through drawing or modelling. In prompt-based work, designers operate indirectly, guiding generative processes through linguistic parameters while remaining open to emergence. Agency is distributed across student, language, algorithm, training data and output. Learning to navigate this distribution, to guide without determining and influence without controlling, is central to prompt-based design practice.

This distributed agency also creates conditions for discovery. When prompts yield unexpected results, students must decide whether to refine their language toward pre-conceived intentions or pursue emergent new directions. Such moments demand judgement, flexibility and responsiveness, exemplifying Schön's (1987, 1992) account of *reflection-in-action* as the capacity to learn from surprise and adapt intentions through practice.

These conditions of distributed agency do not mean that AI-generated work is inherently more complex than non-AI design work. They enable a particular form of exploratory complexity grounded in rapid scenario variation, unusual formal associations and semantically driven recombination. In pedagogical terms, this expands the field of conceptual testing, allowing students to examine how different linguistic framings generate different spatial, material and compositional possibilities before those possibilities are evaluated, selected or developed through other design media.

5. Pedagogical implications: cultivating hybrid practices

5.1 Prompt crafting as design research

Pedagogically, prompt crafting can be positioned as a mode of design research. It offers an inquiry method through which spatial concepts may be investigated, architectural ideas tested and design knowledge generated through iterative exploration. In this sense, prompt-based work exemplifies research-*through*-design in practice (Frayling, 1993). Iterative prompt refinement functions as a form of hypothesis testing in which students form expectations about how semantic choices might influence generative outputs, test these expectations through experimentation, evaluate the results and refine their understanding as a result. Through documenting prompt variations and corresponding outputs, students build archives that enable comparative analysis, pattern recognition and the development of provisional theoretical insights into how language mediates spatial imagination.

In studio terms, this means prompt crafting can be incorporated into existing cycles of proposition, testing, critique and revision. It also suggests a pedagogical model in which prompt-based inquiry is integrated with established modes of design research including precedent analysis, theoretical reading, site documentation and material experimentation. Rather than isolating AI tools from traditional design methods, studios' pedagogy can cultivate hybrid practices that move deliberately between linguistic, visual and material modes of inquiry. Prompting may prove most productive in early conceptual exploration and variation testing, while drawing, modelling and fabrication remain essential for development, resolution and material thinking. GenAI is thus positioned as one element within a broader design ecology that is valuable for particular stages and questions, but always in dialogue with other methods.

5.2 Metacognitive development

Prompt-based pedagogy offers distinctive opportunities for metacognitive development, understood as the capacity to reflect on one's own thinking processes (Flavell, 1979). When students craft prompts, they are required to articulate spatial intentions explicitly, translating implicit intuitions into language and clarifying ideas that might otherwise remain vague or

tacit. This externalisation of thought supports reflective learning. Students can analyse prompts to identify underlying assumptions, compare intentions with generative outcomes and track how their conceptual framing evolves over time. Iteration becomes a design process and also a record of thinking, enabling students to recognise shifts in their judgement, vocabulary and design priorities.

This metacognitive dimension also supports critical design literacy. Students become more aware of how linguistic choices encode cultural assumptions, aesthetic preferences and ideological commitments. For example, prompting for *luxury residential architecture* or *sustainable community space* can invite reflection on how such terms are defined, what values they imply and how these meanings are reproduced or challenged by AI systems.

Engagement with AI outputs further foregrounds issues of bias and representation. When prompts consistently generate particular demographics, stylistic norms or cultural contexts, students can interrogate what this reveals about training data and worldviews embedded in them (Crawford, 2021; Noble, 2018; Manovich, 2026). Prompt-based pedagogy thus becomes a site for critical reflection on both design thinking and computational mediation. Figure 5 illustrates one model for developing this generative literacy through structured grammatical refinement across seven stages. Figure 6 extends this analysis by mapping the design function of each grammatical element against naive and more sophisticated uses in prompt construction.

5.3 Integrating slow and fast temporalities

A central pedagogical challenge concerns how to structure movement between rapid generative output and slower reflection. Addressing this challenge requires *temporal scaffolding* and deliberate pedagogical structures that help students navigate between different temporal modes and develop judgement about how time is used in design inquiry. Temporal scaffolding might take various forms. One approach is to establish minimum iteration requirements before evaluating outputs, requiring students to generate, for example, at least twenty variations before selecting directions to pursue. This approach helps prevent premature convergence by ensuring that design territories are adequately explored with sufficient breadth before commitment to a particular approach. It also normalises iteration, framing it as an essential practice, not a sign of indecision.

A second strategy involves implementing structured reflection protocols after each prompt cycle. Following the generation, students pause to document what they learnt, analyse why

Stage	Grammatical focus	Prompt behaviour	Pedagogical shift
1	Nouns and adjectives	`grief, loss, sacredness, light, ruins`	Prompt as affective field
2	Specific nouns	`burial trenches, tidal edge, unmarked markers`	Prompt as spatial inventory
3	Verbs	`fold, bury, erode, striate, transect`	Prompt as spatial operation
4	Calibrated adjectives	`low, weathered, porous, non-monumental`	Prompt as material and ethical qualification
5	Adverbs	`slowly, partially, unevenly, quietly`	Prompt as temporal modulation
6	Prepositions	`between, beneath, through, along, into`	Prompt as spatial relation
7	Constraints	`avoid spectacle, avoid heroic monumentality`	Prompt as critical judgement

Figure 5. Developing generative literacy through grammatical refinement: from affective description to spatial, temporal and critical design judgement

Prompt element	Naive use	Select spatial entities, programmes, materials, contexts	Design function
Nouns	Add atmosphere	Qualify material, affective, spatial, ethical, and experiential tone	What kind of thing it is
Adjectives	Often absent	Activate spatial operations and transformations	What the design does
Verbs	Rarely used	Modulate intensity, manner, tempo, and degree	How the action unfolds
Adverbs	Often incidental	Structure spatial relations	Where things sit in relation
Prepositions	Usually missing	Exclude unwanted tendencies	What the model should avoid
Constraints	Add atmosphere	Qualify material, affective, spatial, ethical, and experiential tone	What kind of thing it is

Figure 6. The grammar of prompt-based design

certain prompts succeeded or failed, identify patterns in their approach and plan subsequent steps. This interrupts the rapid generation-evaluation-revision cycle, creating temporal space for metacognitive reflection. It also produces documentation that supports learning by enabling students to track their development and recognise growth over time.

A third strategy is to design assignments that deliberately separate prompt crafting from image generation. Students develop prompts without immediately seeing outputs, thereby focussing attention on linguistic construction and conceptual clarity. Only after multiple prompts have been prepared are the images generated, followed by reflection on the relation between what was intended and what emerged (Figure 7). This separation slows the process and reduces the reactive iteration that can arise when image generation is immediate.

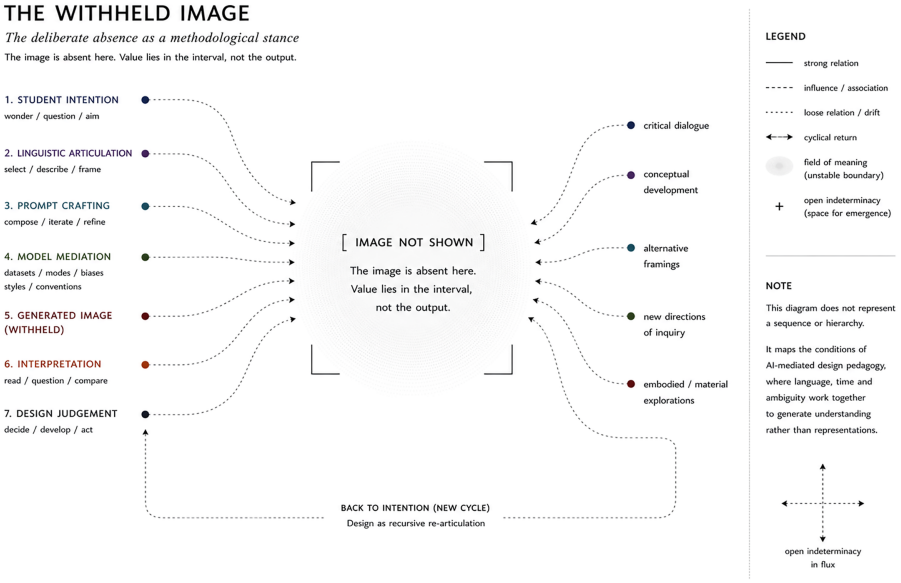

Figure 7. The withheld image: deliberate absence as a pedagogical strategy for slowing AI-mediated design inquiry

Studio schedules might also alternate between intensive AI experimentation and extended periods for conceptual development. A week of rapid prompt iteration, for instance, may be followed by a week of research, reading and reflection, then another week of focused generation informed by that expanded understanding. Such rhythms help prevent the exhaustion that can result from sustained rapid iteration while ensuring that students have time to develop conceptual frameworks guiding their exploration.

Through these strategies, students develop *temporal literacy* as an awareness of how different temporal rhythms support different learning objectives. They learn when rapid generation is productive and when it becomes counterproductive, cultivating the capacity to modulate engagement with time rather than defaulting to continuous acceleration.

5.4 Toward hybrid pedagogical models

Building on the distinctions developed earlier in the paper, hybridity in AI-mediated design pedagogy is understood here as the interaction of temporal, methodological, epistemological and pedagogical modes. What follows elaborates how these modes may be cultivated in studio teaching.

Methodological hybridity involves the integration of linguistic, visual and material modes of design inquiry, with each understood as non-hierarchical and complementary. Studio projects might move sequentially through different methods, beginning with prompt-based exploration to generate formal possibilities, transitioning to drawing and modelling to develop specific directions, returning to prompts to explore variations, using physical materials to test constructional logic and cycling back through methods as needed. Such integration helps students develop facility across multiple methods while understanding the particular affordances and limitations of each.

Temporal hybridity involves cultivating capacities for both rapid iteration and sustained reflection, for productive immediacy and generative delay. Students learn to move deliberately between fast and slow temporalities, recognising when each serves their learning. They develop comfort with rapid exploration, generating abundant alternatives without premature judgement, while also developing the capacity to dwell, sustain attention over extended periods and work through complexity.

Epistemological hybridity involves positioning design knowledge as emerging through multiple practices including making, writing, computing and analysis, thereby deprivileging any single mode. Students learn that architectural knowledge is not located solely in drawings, models or buildings, but distributed across multiple representations and practices. A design project may generate knowledge through prompts as linguistic artefacts, images as visual propositions, models as material investigations, diagrams as analytical devices and writing as theoretical framing or reflection. Each representation yields a different understanding and their integration produces richer knowledge than any single mode could generate in isolation.

Pedagogical hybridity involves combining studio-based learning with seminar discussions, individual exploration with collaborative critique and technical skill development with critical theoretical engagement. AI integration does not replace existing pedagogical practices; it augments them. Studio critiques continue, but now include discussion of prompts alongside drawings and models. Technical workshops teach prompt crafting alongside traditional skills. Seminars examine AI's social implications alongside architectural history and theory.

These models resonate with Thomas *et al.*'s (2022) concept of the hybrid practitioner and align with broader calls for architectural education to develop methodologies adequate to contemporary complexity (Brenner and Schmid, 2015; Iturbe, 2019). Properly conceived, AI-mediated pedagogy can contribute to rethinking how architecture teaches design – not by accelerating outcomes, but by expanding the temporal, conceptual and epistemic space in which learning occurs.

6. Discussion: implications for architectural research and practice

6.1 Design research in the Anthropocene

The preceding analysis situates AI-mediated pedagogy within broader transformations in architectural research and practice, where established disciplinary methods are increasingly recognised as inadequate to address complex, multi-scalar conditions. Rather than restating these conditions, this discussion considers how prompt-based design research reframes architectural inquiry through linguistic mediation, semantic exploration and temporal dwelling.

Prompt-based design does not assume that problems can be fully comprehended or controlled in advance. Instead, it treats indeterminacy as a productive condition, encouraging designers to dwell with problems, explore multiple possibilities and allow understanding to emerge through iterative engagement. In this sense, prompt-based pedagogy supports modes of architectural inquiry and practice that value humility, openness and collaboration across human and non-human actors. By cultivating comfort with ambiguity, facility across multiple representational modes and awareness of how language shapes thinking, AI-mediated pedagogy prepares students for forms of practice characterised by complexity, uncertainty and contestation.

In pedagogical terms, this mode of inquiry can support students in grappling with design situations shaped by uncertain futures, overlapping systems and contested priorities. By enabling the exploration of multiple scenarios and representational possibilities, it can help students think through questions of climate adaptation, ecological interdependence, urban complexity and social contestation as relational problems rather than isolated technical tasks. The pedagogical value here is not that prompting yields objectively better solutions, but that it can expand students' capacity to work with plurality, complexity, uncertainty and relational interdependence in design research.

6.2 Rethinking design authorship and agency

The linguistic mediation of AI-generated design raises fundamental questions about architectural authorship and agency. Longstanding critiques of the architect as singular creative author have already shown that architectural production is distributed across social, material and representational systems (Cuff, 1991; Agrest, 2018) AI tools intensify this condition by further dispersing agency across human intention, computational processes, training datasets and emergent outputs.

Rather than framing this dispersion as a loss of authorship, prompt-based practice suggests a reconfiguration of design agency as orchestration, curation and strategic intervention. Designers do not directly author outcomes, but guide generative processes through linguistic parameters and respond to outputs through iterative refinement. Agency becomes negotiated and emergent rather than imposed.

This understanding resonates with Easterling's concept of *medium design*, which emphasises working with systems, not imposing fixed forms. It also anticipates professional contexts in which architects increasingly collaborate with computational systems to generate options, evaluate performance and automate aspects of production. Prompt-based pedagogy therefore offers a training ground for developing forms of agency appropriate to human–machine collaboration.

Pedagogically, this reframing foregrounds the importance of what Sanders and Stappers (2008) term *co-creation literacies* as capacities for working productively with diverse actors, including non-human computational agents. Students learn to guide without controlling, to influence without determining and to recognise when generative systems should be constrained and emergent directions should be followed. Such judgement is increasingly central to contemporary design practice (Sanders and Stappers, 2008).

6.3 Limitations and critical considerations

Despite its pedagogical potential, AI-mediated design raises significant limitations and ethical concerns that must inform responsible educational integration. First, generative systems risk

reproducing aesthetic conventions and cultural biases embedded in training data. Text-to-image models are trained on large-scale image datasets that reflect dominant cultural perspectives and stylistic norms. As a consequence, architectural prompts often default to Western canonical styles, while representations of people and place may reinforce stereotypes or exclusions.

Responding to this requires the development of critical literacies that enable students to interrogate AI outputs and not accept them at face value. Pedagogical strategies might include analysing generated images as evidence of training bias, deliberately crafting prompts that challenge default assumptions and comparing AI outputs with researched precedents to identify distortions and omissions.

Second, privileging linguistic mediation risks excluding students whose strengths lie in visual, spatial or kinaesthetic modes of thinking. Prompt-based pedagogy must therefore complement other design approaches. Inclusive studio models should offer to maintain multiple pathways to design inquiry, ensuring that linguistic, visual and material modes remain in productive dialogue, not hierarchical opposition.

Third, the environmental costs of AI computation raise critical ethical questions. Training and operating large-scale AI systems require substantial energy consumption and material infrastructure, contributing to carbon emissions, resource extraction and electronic waste (Crawford, 2021). While each instance of image generation may appear negligible, but cumulative impacts are not.

Responsible pedagogy must engage these material realities explicitly. Educators can encourage judicious use of generative tools, integrate discussion of AI's environmental footprint into design ethics and situate AI within broader critiques of architecture's role in planetary-scale environmental degradation (Iturbe, 2019).

Finally, the rapid evolution of AI technologies means that specific tools and interfaces will continue to change. Architectural education should therefore prioritise transferable competencies, including semantic literacy, temporal awareness, critical judgement and ethical reflection. Prompt-based pedagogy is most valuable not as training in current tools, but as a means of cultivating adaptable, reflective practitioners capable of engaging critically with future technologies.

7. Conclusion: toward temporal and ontological expansions

This paper has argued that AI-mediated prompt crafting reshapes the temporal and ontological conditions of architectural design pedagogy by positioning language as a generative medium of spatial inquiry. Rather than understanding generative AI primarily through the speed of its outputs, the paper has shown that meaningful engagement with prompt-based systems depends upon forms of delay, reflection and iterative linguistic articulation. In this sense, prompting is not simply a technical procedure. It is a hybrid practice through which design learning is reorganised across temporal, methodological, epistemological and pedagogical registers.

By introducing the concept of *dwelling in the delay*, the paper has proposed that the apparent immediacy of AI-generated imagery conceals a more complex pedagogical temporality. Prompt crafting creates intervals in which students must clarify intentions, negotiate ambiguity and work through the relation between language and spatial imagination. These intervals are pedagogically significant because they interrupt the compression of studio time around rapid visual resolution and reopen space for conceptual development. In this way, AI-mediated pedagogy can support slower and more reflective forms of design inquiry even within accelerated technological environments.

The paper has also argued that AI prompting reconfigures assumptions about how architectural knowledge is produced. When language becomes a primary interface for design generation, writing no longer sits outside the design process as explanation or commentary. It becomes operative within design itself, shaping images, scenarios and spatial possibilities

through semantic construction. Prompt crafting therefore reveals the extent to which architectural thinking has always been mediated by language, even where design culture has tended to privilege visual and material modes of practice. As Pasquinelli's (2019) genealogy of algorithmic thinking suggests, this mediation is not a novel condition introduced by AI, but one that runs through the long shared history of spatial and computational reasoning.

From a pedagogical perspective, this requires architectural education to move beyond instrumental accounts of AI as a tool for efficiency, automation or output generation. What is at stake is not simply whether students can use these systems competently, but whether pedagogy can cultivate the literacies and critical capacities needed to engage them reflectively. Prompt literacy, temporal literacy and critical AI literacy together suggest a broader educational task that prepares students to work across linguistic, visual, material and computational modes while remaining attentive to bias, environmental cost and the politics of representation.

The argument advanced here suggests that AI-mediated pedagogy may contribute to rethinking architectural research and practice under contemporary conditions of uncertainty and complexity. If architectural education is to respond adequately to the demands of the Anthropocene, it must cultivate forms of inquiry capable of working with indeterminacy. In this context, prompt-based design is valuable not because it resolves complexity, but because it offers a medium through which complexity can be explored, narrated and critically negotiated.

Ultimately, the significance of generative AI for architectural education lies less in the automation of design than in the reorganisation of design thought. To *dwell in the delay* is to recognise that the pedagogical value of AI does not reside in immediacy alone, but in the reflective intervals, semantic negotiations and hybrid forms of inquiry that its use can open. Approached critically, prompt crafting can become a site through which architectural pedagogy deepens its temporal awareness, expands its representational literacies and reconsiders the conditions under which design knowledge is formed.

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