Harmonizing Worldviews

The Transformative Power of Artistic Research within Design Education

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12. Harmonizing Worldviews: The Transformative Powers of Artistic Research within Design Education

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Introduction

Artistic practices, described as performative acts, possess a unique capability to influence and reshape our perceptions of the world, often affecting us on a profound, moral level (Borgdorff, 2006). This transformative potential becomes especially significant when addressing divergent worldviews, where individuals are typically aware only of their own assumptions about reality (Kottko, 2004). Artistic research serves as an essential tool in bridging these diverse perspectives, acting as a unifying force that brings different viewpoints closer together. As Christopher Frayling (1993) suggests, it is akin to a prelude in music, wherein the composer experiments with harmonies that will later define the main composition.

Although artistic research has historically been intertwined with (applied) art practice, its formal integration into design education in the Netherlands remains limited (Van Middelkoop, 2025). However, this study offers insights that may also be valuable to other educational institutions on all levels (mbo, hbo, wo) whose legitimacy in educating designers is challenged by political, socio-economic and technological changes.

This chapter advocates for greater recognition of the value of artistic research within design education, using a case study of the creative secondary vocational school SintLucas to demonstrate how design researchers can benefit from the methodologies and insights of artistic research, particularly in educational settings. By doing so, it seeks to establish common ground with other contexts where artistic research plays a crucial role, especially in design research processes that prioritize reflective exploration over fixed outcomes and that take place within as well as beyond the creative industries.

Theoretical (Un)framework

Artistic research has gained increased legitimacy and recognition in recent years due to various cultural, institutional, and disciplinary developments. For example, traditional academic frameworks have broadened to recognize that knowledge can be generated and communicated through practice (Borgdorff, 2012), and postmodern

and post-structural critiques of objectivity and universal truths (Lyotard, 1979), have increased openness to alternative methodologies, including embodied, performative, and experiential forms of inquiry (Barrett & Bolt, 2014; Biggs, M. & Karlsson, 2011; Haseman, 2006) that argue for the legitimacy of "knowing-in-action" (Schön, 1983).

The creative process as an active form of inquiry is exemplified in both artistic research and Research through Design (RtD). Applied design research aligns naturally with the RtD framework (Stappers & Giaccardi, 2014), as both prioritize creative exploration and knowledge generation through design practice. RtD gained institutional recognition due to its ties to technological innovation and human-computer interaction, benefiting from its alignment with industry needs. However, it has increasingly been evaluated based on functionality, usability, and interaction; criteria not only tied to empirical improvement but also critiqued for reinforcing market-oriented, neoliberal practices. In contrast, artistic research emphasizes ambiguity, critique, and speculative narratives. These approaches have not only gained value in cultural studies and the humanities but have also underscored the field's relevance in addressing urgent global challenges.

Little 'r'

While the establishment of dedicated research programs, practice-based PhDs, and funding for artistic research projects has led to its modest integration into higher vocational and (applied) university education in the Netherlands, the potential of artistic research remains largely overlooked in secondary vocational education (Van Middelkoop, 2022). Yet, the concept of "research with a little r" (Frayling, 1993), deeply rooted in the traditions of art education and practice, closely aligns with the goals of vocational training, which focuses on developing skilled professional practitioners.

Before RtD and artistic research evolved into their current separated forms, Frayling identified three distinct approaches to research in art and design: (1) "research into art and design," (2) "research through art and design," and (3) "research for art and design." Using Frayling's three approaches as a framework

for examining contemporary design education in secondary vocational settings, there is a notable lack of historical "research into (contemporary) art and design" education within this context (Van Middelkoop, 2025). In contrast, "research (conducted) for [the purpose of] art and design [production]" is well represented, often involving visual research or other forms of making that directly shape the final outcome of the design process, frequently cited as the primary rationale for engaging in research (Van Middelkoop et al., 2025). However, when the emphasis shifts to the process itself, with the result being more open-ended, new insights can emerge directly from the act of creation.

Both tangible and iterative, the approach in which "research [is conducted] through art and design" holds significant potential, particularly in contexts where making is considered "second nature," such as at creative secondary vocational school SintLucas in the Netherlands. Here, the artistic experience is an active, creative, and aesthetic process where form and content are inseparably linked. This contrasts with other types of implicit knowledge, which can usually be considered and described separately from how it is acquired (Klein, 2010). During research, artistic experiences can arise at various moments, with differing durations and levels of significance. As Klein (2010) notes, this complexity makes it challenging to categorize projects but also enables a dynamic approach to classification: at what stages and in which phases can research be considered artistic? And furthermore, in what contexts?

While some used to argue that artistic knowledge must be verbalized to be comparable to declarative knowledge about facts, concepts, or "what" something is (Jones, 1980) before it could gain value, others claim that the knowledge and therefore its value are embodied in the (semi-)finished products of the creative process itself (Lesage, 2009). As such, it can only be understood through sensory and emotional perception, from which it cannot be separated; artistic knowledge is embodied knowledge (Klein, 2010).

Expanding Notions of Knowledge Production

The concept of embodied knowledge emerged in different forms as early as the 1940s through the works of phenomenologists like Merleau-Ponty who said that "the body is our general medium for having a world", but it gained traction across disciplines by the 1950s and 1960s when Polanyi claimed that through *tacit knowledge* "we know more than we can tell" (1966) and further developed in the 1980s and 1990s through cognitive science and reflective practice in design and education (Schön, 1983). Today, embodied knowledge remains central in discussions of artistic and design research, emphasizing the physical, experiential, and material aspects of learning and knowing, emphasizing the relevance of 'making' as a didactic principle (Van Middelkoop et al., 2024).

Context

Although the overarching perspectives through which the world is understood vary across institutions offering design programs in the Netherlands, the design process that students experience shares common elements across different educational levels. Whether in vocational schools (*vakscholen*) and Regional Education Centers (*ROCs*) in secondary vocational education (mbo), universities of applied sciences and art academies (hbo), or scientific education (wo) at general and technical universities (Van Middelkoop & Pescatore Frisk, 2024), certain foundational steps are present in many design methodologies. So, while the idea that the design process is flexible and adaptable rather than entirely universal is a common viewpoint in design theory, it typically follows a general framework. This includes a research and discovery phase, an ideation phase, prototyping, testing and evaluation, and implementation. Depending on context, discipline, and individual approaches, each design— even 'wicked' problem—requires a tailored approach (Buchanan, 1992) along with 'reflection-in-action' (Schön, 1983) allowing for real-time adjustments throughout the process.

This 'reframing' is exemplified in the set-up of the *Practorate Meaningful Creativity*, the first practice-based research professorship (*practoraat*) at secondary vocational school SintLucas, that conducted studies, practical experiments and theoretical (ground)work from August 2021 until July 2024. The practorate began with a profound and open-ended question regarding the future of the organisation it was part of: 'Will our school still [have a right to] exist in 2050?' and the following intention to 'un-blackbox' the overlooked potential of creative Secondary (TYP-O!) vocational education to show its relevance for the future (Van Middelkoop, 2022).

Through iterative adjustments driven by new research insights and unexpected challenges and outcomes, this case study highlights the open-textured nature of design (Van Middelkoop, 2025) and underscores the crucial role of artistic research within an applied design research process.

Methodology

The primary research approach within the practorate was Research through Design (RtD), chosen for its interdisciplinary nature and emphasis on iterative prototyping, which aligned well with the hands-on learning environment of a creative secondary vocational school like SintLucas. However, the concept proved difficult for all stakeholders to fully grasp. While they used the same terminology, terms like "research" and "design" often carried different meanings for different individuals.

Instead of getting bogged down in debates over terminology, we shifted our focus to making and experimented with different ways to engage our stakeholders. Recognizing that not all actions could be meticulously planned in advance, we prioritized thorough documentation of the research process for future reflection and critical analysis; capturing trials, errors, and insights using whichever format or methodology best suited the context.

Before we could apply a similar approach to addressing the main research questions that formed the foundation of the three-year research program, we first had to overcome a significant obstacle: obtaining approval for the *practoraatsplan*, which had to adhere to a fixed, predetermined format.

Form Follows Template?

This requirement stems from the fact that in vocational education (mbo), the development of practorates is not yet as extensive or systematically structured as that of lectorates in higher vocational education (hbo) (Andriessen et al., 2023). To enhance the quality of practorates, *Stichting Practoraten.nl* published a white paper in 2020 outlining quality criteria for practorates (Stichting Practoraten.nl, 2020). A national quality committee oversees these standards and provides a framework to ensure consistency and improvement. The committee reviews the plans of emerging practorates (*practoraatsplan*) using an appreciative, development-focused approach to ensure they meet the established criteria.

To have the research design of the *Practorate Meaningful Creativity* reviewed and approved, we were required to submit a standardized *practoraatsplan* template. This form (Practoraten.nl, 2017) was divided into fixed sections following a linear sequence:

- **Principles of the practorate** (e.g., "Briefly and concretely describe the reason for establishing a practorate," and "Describe the goals, outcomes, and impacts using Specific, Measurable, Acceptable, Realistic, and Time-bound criteria.")
- **Phasing and planning** (e.g., "Indicate the phases of the practorate, the planned activities, and the expected results.")
- **Partnership and organization**
- **Monitoring and research**

While such a structure may simplify the review process by offering clear evaluation criteria, presenting it as a strict guide can, as demonstrated in this case, constrain experimentation and innovation by imposing a rigid framework. Instead, we adopted an

iterative design process, moving fluidly between problem framing and experimentation. Therefore, the final template was only completed after the research design was firmly established through (reflecting on) designing a series of artifacts.

Speculative Futures Roadmap

An open question about the future can be approached in many ways, depending on the disciplinary focus, agenda, origin of the question, and the availability of data or evidence. To explore this, we employed a *speculative futures roadmap* (Van Middelkoop, 2022) gathering a small but diverse group involved in the development of a Center of Expertise at SintLucas, where the practorate would act as a catalyst. Together, we reconstructed some key events leading up to the decision to establish the practorate, blending a chronological sequence of both recontextualized and previously decontextualized events, current trends, forecasts, unknowns, and uncertainties from professional, personal and even posthumanist perspectives. This process led to the formulation of various rough scenarios and potential outcomes for the practorate in both the short and long term, raising new questions and highlighting potential risks as we projected further into the future. What stood out where the lack of a shared historical awareness, the specificity of some entries compared to others, the differences in proximities of the futures that were projected, the apparent personal 'signatures' of the participants highlighting a wealth of different expertise and interests, and the need for a clear artistic vision, or at least a common goal to strive for.

Position Paper

This vision was captured in a position paper that articulated a clear stance on the future role of creative professionals: "Creativity is essential. By combining our efforts, the collective strength of the creative industry can address the complex challenges of our time, develop alternative future scenarios, and generate societal impact like no other domain. Vocational education (mbo), where ideals are put into practice, lies at the heart of this 'creative consortium.'" In addition to clearly stating the importance of creative secondary vocational education, the position paper aimed to support

this perspective with evidence and persuade its audience to understand, accept, and engage with the practorate's vision. Offering a context for a series of provocative memes, it also served as a stepping stone for future speculations.

Wiki

With a clearly formulated mission in place, one immediate obstacle still had to be addressed: the term 'meaningful creativity,' a construct coined from a survey exploring the general concept of creativity at SintLucas. To clarify the position of the practorate bearing this name, a wiki (in Dutch) was created to provide a working definition for the professorship, with the flexibility for future adjustments: "Creativity is meaningful when it can be sustainably applied in a broader societal context" (Practoraat Betekenisvolle Creativiteit, 2021). When the opportunity presented itself to change the name of the professorship, we deliberately decided to stick with 'meaningful creativity' and build on, and make explicit what was already there, instead of starting over again (and again).

Tacit Knowledge

Tacit knowledge, the implicit, intuitive understanding that artists and (most) designers rely on during their work (Schön, 1983), played a significant role in the process of finalizing the *practoraatsplan* and the years that followed after the plan and research objectives were approved. It enabled the practor to improvise and adapt her actions based on the situation, even when the reasoning behind her decisions wasn't always clearly articulated. This ability to improvise proved crucial in navigating the hidden complexities, unknowns, and uncertainties within the organization.

Retrospective Traceability

It also points out the need for the 'retrospective traceability' and 'reflective methodology' (Haarmann, 2024), a "thoughtful methodology" (Haarmann, 2019), which allows the path of knowledge to become clear in hindsight, only after the artistic

process has been carried out. This framework aligns with the idea that artistic research generates knowledge in ways that differ from traditional scientific methods, highlighting the unique cognitive potential of art as a form of inquiry and exploration.

Visual Markers

To make the path of knowledge clearer in hindsight, visual markers; tangible, experiential, or symbolic elements that document, inform, and guide the creative and reflective process, play a pivotal role in artistic research. Functioning similarly to boundary objects (Star, 2010), they facilitate communication and collaboration across disciplines, stakeholder groups, and research participants.

By visually documenting iterative changes and prototypes in chronological order, an overview of visual markers serves as a reflective tool for assessing research directions while also communicating findings to stakeholders, including research members of the practorate. This approach enhances reflexivity, fosters co-creation, and encourages participants to externalize their thought processes, improving both internal and external communication.

This “design pedagogy” extends beyond students to all participants in the research process. Moreover, it has the potential to enrich learning by accommodating diverse perspectives and supporting the communication of non-linear research processes. In this way, visual markers are not merely documentation tools but active agents that shape the research journey and its outcomes.

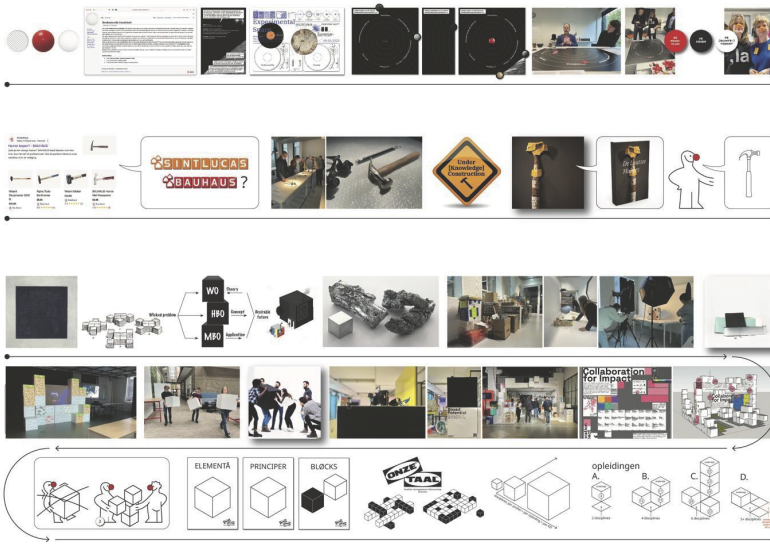

Figure 12.1. Visual markers used in the (Artistic) Research through Design process of the Practorate Meaningful Creativity served as signposts for creative inquiry, aiding in the externalization of ideas, reflections, and discoveries. They traced the development of concepts, tested new directions, and facilitated the communication of findings within a broader research framework. Together, these markers formed a visual narrative, capturing the artistic journey that unfolded over the course of four years.

Analysis

The research project of the Practorate *Meaningful Creativity* was divided into three distinct phases: a 9-month preparatory phase dedicated to establishing the research design, a 3-year research period, and a 4-month reflection and wrap-up phase. Analyzing the visual markers produced throughout the practorate's activities reveals how *Meaningful Creativity* not only navigated the internal research landscape within the educational institution but also enhanced its external positioning.

From the visual data collected between summer 2020 and fall 2024, three key concepts emerge: **the sphere, the hammer, and the black box.** These concepts encapsulate the thematic and methodological insights gained during the practorate's timeline and serve as symbolic representations of its evolving research trajectory and impact.

The Sphere

The discourse of the sphere begins with an 'empty container,' symbolizing both the absence of relevant content at this stage of the process and the vast range of potential directions to explore. As the constructed term meaningful creativity takes shape and becomes a dynamic node within a much larger universe, its interconnections and interdependencies with other stakeholders continue to evolve and expand.

The Hammer

Amid today's rapid technological advancements, we often overlook the simple tools readily at hand. As a symbol of the default, the hammer serves as a powerful reminder of the creative agency that defines us as human; distinct from both other beings and machines. Regardless of how much the world changes, our bodies, through which we engage with and operate these tools, remain our primary medium for experiencing and shaping the world itself.

The Black Box

The black box embodies both a challenge and a source of inspiration. When approached not as an obstacle but as a catalyst for change, its potential applications become boundless. Like the millions of pixels that form an image on a screen, its meaning depends on whether we choose to decipher the composition or embrace the mystery. While individual elements may feel fragmented or overwhelming in isolation, their true power emerges when they converge, transforming complexity into collective strength.

Findings

Beyond the valuable insights that this case provides into the challenges and strategies of establishing a research professorship in creative secondary vocational education, artistic research can play a transformative role in applied design research by introducing critical, speculative, and reflective practices that challenge assumptions, foster creativity, and expand the scope of design outcomes.

Method	RtD Use	Added Value of Artistic Research
Prototyping	Iterative exploration	Critical prototypes and provocations
Speculative Design	"What if" scenarios	Critical fiction, alternative futures
Critical Reflection	Reflection-in-action	Reflexivity, positionality, ethics
Aesthetic Inquiry	Functional aesthetics	Emotional, sensory, symbolic richness
Sensory Engagement	UX and usability	Embodied, multi-sensory design
Participatory Design	User-centered design	Co-creation, critical engagement
Role-Play and Embodiment	Persona design	Movement, bodily experience

Table 12.1. Examples of how Artistic Research increases the Value of Research through Design (RtD).

Further Research

(Re)integrating artistic components into Research through Design (RtD) approaches makes them more critical, reflective, inclusive, and broadly applicable. By shifting the focus beyond problem-solving and short-term objectives, this renewed balance—grounded in the principles of "Research in Art and Design" (Frayling, 1993)—enables the development of aesthetic, social, and ethical interventions that provoke deeper reflection and foster a more profound understanding of the human experience.

A key strength of this approach lies in its emphasis on tacit knowledge, aesthetic inquiry, and speculative exploration. However, integrating artistic research also presents challenges related to rigor, reproducibility, and the dissemination of knowledge. For instance, for visual markers to function effectively as boundary objects, researchers must remain mindful of their interpretive limitations and ensure their use is inclusive and accessible to diverse audiences.

Such limitations highlight the need for further research and methodological innovation, particularly in establishing clearer standards for validating and sharing tacit, embodied, and experiential knowledge within and beyond artistic research contexts.

Conclusion

Artistic research can serve as a critical, speculative, and reflective counterpart of applied design research, expanding the scope of inquiry and deepening the exploration of meaning, aesthetics, and ethics. By integrating artistic research into applied design processes, researchers and practitioners can move beyond utilitarian concerns to engage with larger philosophical, cultural, and speculative questions. This can lead to more thoughtful, innovative, and impactful design outcomes that do not merely respond to immediate needs but also provoke reflection, challenge norms, and imagine new ways of being in the world.

Key Takeaways

To enable artistic research to reach its full potential, several key conditions must be met:

- **(Critical) Making Matters Most:**
  Ideas must be materialized, whether in tactile or digital forms, to be experienced and to create meaningful impact. This necessitates a focus on *critical makership*, where the act of creating is both a process of inquiry and a means of communication.
- **Space for Experimentation and Reflection (Academic x Artistic Freedom):**
  Artistic research requires room for experimentation, including the freedom to reflect critically on both successes and failures. Trust among stakeholders is essential to foster open collaboration. An expert with practical experience in both artistic research and applied design research should lead the process to provide clear guidance and maintain coherence.

- **Shared Quality Standards for Artistic Output and Knowledge Creation:**
  Clear quality standards for artistic outcomes must be established, understood, and embraced by all stakeholders. To uphold these standards, a clear mandate must define who is and remains responsible for their development and oversight.

By meeting these conditions, applied design researchers can not only thrive but also contribute more effectively to innovation, critical inquiry, and creative exploration.

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