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Darker affordances: Values as vulnerabilities in an age of disinformation

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Abstract: In an age of pervasive disinformation, values function as conceptual anchors for comprehending complex information. Design-for-values approaches typically frame values as alignment opportunities. But the same values that enable ethical, resonant communication can also be exploited for manipulative and unethical purposes. This paper argues that values in graphic communication design function as 'darker affordances' — relational properties affording both ethical communication and manipulation with equal reliability. Drawing on Master's students' reflections from a project in which they designed paired climate communication — one ethically aligned, one disinformation — targeting identical audiences and values, it examines how contrastive pedagogy develops ethical literacy around values' dual nature. Analysis reveals three findings: creating disinformation is structurally easier than ethical communication; confronting this asymmetry triggers an epistemological crisis about design's agency; and recognising values' dual potential collapses ethical/unethical binaries, requiring reasoning within moral ambiguity. This research extends design-for-values scholarship by demonstrating that values' stability as anchors for meaning-making is precisely what makes them reliable targets for manipulation.

Keywords: value sensitive design; affordances; climate disinformation; design pedagogy

1. Introduction

Climate communication occurs in an environment saturated with disinformation, where the same values that enable ethical messaging are systematically exploited to generate resistance to climate action. For graphic communication designers learning to create values-based messaging, this presents an uncomfortable reality. The techniques they master can be deployed toward opposing ethical ends.

Design-for-Values (DfV) scholarship frames values as alignment opportunities, offering systematic methods to identify stakeholder values and design systems that support them (Friedman et al., 2017; Van den Hoven et al., 2015; Stone, 2021). Yet in polarised domains like climate communication, multiple actors compete to leverage the same values toward conflicting goals. While research increasingly promotes values-based framing to reduce

public skepticism (Hornsey & Lewandowsky, 2022), what remains under-explored is how these same insights, which enable ethical communication, also create exploitable vulnerabilities.

In this paper, I argue that values in graphic communication design (GCD) function as 'darker affordances' (after Gibson, 1979) — relational properties that can facilitate both ethical communication and manipulation. The stability that makes values effective anchors for meaning making is precisely what makes them reliable targets for disinformation.

Drawing on reflections from Master's-level design students who created paired climate communication—one ethical, one disinformation—targeting the same audiences and values, I examine how designers develop ethical literacy around values' dual nature through contrastive practice. Analysis of student reflections reveals three key findings: (1) creating disinformation is structurally easier than ethical communication, (2) confronting this asymmetry triggers an epistemological crisis about design's agency, and (3) recognising values' dual potential collapses ethical/unethical binaries, requiring reasoning within moral ambiguity.

This paper makes two contributions. Theoretically, it extends DfV scholarship into GCD by demonstrating that values function as affordances with inherent dual potential, extending frameworks that position values primarily as alignment opportunities. Pedagogically, it introduces "critical pairing" as a method for developing designers' capacity to work ethically in contested contexts where values create vulnerabilities as well as opportunities.

2. Background & context

2.1 The darker affordance of values

Design-for-values (DfV) and Value Sensitive Design (VSD) approaches distinguish themselves from traditional design methods by systematically addressing human values throughout design processes (Friedman et al., 2017; Van den Hoven et al., 2015). Rather than seeking simple alignment, these frameworks aim to identify, negotiate, and integrate diverse stakeholder values (Bos-de Vos, 2020). Key challenges include discovering relevant values, translating them into design characteristics, choosing between competing values, and verifying their embodiment (Van de Poel et al., 2014).

However, this scholarship has largely developed in design contexts where such challenges can be addressed through direct engagement with stakeholders using participatory methods (Umbrello et al., 2021; Stone, 2021; Bos-de Vos, 2020). While these approaches have generated rich insights into value negotiation in collaborative design processes, less attention has been paid to how these challenges manifest in mass communication contexts.

This gap is particularly evident in Graphic Communication Design (GCD), where values are primarily invoked through representation, rhetoric, and framing (Hirschmann, 2025; Hullman & Diakopoulos, 2011). This semiotic orientation means that discovering, translating, and verifying values occurs through audience research, testing, and iterative refinement of the communicative relationship between designer, artefact, and audience, rather than through collaborative negotiation. The challenges of value-based design remain, but the methods and stakes shift significantly.

Furthermore, the literature has yet to examine how values can be weaponised in contested domains. While scholarship acknowledges that values are *"multidimensional and continuously in flux"* and involve *"integrating various, often divergent values"* (Bos-de Vos, 2020, p. 39), it largely focuses on beneficial applications. Elsinga (2020) recognises that making *"implicit moral values more explicit"* (p. 1) is central to ethical design practice, but in mass communication contexts this explicitness creates a critical vulnerability. Once audience values are identified through segmentation or research, they become tools that can be deployed both ethically and manipulatively.

2.2 Values as affordances in graphic communication design

Affordance theory offers a useful lens for examining this vulnerability. Traditionally applied to product and interaction design, it has increasingly informed graphic design research, recognising that visual and rhetorical elements shape possibilities for audience engagement (Wang, 2024; Pan et al., 2024). Recent scholarship shows that visual elements do not simply convey meaning; they afford meaning-making through cognitive affordances that *"influence cognitive actions"* (Fygenson et al., 2025, p. 8). This shift from information transmission to affordance reframes graphic communication design as creating relational possibilities between form and perception rather than simply encoding fixed messages.

Within this process, values function as guiding principles; criteria that *"people use to evaluate and select their behaviour and give meaning to what they consider important in life"* (Schwartz & Bilsky, 1987, cited in Bos-de Vos, 2020, p. 41). Values therefore operate as conceptual anchors. Relatively stable reference points that help audiences orient themselves within complex or contested information environments. In climate communication, values serve as a bridge between abstract climate data and what people already care about (e.g., security, tradition, justice, place). This shapes whether information is seen as relevant or threatening (Corner et al., 2014; Schoenefeld & McCauley, 2016)

A value affords meaning-making precisely because it is recognisable, trusted, and actionable within a specific cultural context (Morgagni et al., 2012). In GCD, values are neither intrinsic properties of messages nor purely subjective interpretations. Rather, they emerge through the coupling between communicative intent and audiences' acts of sense-making (Gibson, 1979; Chemero, 2003). For example, the value of *"family security"* can connect climate action to protecting children's futures, yet it can equally afford narratives that climate policies threaten economic stability and thefrore family security. The same value affordance thus supports opposing epistemic and moral interpretations (Cremades & Stella, 2022; Spampatti et al., 2023).

However, the same conceptual anchors that enable ethical, resonant communication can also be exploited manipulatively. Gibson (1979) argued that *"The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill"* (p. 127). As Scarantino (2003, p. 949) clarifies, affordances simultaneously hold threats (negative affordances) and promises (positive affordances). Extending this to values provides a framework for understanding values' dual potential. The same value that enables ethical, resonant communication can also afford manipulation. The stability that makes them reliable anchors for meaning-making is precisely what makes them targets for disinformation. I refer to this as the darker affordance of values.

Affordance literature increasingly recognises that design possibilities can be harmful as well as helpful, including *"false affordances"* that mislead users (Falahatpisheh et al., 2020) and *"disaffordances"* that discriminate through exclusion (Wittkower et al., 2017). Yet this scholarship has largely focused on design failures or explicit exclusion. The darker affordance of values suggests a deeper duality at the core of values-based communication — one present in Gibson's original formulation, but not yet examined in relation to how values function in contested communication contexts.

Recognising these darker affordances extends DfV scholarship to contexts of polarisation, where values function simultaneously as bridges for ethical communication and as vulnerabilities for manipulation. In climate communication, disinformation campaigns exploit precisely the same values that ethical communicators use to build trust and resonance. These are not opposing sets of “good” and “bad” values; rather, they are the same affordances mobilised toward competing moral and epistemic ends.

The pedagogical intervention described in this paper engages directly with this duality, asking students to experience how the same values can anchor both ethical communication and manipulative disinformation. In doing so, it explores vulnerabilities that DfV scholarship has yet to systematically examine.

2.3 Critical pairing pedagogy

Graphic communication design education frequently employs *optioning*: a process in which students develop multiple solutions to a given design problem. Optioning encourages divergent thinking and can reveal novel solutions that might not emerge from a single approach (Lazar-Kurz & Brown, 2024; Woodbury et al., 2017).

This study repurposes optioning as critical pairing. Students produce communicationtwo designs targeting the same audience and values—one ethical and one disinformation. This makes the dual nature of values experiential. Learning emerges from deploying identical value insights toward opposing communicative ends.

This framing positions critical pairing as both a pedagogical method and a site of inquiry. Design knowledge is widely understood to develop through practice—through making, experiencing, and reflecting (Cross, 1982, 2006; Schön, 1983; Gericke et al., 2022; Papalambros, 2020). By operationalising the dual potential of values through design practice, the exercise makes the “darker affordance” empirically observable. Students enact how the same value insights can enable *either* ethical *or* manipulative communication. The following section outlines how this exercise was implemented and how student reflections were analysed to examine the development of ethical literacy through this process.

3. Methodology

This study examines how design students develop ethical literacy through critical pairing. Eight Master’s-level students completed a five-week climate communication project titled *Climate Truth*. Each student was assigned an audience segment from *Britain Talks Climate* (Climate Outreach, 2020), a framework that characterises the British public according to values and climate attitudes.

Students first created a value–vulnerability map linking their assigned segment's values to potential disinformation vulnerabilities. They then applied the FLICC framework (Fake experts, Logical fallacies, Impossible expectations, Cherry picking, and Conspiracy theories) (Zanartu, 2024) to produce two pieces of communication: one that authentically aligned with audience values to promote climate action, and one that exploited those same values through disinformation to undermine engagement. This contrastive design process was intended to make visible how values operate as conceptual anchors—affording both ethical communication and exploitation with similar reliability.

3.1 Data

The dataset consists of eight students' final project submissions, analysed after grading was complete. Each student submitted:

1. a 10-page visual essay, with the final page dedicated to ethical reflections on the design process
2. a 1,500-word annotated bibliography documenting how readings informed their thinking about values, persuasion, and the boundaries between ethical communication and manipulation.

The final designs (both ethical and disinformation examples) and the value–vulnerability maps provided additional context for interpreting student reflections.

3.2 Analysis

Student reflections were analysed using the Framework Method (Gale et al., 2013) to identify patterns and themes across the dataset. All materials were read multiple times, with initial codes generated inductively using in-vivo coding. Codes were then clustered into broader themes aligned with the study's theoretical and pedagogical focus.

Rather than seeking consensus, the analysis emphasised the range and diversity of student responses, noting where students drew different conclusions from the same pedagogical exercise. This approach foregrounds the multiplicity of ethical interpretations and highlights how students engaged with values as affordances.

3.3 Ethics and positionality

Analysis occurred only after grading was complete to ensure that participation did not influence assessment. The study received institutional ethics approval, contingent on written consent and assured anonymisation.

As course tutor and researcher, I occupy a dual insider position. This provided contextual insight into students' processes while requiring reflexive awareness of potential power dynamics in interpretation. To mitigate bias, student voices are foregrounded through direct quotation, enabling readers to assess interpretations directly.

The project design—requiring students to create disinformation—also raises meta-ethical considerations. Although this could risk normalising manipulative practices (Bastick, 2021), it was pedagogically justified as a means of developing critical literacy around value exploitation. By making the dual potential of values experiential, the exercise equips

students to recognise and ethically counter manipulation, reinforcing the broader goal of responsible design in disinformation-saturated contexts.

4 Findings

4.1 Finding 1: Asymmetry — "It's easier to lie"

The project revealed a fundamental asymmetry: producing convincing disinformation was far easier than creating accurate, evidence-based climate messages.

> "One key reflection is that it is much easier to misconstrue than be straightforward and well researched." (Participant A)

> "When being accurate and factual no longer matters, you can let your imagination run wild. Plausibility is the only restriction - and even that's not really true […] the wilder the claim the more likely it is to be shared." (Participant B)

This imbalance became particularly stark when students applied the same audience insights to both tasks. Using the same emotional hooks to promote truthful communication felt qualitatively different, highlighting how identical techniques required radically different effort depending on ethical commitment.

> "After finding appropriate hooks for Disengaged Battlers when making disinformation it felt strange to use this method for designing positive climate messaging." (Participant A)

Ethical communicators are constrained by accuracy and accountability, whereas disinformation exploits emotional and cognitive vulnerabilities without such limits.

> "Feeding into the already misunderstood area is how it's done. Exploiting emotions, values, and beliefs to misdirect people when they don't hold expert knowledge, while also being unaware of ways of validating it, is how it's practiced. Power and authority play a massive role." (Participant F)

However, not all students found deception easy. Some resisted disinformation on ethical grounds, though this resistance itself revealed the asymmetry.

> "I found it difficult to make things up. I guess maybe it's a habit that one can develop. I've always felt very strongly about the truth being important so it was difficult to break that. But I imagine that once the cat is out of the bag it's difficult to put it back in and people who create disinformation - like with anything that is practiced - keep getting better and better at it." (Participant C)

Technology amplifies this imbalance, with AI as a force multiplier for disinformation.

> "This has become a lot easier and a lot quicker with AI. AI can feasibly churn out huge numbers of carefully crafted and targeted disinfo campaigns, quickly and cheaply." (Participant B)

Lower accuracy standards accelerate production, favouring the misleading over the truthful.

4.1.1 Implications: designers must work harder to tell the truth

The discovery of asymmetry had profound implications for how students understood their role as designers. The tension between ethical commitment and strategic effectiveness ran throughout the project.

> "Instead of writing a loud climate lie, I designed something quieter — a Facebook post that could live in a feed without raising alarms. That's a different kind of complexity to communicate: not just what we say, but how real it feels. Could I make something persuasive but uncomfortable? Could I learn from how 'bad design' works without glorifying it? That tension ran through this whole project." (Participant D)

> "This kind of large-scale conspiracy disheartens my belief in design and clear communication to effect positive change because it seems the rules and playing field keep changing - there is no reliably common 'common sense'." (Participant A)

This recognition created ethical tension. Accepting ethical limits meant accepting strategic disadvantage.

> "Climate communication is almost impossibly complicated to get right... when the stakes are so high, should we use the same tricks as disinformation?" (Participant B)

> "I felt concerned about how easy it was to actively perform a form of manipulation through this approach. The data source could be mentioned, but the message around it could still make an impact on how you make the audience perceive it." (Participant F)

For others, this asymmetry clarified professional responsibility.

> "As designers working in disinformation spaces it is our responsibility to stay aware and educated of these developing methods and design in ways that actively counter industrial disinformation, focusing on clear and transparent communication that embeds humanness through its imperfection, claiming no flawlessness but embracing the variation in experience." (Participant A)

Asymmetry became not an excuse for cynicism, but a call to elevate truth-telling in an environment that no longer structurally rewards it. For several students, however, recognising this asymmetry did not simply clarify their professional responsibilities—it also destabilised deeper assumptions about what design can realistically achieve.

4.2 Finding 2: Epistemological crisis: Confronting design's limits

For some students, this confronting asymmetry triggered an epistemological crisis, challenging foundational beliefs about design's capacity to solve communication problems. Several students described a direct disruption to their assumptions about design's problem-solving power.

> "This definitely challenged one of my core design reasonings; that more and better information will aid communication and understanding." (Participant A)

The discovery that audiences filter information through values and identity, rather than evaluating it objectively, undermined the information-deficit model many designers implicitly hold.

> "I found myself reflecting on how many of these techniques may have influenced me personally, even though I try to rely on facts. That recognition was humbling and important." (Participant E)

> "If our job is to inspire action or shift perspectives, then understanding how people feel about facts is just as important as the facts themselves. We cannot continue to assume audiences are rational information consumers." (Participant E)

> "Information integrity is determined by the audience, not the maker or writer." (Participant A)

These reflections connected to wider insights about communication in polarised contexts, where emotional and identity-based responses often override evidential reasoning. For several students, this reframed their understanding of climate communication.

> "Climate change messaging often falls short because it trusts in a commonality that is not there—climate scepticism is rarely a singular belief but part of a worldview built on distrust and doubt." (Participant A)

> "Climate communication is almost impossibly complicated to get right. What resonates with one audience actively repels another." (Participant B)

Students increasingly recognised that traditional science communication approaches (correcting falsehoods and providing better information) were insufficient. This raised questions about whether design interventions could meaningfully address post-truth dynamics, or whether designers were structurally outmatched.

Students responded differently to this destabilisation. Some experienced this realisation as disheartening; others reframed it as clarifying design's actual role.

> "As designers we need to engage beyond singular topics and look at the interconnected of issues [sic] to communicate effectively." (Participant A)

> "In a world shaped by post-truth dynamics, our role as communicators and designers is not to reject reality, but to work within it—ethically, thoughtfully, and impactfully." (Participant E)

This represents a recalibration: accepting that design cannot overcome post-truth conditions but can still operate meaningfully within them.

> "I can try to ensure my designs don't fall into the trap of simply trying to engage, correct falsehoods, and drive understanding, as this is no longer effective. Other tactics should be used, which means fully understanding how people's beliefs are formed and 'set' in the first place." (Participant B)

This shifted the designer's role from transmitting information to understanding how beliefs are constructed—a more modest but potentially more realistic goal.

> "A situation of wilful dissemination of information that seems to be now very much ingrained in our systems of politics, culture, and education can, if understood, be changed [...] Knowing how this works is a step forward; keeping up with it is, I suspect, a lifelong challenge." (Participant C)

In this way, confronting disinformation did not simply expose design's limits; it revealed how values operate as powerful but ambivalent affordances within contested communication environments.

4.3 Finding 3: Collapsing binaries — the manipulation spectrum

Critical pairing disrupted binary thinking about ethical versus unethical design. Creating both ethical communication and disinformation for the same audience revealed that the boundary between persuasion and manipulation is fluid.

> "All design is a manipulation of some sort, and designers need to detach from a righteous belief in a 'right' way to communicate. That doesn't mean we shouldn't strive for more equitable processes, but we must accept there will always be bias." (Participant A)

> "While outright lying is at the extreme end, ultimately all communication sits on a spectrum of manipulation." (Participant B)

This spectrum metaphor reframed communication as a continuum shaped by both intent and impact. Through contrastive practice, students recognised that both ethical and unethical communication employ similar techniques (audience analysis, framing, emotional appeal) but differ in purpose.

4.3.1 Navigating ethical boundaries

If all communication involves persuasion, the ethical challenge becomes determining where particular practices fall on that spectrum.

> "Do we accept that all forms of communication are a form of manipulation, and when the stakes are high (as they are with climate communication), does what counts as 'ethical' shift?" (Participant B)

Students acknowledged that intention played a role in locating practices along this continuum.

> "That they use (presumably) the same mechanisms, processes, tools and techniques as for creating real information. The difference is in the intent." (Participant C)

> "Of course it's more insidious to intentionally spread disinformation, but how much does that matter to the intended audience?" (Participant B)

If audiences cannot discern a designer's intent, then intention alone offers limited ethical guidance. The exercise revealed that distinguishing persuasion in service of truth from manipulation requires ongoing ethical judgement rather than clear rules.

> "How far can we engage in similar practices before we are simply replicating them?" (Participant A)

However, one participant articulated a more pragmatic position that troubled intent-based frameworks entirely:

> "It makes it tempting to think that a way of coercing those who have gone down deep misinformation holes is to create misinformation to bring them back to real

> information. If the truth doesn't work for them and they are being led down a path to un-truth that is damaging (eg to the environment), why not use resources to lead them down a path to un-truth that is not damaging." (Participant C)

This “fight fire with fire” stance suggests that when truth fails to persuade, the strategic use of disinformation for pro-social ends might be justified—a position that challenges both intent-based and truth-commitment ethical frameworks.

Importantly, recognising communication as a spectrum did not lead students toward moral relativism. Instead, they embraced ethical complexity while maintaining a commitment to integrity.

> "I no longer see these tactics as purely harmful. Like any tool, they hold power, and power must be guided ethically. For communicators, the challenge is to use our understanding of these tactics to amplify truth, not distort it. This demands personal and professional ethics, intentional practice, and ongoing reflection. That is the responsibility that comes with our role." (Participant E)

> "[Acknowledging that] all design is a manipulation [...] and that bias is inevitable doesn't mean we shouldn't strive for more equitable processes and methods." (Participant A)

Students proposed principles for navigating this complexity, emphasising transparency and acknowledging limitations rather than asserting objectivity.

> "Clear and transparent communication that embeds humanness through its imperfection—claiming no flawlessness but embracing variation in experience." (Participant A)

Others foregrounded evidence and care, stressing the need to handle data carefully in order to establish trust.

> "We need to handle data carefully to establish trust when scepticism and motivated reasoning dictate so much of the landscape." (Participant A)

One student reflected more philosophically on working within complexity.

> "Now I see complexity as the structure we live in, and design as the tool we use to make that structure liveable, relatable, and just a little more open to truth (truth?)." (Participant D)

The parenthetical question acknowledged epistemological uncertainty while reaffirming a commitment to navigating it ethically. Critical pairing did not simplify moral reasoning into fixed rules; instead, it cultivated the capacity to work responsibly within ambiguity, where persuasion, manipulation, and truth-telling are entangled but not equivalent.

5. Discussion

The three findings empirically ground the concept of values as darker affordances in contested communication contexts and support two theoretical claims extending Design-for-Values (DfV) scholarship into graphic communication design for mass audiences.

The asymmetry students encountered is structural, stemming from how affordances function. Because values afford meaning-making through recognition, trust, and cultural actionability (Gibson, 1979; Chemero, 2003; Morgagni, 2012), they are equally available to any communicator, regardless of intent. The same property that makes a value a reliable anchor for ethical sense-making also makes it a target for exploitation. Climate communication scholarship promotes values-based framing because it builds resonance and reduces scepticism (Hornsey & Lewandowsky, 2022), yet it rarely accounts for how easily the same framing can enable disinformation. The students' experience highlights this gap: the asymmetry they observed was not a failure of technique but a consequence of affordance properties operating symmetrically towards both ethical and manipulative ends.

The epistemological crisis students experienced reveals a limitation of DfV frameworks in mass communication contexts. DfV's participatory logic — identifying stakeholders, eliciting values, negotiating constructively (Bos-de Vos, 2020; Umbrello, 2021; Stone, 2021) — is well-suited to collaborative design contexts where stakeholders are identifiable and direct engagement is possible. However, where audiences cannot participate directly, values must be inferred through research and segmentation, and the communicative relationship is inherently asymmetric. This explains why the information-deficit model often fails: audiences construct meaning through identity and worldview rather than rational evaluation (Hornsey & Lewandowsky, 2022). This aligns with research framing climate scepticism as a systemic worldview rather than a correctable knowledge gap (Spampatti et al., 2023; Cremades & Stella, 2022). The recalibration students achieved — shifting from transmission to addressing how beliefs are formed — offers a more realistic account of what design can accomplish in polarised contexts and points to a productive extension of DfV scholarship.

While affordance scholarship has begun to acknowledge harmful design possibilities — false affordances that mislead (Falahatpisheh et al., 2020) and disaffordances that exclude (Wittkower, 2017) — it tends to treat these as design failures or aberrations. As Gibson (1979, p. 127) noted, affordances offer the environment *"either for good or ill";* they simultaneously hold threats and promises (Scarantino, 2003). This duality is perhaps not a failure state but an inherent property. Students found it "strange" to use identical values for opposing purposes, yet recognised that the value's anchoring capacity worked equally well in both directions. The manipulation spectrum they articulated could be the experiential consequence of this property, and navigating it responsibly, as students demonstrated, requires ongoing ethical judgement rather than fixed rules.

Across all three findings, a single insight emerges. Values in graphic communication design function as affordances with inherent dual potential, affording both ethical communication and manipulation with symmetric reliability. Design-for-Values scholarship requires frameworks that account for their dual potential, particularly in mass communication contexts, where participatory methods are unavailable and values must be inferred rather than negotiated. This does not invalidate existing DfV approaches; rather, it delineates their boundaries and points toward what a more complete account would require.

5.1 Implications for design pedagogy

These findings have implications for how design education prepares designers for values-based work. Current approaches to climate communication emphasise the importance of values-based framing for resonant messaging (Hornsey & Lewandowsky, 2022). Students'

experiences revealed the limits of this approach. While values create resonance, that resonance is exploitable. Designers who learn to identify and leverage audience values without confronting their dual nature develop capabilities that can be deployed for any purpose. This is a troubling prospect given disinformation's structural advantages.

Critical pairing addresses this gap by making values' dual nature experiential. Rather than learning about disinformation abstractly, students learn through making, deploying identical value insights toward opposing ends. This practice-based engagement aligns with design's epistemology, where knowledge emerges through making, experiencing, and reflecting (Cross, 1982, 2006; Schön, 1983). The contrastive exercise reveals what conventional pedagogy often obscures: that values function as affordances that are symmetrically reliable, and that ethical practice requires active compensation for these structural disadvantages.

The epistemological crisis students experienced (questioning whether design can effect positive change in post-truth contexts) appears initially as pedagogical failure. I argue that it is productive. Designers who assume that "better information" and "good design" can overcome scepticism operate with dangerous naivety. Confronting the limits of these approaches fosters a realistic assessment of design's agency and more sophisticated thinking about what design can meaningfully achieve. Students' divergent responses show that recognising these limits need not lead to despair. Students reframed design's role, shifting from rationalist assumptions (designers control meaning; facts persuade) to interpretive understanding (audiences construct meaning through identity and worldview).

Similarly, the suggestion of a manipulation spectrum in student reflections shows how the binary between ethical and unethical design collapses when identical techniques serve opposing ends. Students who grappled with these boundaries developed capacity for ethical reasoning within ambiguity. They committed to truth-telling, transparency, and careful evidence-handling as navigational guides. Such reasoning is essential in contexts where conventional guidelines (don't manipulate; provide accurate information) are insufficient or contradictory.

Design education cannot simply teach students how to identify and leverage audience values. It must teach the fuller complexity of what values are and what working with them entails in contested contexts. Pedagogy should develop designers' capacity to navigate the conditions revealed in students' reflections: the structural disadvantages ethical communication faces, the reality that audiences determine what counts as credible, and communication as manipulation spectrum that demands complex ethical reasoning. This means teaching not just how values enable communication but how they create vulnerabilities. Not just persuasive techniques but the ethical reasoning required to deploy them responsibly. Not just design as problem-solving but design's limits, where communication problems may not be solvable through better information or design.

5.2 Limitations and future directions

This study has several limitations. The pedagogical context—Master's-level students, eight participants, and a climate communication focus—limits the generalisability of the insights. While students' reflections revealed important dynamics about values and manipulation, the insights arise from a specific educational intervention. They require further testing across other contexts. I also analysed reflections rather than audience responses to the paired

designs. Such empirical evaluation would strengthen claims about asymmetry and exploitability. The darker affordance perspective also warrants further development, particularly through systematic exploration of how different types of values function as affordances across different communication contexts. Finally, although students' experiences highlighted challenges (asymmetry, epistemological limits, ethical ambiguity), designers need actionable strategies to navigate contested contexts effectively and ethically. Future research should develop and test such approaches, explicitly acknowledging the dual potential of values.

6. Conclusion

We opened with the uncomfortable reality facing communication designers; the same values enabling ethical climate messaging are systematically exploited to generate resistance to climate action. This paper examined how Master's-level design students, asked to create both ethical climate communication and disinformation targeting identical audiences and values. This paper argues that this is not merely a problem of bad actors misusing good tools, but as a structural property of values themselves. Values function as affordances, relational properties that work with symmetric reliability regardless of ethical intent. The stability making them effective anchors for meaning making is precisely what makes them reliable targets for manipulation.

This reframing changes what designers must learn. If values create vulnerabilities as readily as opportunities, identifying and leveraging audience values is necessary but insufficient. Students who created paired designs discovered this experientially. Techniques worked equally well for opposing ends, disinformation required less effort, and binaries collapsed into a spectrum. These discoveries were uncomfortable, triggering crises about whether design can effect positive change in post-truth contexts. Yet this discomfort also signals learning. Designers who recognise values' dual nature can work more thoughtfully within the constraints polarised contexts impose, rather than operating with dangerous naivety about truth's persuasive power.

The climate crisis makes this learning urgent. Disinformation about climate change continues to exploit the same values—freedom, family, economic security, local control—that ethical communicators use to build trust and consensus. In this asymmetric landscape, designers face a choice: retreat from values-based communication or engage with full awareness of what working with values entails. This paper argues for engagement. Not with easy answers or guaranteed success, but with clearer diagnosis of the terrain. Truth no longer enjoys structural advantage. Designers must work harder, within tighter constraints, while adversaries operate freely. Understanding values as darker affordances does not resolve this inequality, but it names it clearly. And clear naming is where ethical practice in complexity begins.

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