
On the Cultivation of Designers' Emotional Connoisseurship (Part 2): A Pedagogical Initiative

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Abstract

Part 2 of this article introduces the Experience Design Introspection (XDI) workshop. This educational initiative aims to nurture designers' emotional connoisseurship through a sensibility-oriented approach. We begin by discussing the philosophical underpinnings of XDI, which include non-dualism, pluralism, and long-termism. We then outline three operational principles that guided the development of the XDI and the techniques used to achieve them. To illustrate the practical application of the XDI workshop, we provide a comprehensive walkthrough of a two-and-a-half-hour trial version, which also served as a platform for reflection and iterative improvement. In the final sections, we present participants' feedback and envision the evolution of the XDI from a time-bound workshop to a community-based learning model. This model aims to foster long-term engagement, personalized cultivation, authentic social learning, and a culture of introspection and sharing that extends beyond the lecture room and studio.

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Introduction

Over the past twenty-five years, a rich variety of emotion-driven design (EDD) theories, methods, and tools have been developed. This advancement in EDD now requires a deeper understanding of the individual differences among designers who utilize this approach. Furthermore, it is important to explore what training is required for novices to become well-prepared in EDD. To this end, in Part 1 of this article, we established the concept of emotional connoisseurship — “the art of appreciating lived emotional experiences” — and explored its relationship with the expertise in EDD. Additionally, we have identified how designers may cultivate their emotional connoisseurship: the top-down schema-oriented and the bottom-up sensibility-oriented approaches, which ideally complement each other. The top-down schema is more extensively developed within the research thread of emotional granularity for design, and is already integrated in the EDD pedagogy.¹ In contrast, the bottom-up sensibility-oriented approach remains underexplored.

Building on the theoretical foundation established in Part 1, Part 2 shifts to a more pragmatic exploration of how to develop and implement a sensibility-oriented cultivation of emotional connoisseurship within a master-level experience design educational program. Specifically, we introduce a pedagogical initiative — Experience Design Introspection (XDI) — which bridges the abstract concept of emotional connoisseurship and actionable design education practices.

In the following sections, we outline the three philosophical underpinnings of the XDI, followed by the three operational principles guiding its development. We will then discuss the specific techniques collected, adapted, and integrated to achieve these operational goals. Next, we offer a detailed walkthrough of an early version of the XDI workshop. Finally, based on the participants’ feedback, we share key reflections and improvement ideas, synthesizing them into our vision for the ongoing development of the XDI, that is, turning the XDI from a one-time workshop into a long-term, community-based learning model.

Philosophical Underpinnings

Non-dualism: Viewing Mindbody as a Whole

Our construct of emotional connoisseurship and the development of XDI recognize the human body as the foundation of emotion and advocate a holistic view of mindbody.² Cartesian dualism has historically separated the psyche and soma in Western thought, resulting in most emotion theories focusing on the mind.³ Nevertheless, since the mid-20th century, embodied phenomenology⁴ and cognition⁵ have emphasized the central role of lived body in emotional experience, integrating sensory and motor systems with cognition. Meanwhile, if we broaden our perspective beyond Western sources, it becomes evident that Eastern philosophies rooted in *dialecticism* and *holism* do not separate mind from body. For example, “one of the most ancient assumptions about human psychology in China is that the various aspects of human psychological experience are associated with, or even based upon, certain physiological substrates or conditions.”⁶ Meanwhile, in Taoism, one’s conscious

- 1 For example, see Pieter M. A. Desmet et al., “Demystifying Emotion for Designers: A Five-Day Course Based on Seven Fundamental Principles,” *Advanced Design Research* 1, no. 1 (2023): 56, <https://doi.org/10.1016/j.ijadr.2023.06.002>.
- 2 In this article, we use the term “mind-body” to emphasize a non-dualistic perspective where the mind and body are considered as an integrated whole, rather than separate entities as implied by “mind-body” dualism.
- 3 The influence of Cartesian dualism is evident over the centuries, although it might be caused by a misinterpretation of Descartes’ original intention. For more discussion, see Grant Duncan, “Mind-Body Dualism and the Biopsychosocial Model of Pain: What Did Descartes Really Say?,” *The Journal of Medicine and Philosophy* 25, no. 4 (2000): 485–513, [https://doi.org/10.1076/0360-5310\(200008\)25:4;1-A;FT485](https://doi.org/10.1076/0360-5310(200008)25:4;1-A;FT485).
- 4 Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Donald A. Landes (Abingdon: Routledge, 2012); For a broader review of embodied phenomenology beyond Merleau-Ponty, see also Norman K. Denzin, “Emotion as Lived Experience,” *Symbolic Interaction* 8, no. 2 (1985): 223–28, <https://doi.org/10.1525/si.1985.8.2.223>.
- 5 George Lakoff and Mark Johnson, *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought* (New York: Basic Books, 1999).
- 6 Harold D. Roth, “Psychology and Self-Cultivation in Early Taoistic Thought,” *Harvard Journal of Asiatic Studies* 51, no. 2 (1991): 602, <https://doi.org/10.2307/2719289>.

- 7 Ibid., 602–3.
- 8 We deliberately use “appraisal theory” (in singular, as a collective noun) as an umbrella term that covers all variants of appraisal theory, because our discussion here focuses on the common premise of appraisal theories — emotions are elicited by one’s evaluations of objects with the significance of one’s well-being (i.e., appraisals).
- 9 Haian Xue, Pieter M. A. Desmet, and Steven F. Fokkinga, “Mood Granularity for Design: Introducing a Holistic Typology of 20 Mood States,” *International Journal of Design* 14, no. 1 (2020): 2, <https://www.ijdesign.org/index.php/IJDesign/article/view/3578>.
- 10 Klaus R. Scherer, “Appraisal Theory,” in *Handbook of Cognition and Emotion*, ed. Tim Dalgleish and Mick Power (Chichester, UK: Wiley, 1999), 646.
- 11 Robert E. Thayer, *The Origin of Everyday Moods: Managing Energy, Tension, and Stress* (New York: Oxford University Press, 1996), 11.
- 12 For example, Pieter M. A. Desmet, Haian Xue, and Steven F. Fokkinga, “The Same Person Is Never the Same: Introducing Mood-Stimulated Thought/Action Tendencies for User-Centered Design,” *She Ji: The Journal of Design, Economics, and Innovation* 5, no. 3 (2019): 167–87, <https://doi.org/10.1016/j.sheji.2019.07.001>; Pieter M. A. Desmet, Haian Xue, and Steven F. Fokkinga, *Twenty Moods: A Holistic Typology of Human Mood States* (Delft: Delft University of Technology, 2020), <https://diopd.org/mood-typology-booklet/>.
- 13 Kristina Höök et al., “Soma-Based Design Theory,” in *CHI EA ’17: Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems* (New York: ACM, 2017), 550–51, <https://doi.org/10.1145/3027063.3027082>; Kristina Höök et al., “Unpacking Non-dualistic Design: The Soma Design Case,” *ACM Transactions on Computer-Human Interaction* 28, no. 6 (2021): article no. 40, p. 2, <https://doi.org/10.1145/3462448>; Kristina Höök et al., “Embracing First-Person Perspectives in Soma-Based Design,” *Informatics* 5, no. 1 (2018): article no. 8, <https://doi.org/10.3390/informatics5010008>.
- 14 Kristina Höök, *Designing with the Body: Somaesthetic Interaction Design* (Cambridge, MA: MIT Press, 2018).
- 15 Eric Schwitzgebel, “The Unreliability of Naive Introspection,” *The Philosophical Review* 117, no. 2 (2008): 247, <https://doi.org/10.1215/00318108-2007-037>.
- 16 Morris B. Holbrook, “Morris B. Holbrook: An Historical Autoethnographic Subjective Personal Introspection,” *Journal of*

manipulation and balance of physiological conditions and vital energy directly influence their affective experiences and overall psychological well-being. This balance is typically maintained through such daily practices as physical exercise (e.g., martial arts), dietary choices, artistic activities, and controlled breathing.⁷

In experience design research, there has been a prominent shift toward a non-dualistic view of the mindbody, too. When EDD research is extended to include user mood as a distinct affective construct, the cognition-based appraisal theory⁸ that was adequate in guiding the early development of EDD becomes inadequate for explaining and guiding mood-focused design.⁹ As Klaus Scherer claims, appraisal theory can adequately explain the elicitation and differentiation of full-blown emotions, but it cannot explain moods nor attempts to do so.¹⁰ Robert Thayer argues that “the idea that the body and mind are different entities cannot explain mood.”¹¹ Accordingly, recent mood-focused design research has treated the body as an integral part of mood.¹² Similarly, soma-based design, an experience design approach driven by the lived body, is also founded on the negation of dualism.¹³ Accordingly, this approach, which takes the soma (i.e., the human body perceived from within) as its entry point, provides designers with exciting new insights into how design can regulate emotions and moods by designing for and with the soma.¹⁴

Pluralism: Integrating Introspection Techniques Originated from Diverse Sources

Fostering emotional connoisseurship requires regular introspection into lived emotional experiences. Introspection is an ability that varies among individuals and typically requires training. Without training, most people struggle with accurate self-observation.¹⁵ To understand how one can develop introspective capability, we explored how notable researchers who openly use self-observation for research purposes developed their introspective skills. For example, Morris Holbrook’s jazz piano training informed his subjective personal introspection (SPI) and many of his groundbreaking concepts and theories in experiential consumption.¹⁶ Stephen Gould’s Eastern meditation practices enhanced his introspective capabilities, enabling him to apply introspective methods in his research to investigate experiences effectively.¹⁷ These techniques are rooted in artistic and religious traditions, rather than science.

Despite EDD’s focus on Western psychology for its first twenty-five years, we have intentionally embraced diverse sources in our current research and pedagogical endeavor. By including introspection techniques from cognitive psychology, art, and religion — from both Eastern and Western traditions — we enrich our understanding of emotion, self-awareness, and self-observation to complement and extend existing EDD knowledge.

While reading the following sections, some may feel that our use of theories (e.g., dual-processing theories) and techniques (e.g., affect circumplex mapping) contradicts the epistemologies we advocate. However, our aim is not to oppose mainstream epistemologies but to enrich the diversity of epistemological (and methodological) approaches in EDD. We appreciate the value of various epistemologies and their respective methodologies. Each one can contribute uniquely to our understanding of human experience. In other

Historical Research in Marketing 9, no. 2 (2017): 160–70, <https://doi.org/10.1108/JHRM-07-2016-0017>.

- 17 Stephen J. Gould, "Unpacking the Many Faces of Introspective Consciousness: A Metacognitive-Poststructuralist Exercise," in *Handbook of Qualitative Research Methods in Marketing*, ed. Russell W. Belk (Cheltenham, UK: Edward Elgar, 2006), 189–95.
- 18 Here, we borrow the concept of "self-cultivation" from Confucianism. It stresses the importance of life-long, embodied learning and moral growth enabled by self-directed emotion refinement through introspection and artistic activities. For more details, see Tu Wei-Ming, "Self-Cultivation as Education Embodying Humanity," in *The Proceedings of the Twentieth World Congress of Philosophy*, vol. 3, ed. Jaakko Hintikka et al. (Bowling Green, OH: Bowling Green State University, 1999), 27–39, <https://doi.org/10.5840/wcp201999349>; Charlene Tan, "A Confucian Perspective of Self-Cultivation in Learning: Its Implications for Self-Directed Learning," *Journal of Adult and Continuing Education* 23, no. 2 (2017): 250–62, <https://doi.org/10.1177/1477971417721719>.
- 19 Clark Moustakas, *Heuristic Research: Design, Methodology, and Applications* (Thousand Oaks, CA: Sage Publications, 1990), 14.
- 20 Bruce G. Douglass and Clark E. Moustakas, "Heuristic Inquiry: The Internal Search to Know," *Journal of Humanistic Psychology* 25, no. 3 (1985): 43, <https://doi.org/10.1177/0022167885253004>.
- 21 David A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development* (Englewood Cliffs, NJ: Prentice-Hall, 1984).
- 22 Here we use Dewey's words and concepts to build a relationship between the XDI and experiential education, including "educative experience," "education is development from within" versus "it is formation from without." See John Dewey, *Experience and Education* (1938; New York: Simon & Schuster, 1997), 17–31.

words, by emphasizing pluralism, we aim to challenge longstanding tribalism within the academic world.

Long-Termism: Not a Quick Fix, But a Starting Point

Advancing emotional connoisseurship entails continuously accumulating embodied knowledge of emotions—such knowledge cannot be fully specified in words. It is ultimately a matter of long-term self-cultivation, which requires self-directed holistic development with a nurturing, patient, and persistent mentality.¹⁸

Developing the first version XDI as a workshop allows it to be conveniently integrated into a course. However, self-cultivation cannot be achieved within the limited scope and timeframe of a single workshop. Therefore, to avoid the trap of short-cut mentality, transactional approach, and quick-fix solution, the XDI workshop is not intended to produce immediate, measurable effects, such as an increase in the number and quality of EDD concepts immediately after the workshop, although some participants may experience these outcomes naturally. Instead, the workshop is designed to initiate a long-term journey of self-cultivation. It offers designers a felt awareness of emotional connoisseurship through experiential learning, empowering them to transform everyday emotional encounters into lifelong opportunities for emotional connoisseurship through practicing introspective techniques.

Operational Principles Guided the Development of the XDI

As explained in Part 1 of this article, the sensibility-oriented cultivation of emotional connoisseurship is founded on three essential pillars: 1) meta-awareness or detached engagement of lived emotional experiences, 2) the learning and practice of introspection techniques, and 3) the accumulation of a personal reservoir of emotional incidents stored in memory. These pillars represent the theoretical constructs for fostering emotional connoisseurship.

As we transitioned from theory to practice, we adopted three operational principles to guide the development of the XDI workshop. These principles do not directly correspond to the three pillars of sensibility-oriented cultivation of emotional connoisseurship. Instead, they pragmatically translate the pillars into actionable teaching strategies suitable for the timeframe and structure of the workshop. Table 1 provides an overview of the operational principles, techniques used to achieve them, and the rationale behind these techniques.

The three principles are inspired by heuristic inquiry and experiential learning. The XDI mirrors heuristic inquiry, a method in humanistic psychology that explores subjective experiences through direct, personal engagement with the phenomenon.¹⁹ Heuristic inquiry requires the investigator to begin "with immersion, self-dialogue, and self-exploration, and then moves to explore the nature of others' experiences."²⁰ Similarly, XDI also aligns with experiential learning that encourages learning from firsthand experiences in a proactive manner.²¹ By practicing introspective techniques, XDI participants can systematically transform their emotional experiences into educative ones, so that their learning about emotions can happen from within.²² The rest of

Table 1 The operational principles guided the development of the XDI, techniques adopted, and their purposes.

Operational Principles	Techniques Adopted	Purposes of the Techniques The adoption of this technique aims to enable XDI participants to ...
Principle 1: Experiencing directly with meta-awareness.	Video-watching	• Experience a predominantly positive yet complex emotion on-site for introspection, requiring minimal cognitive effort during the emotion inducing process.
Principle 2: Introspecting impressionistically before grasping explicitly.	Art-making (i.e., collage)	• Slow down the emotional process. • Generate an artifact that can later bring the felt meaningfulness back.
	Body scanning and body mapping	• Relate felt bodily sensations with the lived emotions.
	Affect circumplex mapping	• Appreciate the lived emotion in a more structured manner (in comparison with appreciation through the art-making technique).
	Self-storytelling	• Bridge the savoring and explicating steps in the XDI workshop. • Deepen the contextual understanding of the emotion being introspected. • Leverage the narrative power of story in the interpersonal communication of emotional experiences.
	Sentence completion facilitated thought experiments	• Appreciate the value of all emotions, regardless of their obvious valance or hedonic benefits.
Principle 3: Knowing privately from within before seeking resonance and disagreement from others.	Interactive introspection	• Match or mismatch one's personal introspective insights with those of others.

- 23 See also Nico H. Frijda and Louise Sundararajan, "Emotion Refinement: A Theory Inspired by Chinese Poetics," *Perspectives on Psychological Science* 2, no. 3 (2007): 231, <https://doi.org/10.1111/j.1745-6916.2007.00042.x>; Louise Sundararajan and James R. Averill, "Creativity in the Everyday: Culture, Self, and Emotions," in *Everyday Creativity and New Views of Human Nature: Psychological, Social, and Spiritual Perspectives*, ed. Ruth Richards (Washington, D.C.: American Psychological Association, 2007), 206–8, <https://doi.org/10.1037/11595-013>.

this section provides a detailed rationale for each principle and the techniques used to achieve them.

Principle 1: Experiencing Directly with Meta-Awareness

Principle 1 focuses on 1) direct experience and 2) meta-awareness. Developing connoisseurship through a sensibility-oriented approach requires direct access to the objects of appreciation. Just as a wine connoisseur must taste various wines and an art connoisseur must inspect authentic works of art, emotional connoisseurship requires firsthand emotional experiences.

Additionally, participants of the XDI must develop meta-awareness and prolonged inward attention toward their emotions. Recognizing and observing an emotion as it occurs can be challenging. By directly experiencing emotions with meta-awareness—guided by teachers—novice designers can develop a stance that is both engaged (for immersing in the experience) and detached (for observing the experience). Detached engagement forms the foundation for introspective observation and learning about the emotion.²³

- 24 For a detailed comparison between different affect-inducing techniques, see Karen S. Quigley, Kristen A. Lindquist, and Lisa Feldman Barrett, "Inducing and Measuring Emotion and Affect: Tips, Tricks, and Secrets," in *Handbook of Research Methods in Social and Personality Psychology*, ed. Harry T. Reis and Charles M. Judd (New York: Cambridge University Press, 2014), 220–52.
- 25 Ibid., 5; Seyedeh Maryam Fakhrhosseini and Myounghoon Jeon, "Affect/Emotion Induction Methods," in *Emotions and Affect in Human Factors and Human-Computer Interaction*, ed. Myounghoon Jeon (San Diego: Academic Press, 2017), 236–37, <https://doi.org/10.1016/B978-0-12-801851-4.00010-0>.
- 26 Janis H. Zickfeld et al., "Kama Muta: Conceptualizing and Measuring the Experience often Labelled Being Moved across 19 Nations and 15 Languages," *Emotion* 19, no. 3 (2019): 403, <https://doi.org/10.1037/emo0000450>.
- 27 Janis H. Zickfeld et al., "Moving through the Literature: What Is the Emotion often Denoted Being Moved?", *Emotion Review* 11, no. 2 (2019): 124–25, <https://doi.org/10.1177/1754073918820126>.
- 28 Beate Seibt et al., "Kama Muta: Similar Emotional Responses to Touching Videos across the United States, Norway, China, Israel, and Portugal," *Journal of Cross-Cultural Psychology* 49, no. 3 (2018): 419, <https://doi.org/10.1177/0022022117746240>.
- 29 Johanna K. Blomster Lyshol, Lotte Thomsen, and Beate Seibt, "Moved by Observing the Love of Others: Kama Muta Evoked through Media Fosters Humanization of Out-Groups," *Frontiers in Psychology* 11 (June 2020): article no. 1240, p. 15–16, <https://doi.org/10.3389/fpsyg.2020.01240>.
- 30 For example, Seibt et al., "Kama Muta: Similar Emotional Responses."
- 31 See <https://figshare.com/s/3fbc122936d8286e72a8>.
- 32 Evans, "Dual-Processing Accounts of Reasoning," 257.

XDI workshop participants are encouraged to both feel and observe their emotions at physical and meta-cognitive levels.

Technique 1.1: Video-Watching

To achieve Principle 1, participants must directly experience an emotion on-site as the first step of the XDI workshop. Psychologists have developed various techniques to induce specific emotional experiences, such as listening to music, physiological manipulation, recalling personal episodes, or watching video clips.²⁴ Among these, we selected video-watching because it is easy to set up, highly effective, and requires minimal participant effort during the emotion inducing process.²⁵

Specifically, we used video-watching to evoke *kama muta*, an emotion described as "being moved" or "emotionally touched."²⁶ Kama muta was chosen for four reasons. First, it is complex and difficult to label with a single emotion word, often mixing positive (e.g., joy, amusement, elevation, admiration, awe) and minor negative (e.g., sadness, regret) components.²⁷ This allows participants to explore the complexity of lived emotional experiences. Second, it evokes relatively intense bodily sensations (e.g., tears, goosebumps, warmth in the chest),²⁸ which facilitates body-scan introspection for beginners in Step 2—Savoring. Third, it promotes virtuous thought-action tendencies, such as reducing prejudice and increasing prosocial behaviors. This helps participants recognize the ethical and behavioral impact of affective experiences.²⁹ Finally, studies have shown that video-watching can effectively evoke kama muta across cultures, which is beneficial given the diverse backgrounds of the XDI participants.³⁰ Additionally, researchers have validated a pool of kama muta-evoking videos, which we selected for the XDI.³¹

Principle 2: Introspecting Impressionistically before Grasping Explicitly

Principle 2 engages XDI participants in a systematic introspection process by adopting an impressionistic approach, focusing on intuitive, unstructured reflection before moving to a more explicit, structured analysis. Principle 2 is informed by dual-processing theories, which propose that human cognition operates through two distinct systems. System 1 processing is fast, automatic, holistic, implicit, intuitive, experiential, impulsive, heuristic, and associative. In contrast, System 2 processing is slow, controlled, rational, systematic, explicit, and analytic.³²

Emotional experiences are fundamentally linked to System 1 processing. Nevertheless, when trying to introspect on an emotional experience, there is often an urge to rationalize and verbalize it, which relies on System 2 processing. Such introspection can be fruitless and frustrating for the introspector, especially for those unfamiliar with attending to inner experiences and lacking a rich experiential vocabulary. Therefore, while developing the XDI workshop, our intention was to guide participants to initially suspend the effort of rationalization and verbalization, and instead engage in an impressionistic, holistic, and intuitive understanding of emotions. Only after that initial phase was the introspective effort guided to gradually shift toward intellectualizing and articulating the emotion.

- 33 Frijda and Sundararajan, "Emotion Refinement," 229.
- 34 Louise Sundararajan, *Understanding Emotion in Chinese Culture: Thinking through Psychology* (Cham, Switzerland: Springer, 2015), 157, <https://doi.org/10.1007/978-3-319-18221-6>.
- 35 Frijda and Sundararajan, "Emotion Refinement," 229.
- 36 Fred B. Bryant and Joseph Veroff, *Savoring: A New Model of Positive Experience* (Mahwah, NJ: Erlbaum, 2007).
- 37 Frijda and Sundararajan, "Emotion Refinement," 236; Louise Sundararajan, "Toward a Reflexive Positive Psychology: Insights from the Chinese Buddhist Notion of Emptiness," *Theory & Psychology* 18, no. 5 (2008): 663–64, <https://doi.org/10.1177/0959354308093400>.
- 38 Frijda and Sundararajan, "Emotion Refinement," 233.
- 39 Elliot W. Eisner, *The Enlightened Eye: Qualitative Inquiry and the Enhancement of Educational Practice* (New York: Macmillan, 1991), 69.
- 40 Frijda and Sundararajan, "Emotion Refinement," 229.
- 41 James R. Averill and Louise Sundararajan, "Passion and *Qing*: Intellectual Histories of Emotion, West and East," in *Psychological Concepts: An International Historical Perspective*, ed. Kurt Pawlik and Géry d'Ydewalle (London: Psychology Press, 2006), 121–25.
- 42 Shusterman provides a detailed introduction to the relationship between self-cultivation and artistic practice in the Chinese literati tradition, see Richard Shusterman, "Somaesthetics and Self-Cultivation in Chinese Art," in *Transformative Aesthetics*, ed. Erika Fischer-Lichte and Benjamin Wihstutz (London: Routledge, 2018), 83–93.
- 43 For example, see Johanna Czamanski-Cohen et al., "The Role of Emotional Processing in Art Therapy (REPAT) for Breast Cancer Patients," *Journal of Psychosocial Oncology* 37, no. 5 (2019): 587, <https://doi.org/10.1080/07347332.2019.1590491>.

Originated in Confucianism and Chinese poetics, savoring is "a self-initiated action of attending and absorbing."³³ Louise Sundararajan defines Confucian savoring as "appreciation and extensive processing of personal emotional information that includes but is not confined to aesthetic experiences."³⁴ Basing the first stage of introspective learning in the Confucian savoring mentality and using relevant facilitating techniques has brought significant value to the XDI in general, and the achievement of Principle 2 in particular.

First, Confucian savoring aims not to generate specific knowledge but to cultivate *felt meaningfulness* about the emotional experience being introspected.³⁵ It encourages the introspector to provisionally keep the observation effort within the domain of System 1. Second, the savoring rooted in the Eastern tradition is more inclusive than the savoring developed by Fred Bryant and Joseph Veroff in the field of positive psychology.³⁶ For the former, the objects of appreciation include not only positive emotions, but also negative ones. The essence of Confucian savoring is not focusing "on the hedonic attributes of stimuli or events, but on one's competence in the actions of savoring and refinement."³⁷ As a result, Confucian savoring also leads one to appreciate the effects and unusual beauty in those experiences evoked by one's actual confrontations, failures, sufferings, and losses. They are all part of a meaningful life.³⁸ This view is also in line with Elliot Eisner's understanding of appreciation in the concept of connoisseurship—"appreciation" does not denote "to be pleased about" but "to grasp."³⁹ Third, savoring is not limited by predefined labels and preprogrammed structures of emotions. It opens a much larger or even infinite variety of emotional states that are badly captured by official labels. Finally, savoring encourages a wider scope of temporality, in particular, *retrospective savoring*—mentally revisiting previously savored experiences so that a deeper understanding can be achieved.⁴⁰

We integrated five introspective techniques originating from a variety of fields and arranged learning activities in such a sequence so that Principle 2 could be achieved. Below, we give a detailed introduction to these selected techniques.

Technique 2.1: Art-Making

Confucian savoring is typically facilitated by an art-making process. Art-making helps the introspector slow down the inner emotional process, maintain the inward focus on felt meaningfulness. It can result in an artifact, such as a painting, piece of music, poem, or calligraphy work, that later evokes an image that replicates (rather than explicates) the experience.⁴¹

This relationship between art-making and emotional savoring reflects a longstanding attitude in the Chinese literati tradition: arts are meant to serve the art of living. In other words, art-making should primarily be seen as a means to authentic soma-psyche self-cultivation of the person, rather than as an activity aimed at generating artifacts that are subject to the value judgments of others (e.g., viewers, buyers).⁴² The artwork is only a byproduct of the person's self-cultivation process. This attitude toward art-making aligns with the foundation of contemporary art therapy, where the process of creating art encourages emotional processing, increases emotional awareness, and fosters acceptance of emotion.⁴³

- 44 Lauri Nummenmaa et al., "Bodily Maps of Emotions," *Proceedings of the National Academy of Sciences* 111, no. 2 (2014): 646–51, <https://doi.org/10.1073/pnas.1321664111>.
- 45 Bhikkhu Anālayo, "Buddhist Antecedents to the Body Scan Meditation," *Mindfulness* 11, no. 1 (2020): 194–95, <https://doi.org/10.1007/s12671-019-01259-8>.
- 46 Jon Kabat-Zinn, "Mindfulness-Based Interventions in Context: Past, Present, and Future," *Clinical Psychology: Science and Practice* 10, no. 2 (2003): 148–49, <https://doi.org/10.1093/clipsy.bpg016>.
- 47 Julie A. Brodie and Elin E. Lobel, *Dance and Somatics: Mind-Body Principles of Teaching and Performance* (Jefferson, NC: McFarland & Company, 2014), 74–75.
- 48 Nummenmaa et al., "Bodily Maps of Emotions"; Lauri Nummenmaa et al., "Maps of Subjective Feelings," *Proceedings of the National Academy of Sciences* 115, no. 37 (2018): 9198–9203, <https://doi.org/10.1073/pnas.1807390115>.
- 49 Matthias Hartmann, Bigna Lenggenhager, and Kurt Stocker, "Happiness Feels Light and Sadness Feels Heavy: Introducing Valence-Related Bodily Sensation Maps of Emotions," *Psychological Research* 87 (February 2022): 59–83, <https://doi.org/10.1007/s00426-022-01661-3>.
- 50 Michelle Yik, James A. Russell, and James H. Steiger, "A 12-Point Circumplex Structure of Core Affect," *Emotion* 11, no. 4 (2011): 705–31, <https://doi.org/10.1037/a0023980>.

As a crucial facilitating activity of savoring, the art-making process can take place in diverse forms. In the current XDI setup, collage was selected. With a good preparation of materials, collage is a convenient form of artistic practice for capturing and expressing emotional experiences. We expected that the participants would be designers, assuming that most had previous hands-on experience with collage-making. Collage, however, is not the only form, and we encouraged participants—in their following self-cultivation—to find the form of art-making that suits their own savoring process best, which may be crafting or curating visual art, artifacts, poetry, music, or dance.

Technique 2.2: Body Scanning and Body Mapping

Emotional experiences appear to us not only as *mental* phenomena, but also as *bodily* sensations, such as throbbing, pumping heartbeat, heat in head, cold sweaty hands.⁴⁴ In the XDI, we combined a body-scan technique and a bodily sensation mapping technique to help participants explore and develop a personal understanding of the interdependency between mind and body as expressed in the lived emotional experience.

Body-scan has a long history in Buddhism, as a *vipassanā* meditation technique.⁴⁵ It was made known to the contemporary clinical therapy by Jon Kabat-Zinn as a crucial technique to enable mindfulness-based stress reduction.⁴⁶ Meanwhile, in fields like dance and performing arts, body-scan has also been used as a somatic education technique that helps practitioners to obtain advanced bodily awareness and sensibility.⁴⁷ In the XDI, we adapted a short version body-scan (five-minute) to help participants pay attention to the sensations associated with emotions felt in different parts of the body.

Participants also made a bodily sensation map to visually record and communicate the internally observed bodily sensations. In emotion research, bodily sensation mapping is a self-report technique that allows participants to illustrate how an emotion is felt bodily in a body silhouette.⁴⁸ Applying this technique, researchers have recently reported new insights into emotions that traditional dimensional mapping approach based on activation and valence could hardly reveal. For instance, positive emotions, happiness, love, and pride, are systematically reported as feeling light in the body, whereas negative emotions like anger, fear, sadness, and depression are typically associated with bodily heaviness.⁴⁹

Technique 2.3: Affect Circumplex Mapping

The affect circumplex is a two-dimensional, circular graph to conceptualize emotions. It is based on two dimensions: valence (pleasure–displeasure) and arousal (activation–deactivation).⁵⁰ Emotions are plotted according to the degree of pleasantness and level of arousal to create a comprehensive map of feelings. The Affect Circumplex offers a more structured frame for appreciating lived emotions. While art-making allows for a rich, multi-sensorial, and impressionistic approach to savoring, Affect Circumplex mapping facilitates a more analytical and systematic self-observation and exploration of emotional experiences. However, in the XDI workshop, we encouraged the participants to engage in the Affect Circumplex mapping innovatively, according to how they really felt, rather than deducing the complexity of marking one spot on the map (see Figure 3).

- 51 Max van Manen, *Researching Lived Experience: Human Science for an Action Sensitive Pedagogy* (New York: State University of New York Press, 1990), 129.
- 52 Nico H. Frijda, *The Emotions* (Cambridge: Cambridge University Press, 1986).
- 53 Barbara L. Fredrickson, "What Good Are Positive Emotions?" *Review of General Psychology* 2, no. 3 (1998): 303, <https://doi.org/10.1037/1089-2680.2.3.300>; Barbara L. Fredrickson, "The Role of Positive Emotions in Positive Psychology: The Broaden-and-Build Theory of Positive Emotions," *American Psychologist* 56, no. 3 (2001): 219–20, <https://doi.org/10.1037/0003-066X.56.3.218>.
- 54 Desmet et al., "The Same Person Is Never the Same."
- 55 Randolph M. Nesse, "What Good Is Feeling Bad: The Evolutionary Benefits of Psychic Pain," *The Sciences* 31, no. 6 (1991): 30–37, available at <https://websites.umich.edu/~nesse/Articles/Nesse-BenefitsBadFeelings.pdf>; Daniel Nettle, "An Evolutionary Model of Low Mood States," *Journal of Theoretical Biology* 257, no. 1 (2009): 100–103, <https://doi.org/10.1016/j.jtbi.2008.10.033>.
- 56 Jennifer S. Lerner and Dacher Keltner, "Beyond Valence: Toward a Model of Emotion-Specific Influences on Judgment and Choice," *Cognition & Emotion* 14, no. 4 (2000): 473–93, <https://doi.org/10.1080/026999300402763>.
- 57 Darrell H. Hart, "The Sentence Completion Techniques," in *The Assessment of Child and Adolescent Personality*, ed. Howard M. Knoff (New York: Guilford Press, 1986), 245.

Technique 2.4: Self-Storytelling

After savoring the emotional experience impressionistically, the introspection gradually switches toward explanation. We used self-storytelling as a *transitional* exercise connecting savoring and explaining. During the savoring step, rationalization and verbal explanations are minimized, whereas self-storytelling relies heavily on language. It deepens understanding of the experience under examination by prompting recording and reflection on its specific context, antecedents, or eliciting conditions. This exercise also trains novice designers to learn to leverage the narrative power of story in the interpersonal communication of emotional experiences. As Max van Manen argues, "textual emotion, textual understanding can bring an otherwise sober-minded person (the reader but also the author) to tears and to a more deeply understood worldly engagement."⁵¹ In addition, telling and retelling a variety of lived emotional episodes can facilitate the accumulation of the personal reservoir of emotional incidents.

Technique 2.5: Sentence Completion Facilitated Thought Experiments

Finally, this process continues to enhance understanding of how emotions influence thoughts and behaviors, and vice versa, in a personal and contextualized manner. Different emotions are associated with different tendencies in thinking and behavior, conceptualized as *action tendencies*⁵² or *thought-action tendencies*.⁵³ These thought-action tendencies influence what products one feels like interacting with, how one interacts with products, and what information one pays attention to. Accordingly, design researchers have proposed a more dynamic approach to user profiling, based on active user moods instead of static user personalities and cultural backgrounds.⁵⁴

Conventionally, our design students gain knowledge of emotions through lectures and self-study. We argue that engaging them in introspective exercises helps them learn about thought-action tendencies through personal experience. Additionally, aspiring designers focused on eudemonic well-being can gain a broader, more personal understanding of the value and impact of various emotions and moods. This understanding extends beyond immediate pleasure, encompassing how these emotions influence human functioning in different contexts and prospects. For example, a gloomy mood, feeling sad or regretful, is hedonically unpleasant, but it promotes resource conservation (e.g., withdrawal from intensive activities) and deep contemplation (e.g., reflection on how oneself has engaged into the world), especially when one cannot abandon an obviously unachievable life goal.⁵⁵ Meanwhile, some positive emotions or moods—for example, joy and euphoria—can increase one's willingness to take risks. They distract attention from negative information or cues of danger, though they are beneficial as well as enjoyable in most contexts.⁵⁶

We adopted a projective technique (i.e., sentence completion) to facilitate this exercise. Sentence completion works by presenting incomplete sentences (i.e., the *stems*) and prompting participants to complete the sentences in their own words.⁵⁷ Originally, the sentence completion technique was developed as a diagnostic tool in clinical psychology. Its roots go back to the early 20th century when psychologists used it to gain insights into an individual's

- 58 Robert A. Heimann and John W. M. Rothney, "Development and Applications of Projective Technics," *Review of Educational Research* 29, no. 1 (1959): 56–58, <https://www.jstor.org/stable/1169308>; Hart, "Sentence Completion Techniques," 247–49.
- 59 For example, Teresa Heath and Elizabeth Nixon, "Immersive Imaginative Hedonism: Daydreaming as Experiential 'Consumption,'" *Marketing Theory* 21, no. 3 (2021): 364, <https://doi.org/10.1177/14705931211004665>.
- 60 For example, Sari Kujala and Piia Nurkka, "Sentence Completion for Evaluating Symbolic Meaning," *International Journal of Design* 6, no. 3 (2012): 19, <https://www.ijdesign.org/index.php/IJDesign/article/view/1166>.
- 61 Elizabeth C. Hirschman, "Humanistic Inquiry in Marketing Research: Philosophy, Method, And Criteria," *Journal of Marketing Research* 23, no. 3 (1986): 239, <https://doi.org/10.2307/3151482>.
- 62 Haian Xue and Pieter M. A. Desmet, "Researcher Introspection for Experience-Driven Design Research," *Design Studies* 63 (July 2019): 46–47, <https://doi.org/10.1016/j.destud.2019.03.001>.

personality, motivations, and unconscious processes.⁵⁸ Over time, its versatility made the technique popular in diverse settings, from market research⁵⁹ to user experience research.⁶⁰ We repurposed it to facilitate thought experiments aimed at unpacking the multifaceted nature of personal emotions. By crafting sentence stems that guide reflection on specific emotional experiences and their resulting thought-action tendencies, XDI participants can uncover insights and lessons from their own ongoing or imagined emotional journeys.

Principle 3: Knowing Privately from Within before Seeking Resonance and Disagreement from Others

Principle 3 in the XDI emphasizes the primacy of subjective understanding in human experiences. It allows personal insights to be formed first and then compared with others' perspectives through intersubjective exchange. This approach recognizes that introspective learning about human experience is inherently unique to each individual, aligning with the fundamental humanistic belief that "human beings construct multiple realities."⁶¹

Each emotional experience blends *abstract universality*, such as common structures or labels, with *concrete particularity*, including individual-specific content and context (temporal, spatial, cultural, social). Initially, the XDI encourages participants to suspend generalization, focusing instead on the unique details of a single emotional event. This introspection is meant to be personally meaningful for the individual. The learning process is then expanded through interactive introspection or social learning, which can take two forms: 1) integrating group sharing sessions into the workshop and 2) encouraging participants to engage with relevant research literature. This process is designed to expose design students to the varied subjective realities of individuals. It fosters an intersubjective understanding of emotional experiences by identifying commonalities across different personal experiences. Ultimately, we expect this principle to cultivate an open, relativistic attitude in students toward understanding emotional experiences.

Technique 3.1 Interactive Introspection

Interactive introspection combines subjective introspection with interpersonal dialogue. It involves individuals who have experienced and reflected on similar lived emotional experiences, engaging together to gain deeper understanding.⁶² Participants initially engage in individual introspection, using techniques like journaling or mindfulness to connect with their emotions. These personal reflections are then openly exchanged in the group, focusing on authentic expression rather than problem-solving. The group is a safe space created for open, non-judgmental sharing. As participants articulate their experiences and insights, empathetic listening from peers enriches mutual understanding. This interaction often reveals common themes or patterns, highlighting the universality of certain emotional experiences. Through facilitated discussions, the group collaboratively interprets these experiences, forming collective emotional narratives that embody shared wisdom. Meanwhile, documenting these insights transforms intersubjective understanding into more concrete collective knowledge, which can be further communicated and evaluated by others. This iterative process creates a continuous cycle of

- 63 Note that we only provide a brief introduction to emotional connoisseurship and its value and importance to EDD practice and research here. Please see the section of "Designer's Emotional Connoisseurship" in Part 1 for more detailed arguments and explanations.
- 64 See <https://figshare.com/s/3fbc-122936d8286e72a8>; Seibt et al., "Kama Muta: Similar Emotional Responses."

deepened understanding. Over time, it fosters a profound group awareness of the complexities and communal nature of human emotions.

A Walkthrough of the XDI Workshop

In this section, we present a detailed walkthrough of the XDI workshop trial. It was developed at the Faculty of Industrial Design Engineering at Delft University of Technology, where user experience, emotion, and mood have been central to its Design for Interaction Master of Science Program for over two decades. This workshop introduced new concepts and techniques to participants who were already familiar with EDD from a scientific perspective. Our goal was not to assess workshop efficacy in fostering emotional connoisseurship, as this requires prolonged cultivation. Instead, we aimed to reflect on participants' perceptions and acceptance to guide the next stage of XDI development.

Nine volunteers participated in the trial, including six master's students and three PhD candidates from diverse cultural backgrounds: Bulgaria, China, Colombia, India, Japan, The Netherlands, Spain, and Turkey.

Introduction and Grouping (20 minutes)

We began with a brief lecture on emotional connoisseurship, highlighting its significance and the role of sensibility-oriented cultivation. We explained the importance of appreciating lived emotional experiences as design-relevant objects, drawing parallels with winemaking. The analogy illustrated how both artistic and formulaic approaches contribute to the value of connoisseurship in different contexts. We described designers with advanced emotional connoisseurship as emotionally perceptive, creative, tasteful, articulate, and ethical, qualities that participants recognized as crucial for EDD practice. We emphasized the importance of refining schemata and enhancing sensibility toward emotional nuances, noting that design research has traditionally prioritized the former.⁶³ Participants understood that the XDI workshop, focusing on sensibility-oriented cultivation, was our first initiative in this area. Finally, we provided an overview of the workshop and techniques, allotted time for questions, and divided the nine attendees into three groups.

The XDI Workshop (100 minutes)

The XDI workshop was structured into five consecutive steps: experiencing, savoring, self-storytelling, explicating, and sharing (see [Figure 1](#) and Appendix A for a detailed overview).

Step 1: Experiencing (10 minutes)

We showed three short clips—*Thai Medicine*, *Christian the Lion*, and *Olympics*—selected from a collection of kama muta-evoking videos.⁶⁴ Before viewing, each participant was given an individual workspace, positioned to face a wall or window to prevent distraction. They were instructed to take a moment to center themselves and focus inwardly. After a brief period of silence, participants began watching their respective video clips on personal smartphones using earphones, ensuring a private and uninfluenced

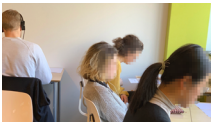
STEPS	OBJECTIVES	MATERIALS	ACTIVITIES The participants ...	PHOTOS	TIME 100 minutes
1. Experiencing 	To directly live an emotional experience with meta-awareness and an inward attention.	- Self-equipped smartphone and earphones - Three selected videos (i.e., <i>Thai Medicine</i>, <i>Christian the Lion</i>, <i>Olympics</i>)	- sat still calmly and directed their attention inwards. - watched an affect-inducing video with their personal smartphones and earphones. - confirmed with the teacher that they were living an emotional experience and ready to introspect.		10 minutes
2. Savoring 	To intuitively and impressionistically capture the holistic experiential quality.	- Pre-collected 80 images and 50 haptic objects - Colour pencils and markers - XDI Log p.1-2	- explored the images and haptic objects, and selected materials for the impression collage making. - drew a body-sensation map of the experience. - marked the experience on the affect circumplex.		20 minutes
3. Self-storytelling 	To record context and antecedents; to deepen a situated understanding; to train the narrative capability of communicating affective experiences.	- Pens - XDI Log p. 3	- wrote down an autobiographical story about a similar experience that they had had before based on the memory, or might have in the future based on the imagination.		20 minutes
4. Explicating 	To explore the thought-action tendencies that the emotion tends to stimulate, to reflect on its benefits and harms, beyond a simple hedonic view.	- Pens - XDI Log p. 4	- answered seven provocative questions that guided them to explore thought-action tendencies and value of the emotional experience beyond hedonism.		30 minutes
5. Sharing 	To share and form an open and relativistic attitude towards further adjustment of the introspective understandings of the experience.	- Pens - XDI Log p. 5-6 - Emotion and mood typologies	- wrote down what they believed that this experience would normally be called. - used their own words to creatively give a name for the experience. - sat together and shared their introspective insights with each other. - compared the experience with the emotion concepts appeared in the emotion and mood typologies.		20 minutes

Figure 1
An overview of the five steps of the XDI workshop (Experiencing, Savoring, Self-storytelling, Explicating and Sharing). XDI Log can be found from the appendix. © 2024 the authors.

experience. Upon completion, all confirmed they were undergoing an emotional experience induced by the video and were prepared to observe it.

Step 2: Savoring (20 minutes)

In the savoring step, participants engaged in three introspection exercises designed to minimize rationalization or verbalization of the emotional experience. The first exercise involved creating an impression collage. We provided pre-selected visual and haptic items. This collection comprised eighty image cards and fifty objects, all proven able to evoke or communicate rich variety of affective qualities (as shown in [Figure 2](#)).⁶⁵

Holding onto the emotions evoked by the video, participants first freely explored the collection of items. They selected three to five items that intuitively resonated most with their feelings, without overanalyzing their choices. Using their chosen materials, participants curated an impression collage for the emotion they were introspecting on (see [Figure 3](#), left).

The second exercise began with a brief body-scan meditation. Participants were guided to shift their attention across different body parts, starting from the head, moving down to the toes. As they did this exercise, they observed prominent sensations potentially tied to the emotional experience under introspection. Following the meditation, they used colored pencils or markers

Figure 2
Pre-collected 80 image cards (left) and 50 haptic objects (right). © 2024 the authors.

Figure 3
A sample of XDI Log v1.0, page 1–2. Images courtesy of the workshop participant.



Impression

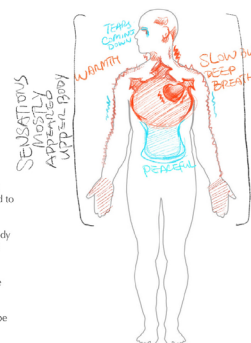
Curate the selected images and haptic objects on the table.
Take a couple of photos to communicate how this affective experience appears to you.
Present the photos on this page.



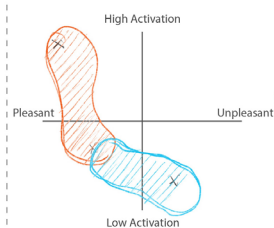
1

Bodily Sensations

1. Close your eyes, sit still, and scan your body, part by part, from head to toe.
2. Ask yourself which parts of the body have the most noticeable feelings related to this experience.
3. Draw the bodily sensations on the body map.
4. Use some simple words to describe



Mark this experience on the affect circumplex as you feel it. It could be a point, many points, one area or many areas.



This experience is...

- purely positive
- purely negative
- predominantly positive with some minor negative aspects
- predominantly negative with some minor positive aspects
- very complex, hard to say
- or ...

2

- 65 Pieter M. A. Desmet and Haian Xue, "Developing a Collection of 80 Mood-Expressive Images" (internal report, Delft University of Technology, 2020), <https://diopd.org/wp-content/uploads/2020/03/mood-booklet-image-validation-study-report.pdf>; Haian Xue, Qianqian Zheng, and Pieter M. A. Desmet, "Touchy-Feely: A Designerly Exploration of Haptic Representations of Three Mood States," in *IASDR 2023: Life-Changing Design*, ed. D. de Sainz Molestina et al. (Milan: IASDR, 2023), article no. 91, <https://doi.org/10.21606/iasdr.2023.325>.
- 66 We have made a detailed introduction to the emotional granularity design tools in Part 1 of this paper. Please see the subsection of "Schema-Oriented Cultivation Facilitated by Emotional Granularity Design Tools." Specifically, the tools we provided for the participants of this XDI workshop followed two sources: Desmet et al., *Twenty Moods*; "Emotion Typology: Discover the Nuances of Emotions," last modified 2022, <https://emotiontypology.com/>.

to sketch a bodily sensation map, capturing their physical experience of the emotion (see Figure 3, right-top).

For the third exercise, participants progressed to visualizing their emotions on a two-dimensional affect circumplex, characterized by activation and valence. They were invited to be genuine, open, and imaginative. Instead of being constrained to a single point, they were free to mark multiple or even contrasting spots (e.g., both positive and negative) if that better represented their authentic emotional experience (see Figure 3, right-bottom).

Step 3: Self-Storytelling (20 minutes)

In Step 3, participants shifted from visualization to verbalization. They wrote a concise autobiographical account that communicated the emotion they were introspecting. Since the workshop induced the emotion through a video rather than a naturally occurring event, writing about this specific instance might be less meaningful. Consequently, participants were encouraged to craft a narrative about a comparable emotional experience from their past or one they could imagine in the future. Those finding the process difficult were encouraged to find inspiration from the images and objects they had selected during the savoring step.

Step 4: Explicating (30 minutes)

Following the self-storytelling, participants had thirty minutes to explore for more explicative insights with seven open-ended, thought-provoking questions. Aided through a sentence completion technique, the questions prompted them to think through various facets of the emotional experience. The questions fell into two categories: 1) "Thought and Behavior Self-Observation" and 2) "Thought Experiments." The first category nudged participants to uncover thought-action patterns linked to their emotions. Meanwhile, the latter guided them to move beyond considering emotions as *good* or *bad*. For instance, the question "I can imagine this experience is useful when I want to ..." pushed them to consider the functional worth of the emotion. And for those introspecting on predominantly unpleasant emotions, the prompt "If I will not be able to have this experience ever again in my life, I would feel..." could encourage them to reflect on the value of negative emotions non-judgmentally (further details can be found in the XDI Log v1.0, p. 4).

Step 5: Sharing (20 minutes)

Participants who watched the same video were grouped to facilitate focused discussion. They shared, compared, and built upon each other's introspective insights, recognizing both commonalities and individual nuances in their emotional responses to the video.

Initially, participants noted conventional terms for their complex emotional experiences, then crafted unique labels or personal descriptions for the emotion. They discussed these to enrich their understanding by considering peer perspectives. Next, we introduced emotional granularity design tools,⁶⁶ guiding participants to critically examine, cross-reference, and discuss their labels and descriptions against established concepts. This helped them learn

from these tools and consider expanding existing emotional typologies (see XDI Log, p. 5–6 in the appendix for more details).

We encouraged participants to conduct literature searches after the workshop to further explore relevant emotional concepts. This allowed them to either support or challenge the insights they gained during introspection. We concluded the workshop with a five-minute mindfulness meditation to transition back to daily life without lingering emotional residues (even though the emotional experiences they reflected on were predominantly positive).

The XDI Participants' Feedback

As we took this workshop as a generative learning process, we immediately followed it with a thirty-minute unstructured feedback session. This allowed participants to freely express their impressions of the XDI workshop, recalling both inspiring and problematic aspects while their memories were fresh.

For more detailed reflections, we conducted three sixty-minute focus groups with the participant groups in the following two weeks. Led by the first author, these sessions facilitated reflective dialogues and collaborative feedback, accelerating comprehensive feedback collection. Rich insights were gathered, and initial improvement ideas for the future development of XDI were co-created by participants and the facilitator. The focus groups covered several key aspects of the XDI workshop, including perceived usefulness, length, environment, instructor roles, and the effectiveness of techniques and materials. The rest of this section presents these insights, which inform the next stage of XDI development.

General Impression

Despite being an unfamiliar learning format for the participants, the XDI workshop received positive evaluations. During the immediate feedback session, participants frequently used such adjectives as “personal,” “refreshing,” “engaging,” “spiritual,” “provoking,” “enlightening” to describe their learning experiences in the two-and-a-half hours.

Furthermore, during the follow-up focus groups, we introduced the three operational principles of the XDI. Participants expressed that these principles made the workshop emotionally engaging. This deeper engagement allowed them to become more aware of the felt dimension of emotional experience, gain insight into how a sensibility-oriented approach could cultivate emotional connoisseurship, and understand how they could continuously develop their emotional connoisseurship in the future.

Naturally, alongside the appreciated benefits, several limitations of this early version of the XDI were mentioned. Participants also used terms such as “challenging,” “confusing,” and “strenuous” to describe their learning experiences. Specifically, the participants gave the following feedback, regarding the length, environment, role of the instructors, and effectiveness of the techniques and materials used.

Length

Everyone expressed that a two-and-a-half-hour workshop was too short for the first-time participants. First, many concepts introduced in the pre-workshop

- 67 John Sweller, "Cognitive Load during Problem Solving: Effects on Learning," *Cognitive Science* 12, no. 2 (1988): 257–85, [https://doi.org/10.1016/0364-0213\(88\)90023-7](https://doi.org/10.1016/0364-0213(88)90023-7); John Sweller, "Cognitive Load Theory and Educational Technology," *Educational Technology Research and Development* 68, no. 1 (2020): 1–16, <https://doi.org/10.1007/s11423-019-09701-3>.
- 68 Ton de Jong, "Cognitive Load Theory, Educational Research, and Instructional Design: Some Food for Thought," *Instructional Science* 38, no. 2 (2010): 105, <https://doi.org/10.1007/s11251-009-9110-0>.
- 69 Charles F. Bond and Linda J. Titus, "Social Facilitation: A Meta-analysis of 241 Studies," *Psychological Bulletin* 94, no. 2 (1983): 282–84, <https://doi.org/10.1037/0033-2909.94.2.265>.
- 70 Glenn S. Sanders, Robert Steven Baron, and Danny L. Moore, "Distraction and Social Comparison as Mediators of Social Facilitation Effects," *Journal of Experimental Social Psychology* 14, no. 3 (1978): 291, [https://doi.org/10.1016/0022-1031\(78\)90017-3](https://doi.org/10.1016/0022-1031(78)90017-3); Ute-Christine Klehe, Neil Anderson, and Esther A. Hoefnagels, "Social Facilitation and Inhibition during Maximum versus Typical Performance Situations," *Human Performance* 20, no. 3 (2007): 235–36, <https://doi.org/10.1080/08959280701333040>.

lecture and the introspective exercises were new to them. They would have preferred more time to absorb them. As one participant expressed:

"I had never heard about the concept of 'connoisseurship' before the workshop. It really took me some time.... I only managed to make a clear connection between 'emotional connoisseurship' and the exercises we did in the workshop, after one or two days."

This feedback aligns with Cognitive Load Theory,⁶⁷ which states that learners have a limited working memory capacity for processing new information. When the volume of new information and the effort required to comprehend it exceeds this capacity, cognitive overload occurs, inhibiting learning and understanding.⁶⁸ The XDI participants' reflections on needing more time to understand the new concepts and techniques suggest that the density of information presented was too high, leading to cognitive overload.

Second, many also expressed that the suggested length for each step, despite being merely indicative, created a sense of urgency and worry about "being the last one to complete the exercise." This perceived time pressure can also prevent XDI participants from deeply engaging with and fully introspecting on their own experiences. Therefore, specifying an indicative length for each step may not be ideal for optimizing the learning experience and effect of the XDI, particularly when many participants are physically present in the workshop.

Environment

Directly related to the reflections on the workshop duration, the setup of the workshop environment also contributed to a sense of pressure during introspective processes. Despite the room being arranged with individual worktables facing the walls to avoid direct eye contact and maintain a quiet atmosphere, mere social presence still strongly influenced some participants. They sensed a competitive undercurrent, as they noticed others were completing tasks more rapidly, leading them to experience an undesirable rush, completing some exercises prematurely.

This phenomenon resonates with research findings on social facilitation and inhibition, which suggest that the presence of others, combined with time constraints, can modify people's performance. For example, while social presence can improve the performance of simple tasks, it often impairs the performance of complex tasks.⁶⁹ This negative impact on the complex task performance has been attributed to, more specifically, distraction and anxiety caused by people feeling being observed, evaluated, and compared, especially for those who have a low self-efficacy.⁷⁰ Considering the high complexity of the XDI exercises and the exceptional inward concentration that they require, it may be more beneficial for participants to be in an environment where these pressures are minimized. This led us to reimagine a more suitable environment for XDI participants, which we elaborate on in the next section.

Instructor's Role

All participants acknowledged the introductory lecture was useful for understanding emotional connoisseurship and its value to EDD practice and research. However, their feedback indicated a desire for a deeper connection

- 71 Audrey C. Rule, "The Components of Authentic Learning," *Journal of Authentic Learning* 3, no. 1 (2006): 1, <http://hdl.handle.net/20.500.12648/7426>.
- 72 Thuy T. Vu and Gloria Dall'Alba, "Becoming Authentic Professionals: Learning for Authenticity," in *"Becoming" a Professional: An Interdisciplinary Analysis of Professional Learning*, ed. Lesley Scanlon (Dordrecht: Springer, 2011), 96, https://doi.org/10.1007/978-94-007-1378-9_5.
- 73 Zac D. Johnson and Sara LaBelle, "An Examination of Teacher Authenticity in the College Classroom," *Communication Education* 66, no. 4 (2017): 429–30, <https://doi.org/10.1080/03634523.2017.1324167>.
- 74 Vu and Dall'Alba, "Becoming Authentic Professionals," 103–4.

with the instructors, suggesting it would be more inspiring if we shared some personal experiences, introspective insights, and how these insights helped in our own self-cultivation.

The XDI strives for authenticity. Authentic learning, which traditionally referred to "learning in contexts that promote real-life applications of knowledge,"⁷¹ now includes engaging students in "becoming more fully human."⁷² It requires the instructor to be perceived by students as approachable, relatable, and open to them. These qualities are typically demonstrated by the instructor feeling comfortable with sharing personal stories related to the subject matter, and their own journey of development as a professional and human.⁷³ As observed by Thuy Vu and Gloria Dall'Alba, "for this [authentic learning] to happen, the pedagogical focus needs to be less on delivering lectures and more on dialogic teaching and learning.... It is likely that, in some situations, both teachers and students may have to act outside their familiar comfort zones."⁷⁴ In our trial XDI workshop, participants bravely stepped outside their comfort zones while we, the instructors, largely stayed within ours.

Additionally, although no participant mentioned discomfort during the XDI process, we reflected on the ethical handling of introspection and group sharing. Ensuring emotional safety is crucial, especially during group sharing. In the current XDI workshop design, we ensured emotional safety by carefully selecting the target emotion: *kama muta*, a commonly experienced, predominantly positive, yet complex emotion known for eliciting pro-social thought-action tendencies. We also chose an inducing technique that involved watching a short video, typically a widely accessible television commercial. However, dealing with more emotions in future workshops requires instructors to prepare participants and themselves for vulnerability, mediating discussions to ensure everyone feels supported and safe. Therefore, instructors who run the XDI need a comprehensive understanding of ethical teaching, focusing on emotional safety and psychological well-being.

Techniques and Materials

Participants generally expressed that the techniques and materials integrated in the workshop were effective. Learning and trying these techniques helped them customize a practical and personal pathway toward continuous self-cultivation of emotional connoisseurship. They did not critically reflect on the introspective techniques, which may be attributed to the fact that these techniques were new to them. More time and repetitive practice were needed for them to confidently offer critical reflections. However, they provided specific reflections on the emotion-inducing videos and materials for the savoring step.

Video-watching was effective for inducing emotions on site. However, two "experience contaminators" were noted by some reflective participants. First, pre-workshop mood states influenced their video-induced emotional experiences, in a positive or negative way. Second, one participant noted that the visual appeal of the video she watched affected her emotional experience. While these contaminators should be acknowledged, they can add complexity to emotional introspection and enhance meta-awareness and understanding of emotional subjectivity. Therefore, we do not necessarily consider them undesirable for XDI workshops.

- 75 Gilbert J. Rose, "Abstract Art and Emotion: Expressive Form and the Sense of Wholeness," *Journal of the American Psychoanalytic Association* 39, no. 1 (1991): 154, <https://doi.org/10.1177/000306519103900107>.

- 76 Sweller, "Cognitive Load Theory," 12.

All participants found the eighty images and fifty haptic objects effective for capturing impressions of their experiences. One participant mentioned, "I still don't know why I selected these particular images and objects, but when I look at them, they bring back the same feeling to my mind." However, another participant suggested including more abstract forms and colors, as the current representational images predispose participants to select based on video content rather than experiential qualities. For instance, those who watched *Christian the Lion* all picked at least one animal image. Including more abstract images could help participants better savor experiences, as expressive abstract visuals trigger emotional responsiveness in a manner that is divorced from narrative content.⁷⁵ This form of engagement promotes emotional depth, open-ended interpretation, exploration, and articulation of one's felt emotional experiences with greater nuance, which is consistent with the aim of the XDI workshop, cultivating emotional connoisseurship.

Future Development of the XDI

Participant feedback has laid the foundation for future XDI development. By addressing these insights, we reimagine the XDI with changes in structure, duration, and scope, focusing on three key aspects: 1) long-term engagement, 2) enhanced introspection environments, and 3) authentic, emotionally safe sharing. To synthesize all these aspects, we envision transforming this sensibility-oriented cultivation program from a single workshop into a long-term, adaptive, and inclusive community-based learning model.

Long-Term Engagement and Gradual Progress

Although we had already considered long-termism when designing the XDI workshop, participants' feedback on the workshop length and Cognitive Load Theory made us realize that the XDI would ideally be implemented over a longer period rather than a single workshop. In this way, regular talks, self-practice at home, on-site group practice, and group insight exchanges can happen gradually and help participants better internalize new concepts and unfamiliar introspection techniques. This approach considers the working memory load of first-time participants. According to Cognitive Load Theory, novices, lacking firsthand experience and structured knowledge, face a higher cognitive load as they must process each new element independently. In contrast, experts group smaller pieces into larger chunks due to their prior knowledge, which allows them to process information faster and more confidently.⁷⁶ Therefore, educational content and activities should be tailored to the expertise level of the learner, adjusting as their expertise grows. While this prevents cognitive overload for novices, it is important to adjust content and activities so that experts find the level appropriately challenging.

Enhanced Environments for Introspection

Participants indicated that the quality of their introspective learning was significantly influenced by the environment. Experienced introspectors can engage in introspection anywhere, but beginners benefit from an environment that encourages a strong inward focus. An ideal setting for beginners is

- 77 For example, Alexandra Kitson, Mirjana Prpa, and Bernhard E. Riecke, "Immersive Interactive Technologies for Positive Change: A Scoping Review and Design Considerations," *Systematic Review, Frontiers in Psychology* 9 (August 2018): article no. 1354, <https://doi.org/10.3389/fpsyg.2018.01354>; Nico Brand, William Odom, and Samuel Barnett, "A Design Inquiry into Introspective AI: Surfacing Opportunities, Issues, and Paradoxes," in *DIS '21: Proceedings of the 2021 ACM Designing Interactive Systems Conference* (New York: ACM, 2021), 1603–18, <https://doi.org/10.1145/3461778.3462000>.
- 78 For example, Jason K. McDonald and Esther Michela, "The Design Critique and the Moral Goods of Studio Pedagogy," *Design Studies* 62 (May 2019): 1–35, <https://doi.org/10.1016/j.destud.2019.02.001>; Tricia M. Kress and Robert Lake, "The Strong Poetry of Place: A co/auto/Ethnographic Journey of Connoisseurship, Criticality and Learning," *Cultural Studies of Science Education* 13, no. 4 (2018): 945–56, <https://doi.org/10.1007/s11422-016-9804-y>.
- 79 Etienne Wenger, Richard McDermott, and William M. Snyder, *Cultivating Communities of Practice: A Guide to Managing Knowledge* (Boston: Harvard Business School Press, 2002).

quiet, distraction-free, safe, and comfortable, allowing time for introspection without pressure. However, such self-practice can also lead to challenges, like becoming overly relaxed.

To experiment with this idea, we developed and tested an online XDI workshop with master's students at Delft University of Technology and Cornell University. While joining online, participants were asked to physically stay alone in a familiar, safe, warm, and tranquil space supportive of meditation (e.g., their living room or bedroom). Feedback showed that practicing introspection techniques in such environments minimized distractions, hurry, and pressure due to social presence. This allowed first-time participants to engage in introspection independently, following a structured approach, receiving guidance, and sharing insights with others.

Experimenting with digital introspection environments has introduced us to new technologies for the future development of XDI. We are keen to explore how immersive digital environments and AI trainers could support designers' self-cultivation of emotional connoisseurship, as these technologies hold promise for facilitating introspective practice.⁷⁷

Authentic Interactions and Emotionally Safe Sharing

Authentic learning in the XDI requires instructors who are personally and emotionally engaged, comfortable sharing their experiences, and adept at fostering meaningful dialogues. Drawing from our design studio experiences and research insights, we recognize the value of such interactions.⁷⁸ Therefore, we aim to integrate this quality in instructors to ensure a profound, impactful, and authentic learning experience for all XDI participants.

To enhance ethical engagement, we propose explicit guidelines for managing sensitive discussions. Instructors should be trained in empathetic listening, adept at recognizing emotional distress, and skilled at intervening gracefully to steer conversations supportively. Establishing a clear framework at the start of the workshop will set expectations for mutual care and respect. These practices will foster a secure and trusting environment where participants can share without fear of judgment or harm, respecting everyone's boundaries and well-being.

Refining the role of the instructor and developing ethical guidelines for the XDI will be a priority. XDI engagements will be conducted with the utmost ethical consideration and care, making the XDI a transformative journey for both students and instructors.

Envision a Community-Based Model

To synthesize the improvement ideas, we envision the future development of the XDI transcending the confines of time-bound formal workshops or course formats. We are steering its transformation toward a community-based learning model that seamlessly blends individuality with collectivity, creating a vibrant ecosystem where personal growth and collective wisdom thrive harmoniously. We envision that, through this new approach, the self-cultivation of each participant can be uniquely tailored and gradually unfold, supported by a network of dedicated learners throughout their journey. Specifically, we adopt communities of practice theory⁷⁹ to guide this next stage of XDI development.

- 80 William M. Snyder and Etienne Wenger, "Our World as a Learning System: A Communities-of-Practice Approach," in *Social Learning Systems and Communities of Practice*, ed. Chris Blackmore (London: Springer, 2010), 110, https://doi.org/10.1007/978-1-84996-133-2_7; Wenger et al., *Cultivating Communities of Practice*, 27–29.
- 81 Jean Lave and Etienne Wenger, *Situated Learning: Legitimate Peripheral Participation* (Cambridge: Cambridge University Press, 1991).
- 82 This point has been recognized by other educational researchers, for example, Launa Gauthier, "Redesigning for Student Success: Cultivating Communities of Practice in a Higher Education Classroom," *Journal of the Scholarship of Teaching and Learning* 16, no. 2 (2016): 5–6, <https://doi.org/10.14434/josotl.v16i2.19196>.

A community of practice is a group of people who share a common concern or passion, such as cultivating emotional connoisseurship or designing for experiences, emotions, and well-being. They collaborate regularly to deepen relevant expertise and address challenges. However, not every community qualifies as a community of practice. Three essential elements—domain, community, and practice—must be present.⁸⁰ First, *domain* is a specific shared interest giving the community its identity. Members join due to their passion for the domain, which signifies a shared competence. Second, *community* members engage in various activities, including face-to-face interactions, virtual engagements, formal meetings, informal meetups, public events, and private sessions. These activities help build relationships and mutual trust, enabling authentic social learning. The community should embrace diverse perspectives and be supported by effective leadership, often through a designated coordinator and core team. Finally, *practice* becomes evident as the community builds a shared collection of resources related to the domain, including vocabulary, methods, techniques, tools, frameworks, cases, and narratives.

Transforming the XDI from a two-and-a-half-hour workshop to a community-based learning program can integrate all the improvement ideas. First, community-based learning facilitates ongoing engagement and gradual progress. Unlike time-bound courses, it continues with upcoming activities in a social learning system. Members can incrementally assimilate new concepts and refine introspective techniques. This aligns with Cognitive Load Theory, suggesting a scalable approach to learning that expands as learner expertise grows. A community-based XDI supports personalized self-cultivation tailored to the starting level of emotional connoisseurship of each member. Second, community-based learning allows introspection in various environments: alone at home, together in a classroom, or individually while staying connected to other participants online. This flexibility lets members choose the best environment and activities for different stages of self-cultivation. Third, under a community of practice, the distinction blurs between instructors and students. This fosters a collaborative relationship where all are co-learners. Legitimate Peripheral Participation, a central concept of this model, views learning as becoming a full participant in a sociocultural practice. Newcomers start with simpler activities and, through interaction with experienced members, gradually develop competence and take on more central roles. This progression helps individuals build skills and integrate into the community, eventually becoming veteran members who contribute significantly to its practices.⁸¹ Lastly, the community-based XDI prioritizes emerging learning opportunities over predefined objectives or outcomes.⁸² This shift allows the XDI to complement formal courses by fostering an informal, exploratory learning environment. Traditional courses, shaped by learning objectives and assessment paradigms, may promote one-size-fits-all learning, extrinsic motivations, and efficiency over long-term personal development. Without being constrained by traditional instructional design paradigms, the community-based XDI will engage its members in a naturally evolving journey. Driven by members' authentic collective interest in cultivating emotional connoisseurship for EDD practice and research, this model allows progress both individually and socially, free from the judgment of formal assessments and grades.

- 83 For example, J. Derek Lomas and Haian Xue, "Harmony in Design: A Synthesis of Literature from Classical Philosophy, the Sciences, Economics, and Design," *She Ji: The Journal of Design, Economics, and Innovation* 8, no. 1 (2022): 5–64, <https://doi.org/10.1016/j.sheji.2022.01.001>; Alice Comi et al., "When West Meets East: Uncovering the Chinese Perspective on Design and Designing," *Design and Culture* (2024): 1–21, <https://doi.org/10.1080/17547075.2024.2335428>.

Conclusion

An emotion-driven design practitioner needs two wings to soar. The first wing symbolizes the public and explicit aspect of this design approach. It involves mastering systematic EDD methods, tools, and theories to enhance the predictability of the design process, ensure informed decisions, and facilitate clear communication with stakeholders. Traditionally, this wing has received more attention. The second, often overlooked wing represents the personal and ineffable side of EDD—emotional connoisseurship. It manifests as personal qualities and abilities that grow organically through prolonged self-cultivation, enabling designers to sense, appreciate, and conceptualize emotional experiences with complexity, subtlety, and authenticity.

In this two-part article, we addressed this imbalance. Part 1 established the theoretical foundation, while Part 2 introduced our pedagogical initiative, the XDI workshop, to facilitate sensibility-oriented self-cultivation of designers' emotional connoisseurship. The XDI workshop, while initially developed in a science and technology-based design school, holds promise for broader application, including art-based design schools and professional designers seeking to develop their emotional connoisseurship.

Our exploration of designers' emotional connoisseurship and the development of the XDI workshop have been notably enriched by integrating Eastern philosophical thoughts, such as Confucianism, Buddhism, and Taoism. These perspectives provide a culturally enriched understanding that complements the predominantly Western approaches in design research and education. This aligns with efforts by other researchers to incorporate Eastern traditions into design education, highlighting the global relevance of these philosophies.⁸³

The results of the trial XDI workshop were promising. The insights gained from participants' feedback inspired us to transform the XDI from a formal, time-bound workshop to a community-based learning model. This new approach aims to nurture long-term engagement, personalized cultivation, and authentic social learning, fostering a culture of introspection and sharing beyond the classroom. We also see this transformation as an opportunity to explore whether community-based education can become a third pillar of design education, complementing the traditional lecture-based and studio-based approaches.

We see significant value in future longitudinal studies to assess how long-term participation in XDI enhances novice designers' emotional connoisseurship and influences their EDD practice. A major challenge lies in measuring an individual's level of emotional connoisseurship, which is crucial for both research and improving the XDI.

Acknowledging the early stage of the XDI workshop, our objective is to present it as an anchor for the dynamic interchange between theory and practice, as well as between development and participant feedback. We invite fellow educators to join us in refining and advancing this sensibility-oriented approach to cultivating designers' emotional connoisseurship.

Declaration of Interest

There are no conflicts of interest involved in this article.

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Appendix A. Supplementary Material

A PDF version XDI Log v1.0 can be found online at <https://doi.org/10.1016/j.sheji.2024.06.002>.

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