

# Novelty ≠ Creativity: The Problem of Psychological Measurement in Design Practice and Education

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## Introduction

In design-forward domains, such as interaction design, creativity and cognition, and human-computer interaction, creativity has been extensively explored through multiple scholarly lenses. Researchers have examined reflection-in-action in working through creative problem-solving,<sup>1</sup> the need to make things in order to encourage imagination, as compared to imagining things in order to make them,<sup>2</sup> the role of participatory inclusion for creating things that are appropriate and useful rather than necessarily innovative,<sup>3</sup> and the way everyday creativity influences the design process.<sup>4</sup> Journals like *Design Issues* give space and prevalence to a view of creativity that is phenomenological and expansive, with texts that recognize how creativity shapes culture, offers growth through self-expression, acts as a process for exploration, and is even a driver of systemic social change.

However, this pluralism is in contrast to how creativity has been studied in the discipline of psychology, which has tended to define creativity singularly through the narrow lens of novelty—that creativity is only concerned with newness, and creativity can (and should) be measured by the quantity of new ideas that are developed. This lens is overly reductive, as it ignores the rigorous process, thinking, and reflection of creativity in design as practiced and isolates creativity as a discrete activity while ignoring the much larger context in which it occurs.

It can be further argued that, in professional and educational practice, this narrow perspective of *creativity as novelty* is “winning,” even in the discipline of design. Exercises related to lateral thinking are common in design practice, and disruptive innovation through the offering of something novel has become a nearly ubiquitous goal for product and service design in companies. As educational institutions become more vocationally focused, design school coursework increasingly emphasizes the relationship between design and business innovation, which largely equates creative acts of design to making things no one has seen before.

- 1 Donald A. Schön, *The Reflective Practitioner: How Professionals Think in Action* (New York: Basic Books, 1983).
- 2 James T. Wang, “To Make or to Create? What Should Students of Design be Taught?,” *Design Issues* 31, no. 3 (2015): 3–15, <https://www.jstor.org/stable/43829330>.
- 3 Elizabeth B.-N. Sanders, “From User-Centered to Participatory Design Approaches,” in *Design and the Social Sciences: Making Connections*, ed. Jorge Frascara (London: Taylor & Francis, 2002).
- 4 Peter Lloyd and Derek Jones, “Everyday Creativity in Design Process,” *Art, Design & Communication in Higher Education* 12, no. 2 (2013): 247–63, <https://doi.org/10.1386/adch.12.2.247.1>.

This article contributes to design studies by highlighting this dominant perspective that has shaped contemporary understandings of creativity in psychology and has found its way into the discipline of design. It traces how psychological definitions of creativity as measurable novelty were selectively adopted into design discourse and pedagogy and shows how this framing continues to shape educational priorities and professional practice. By surfacing this history and proposing alternative, situated frames, the article offers design educators an opportunity to examine the extent to which creativity as novelty has entered their own educational studios, to consider the consequences of that prevalence, and to reevaluate the learning experiences they structure for their students.

### Creativity as Novelty

One of the most frequently cited texts to define creativity is *The Standard Definition of Creativity* (2012) by Mark Runco and Garrett Jaeger. They explain that “originality is undoubtedly required. It is often labeled novelty, but whatever the label, if something is not unusual, novel, or unique, it is commonplace, mundane, or conventional. It is not original, and therefore not creative.”<sup>5</sup> This conclusion is drawn from three main sources: the work of J. P. Guilford in 1950, Morris Stein in 1953, and Frank Barron in 1955.

In the 1950s, after Guilford had established himself as a leading researcher in cognitive psychology, he “began to feel the need to develop a system for classifying the many mental abilities that had been and were continuing to be discovered.”<sup>6</sup> He viewed this as a periodic table of elements but for human traits. In his 1950 article, “Creativity,” he asserted that “the creative person has novel ideas. The degree of novelty of which the person is capable, or which he habitually exhibits ... can be tested in terms of the frequency of uncommon, yet acceptable, responses to items.”<sup>7</sup> Guilford viewed a *trait of creativity* as something that can be measured, and it is measured primarily by counting how many novel ideas someone has. One of the most well-known and, again, well-cited examples of this measurement is his Alternative Uses task, which asks participants to think of as many possible uses as they can for a simple object, such as a brick.<sup>8</sup> Guilford created over thirty similar tests, all aimed at measuring creative potential. Some examples of these tests instruct the test taker to “Write clever-rated titles for a story plot,” “Find hidden faces in a scene,” and “List impossible events in quantity.” The Torrance Test formalizes these in a battery that can be completed by children (and is still used in many classrooms in the United States).<sup>9</sup>

This framing has had broad practical consequences, ranging from how children’s creative potential is assessed to how practicing designers are valued. The pursuit of novelty can isolate

- 5 Mark A. Runco and Garrett J. Jaeger, “The Standard Definition of Creativity,” *Creativity Research Journal* 24, no. 1 (2012): 92–96, <https://doi.org/10.1080/10400419.2012.650092>. Google Scholar indicates this article has been cited 5,200 times as of August 9, 2025.
- 6 Andrew L. Comrey, “Joy Paul Guilford,” in *Biographical Memoirs*, vol. 62 (Washington, DC: National Academy of Sciences, 1993), 199, <https://doi.org/10.17226/2201>.
- 7 J. P. Guilford, “Creativity,” *American Psychologist* 5, no. 9 (1950): 444–54, <https://doi.org/10.1037/h0063487>.
- 8 J. P. Guilford, *The Nature of Human Intelligence* (New York: McGraw-Hill, 1967).
- 9 E. Paul Torrance, *Torrance Tests of Creative Thinking: Interpretive Manual*, CAT No. TT120012-181 ( Bensenville, IL: Scholastic Testing Service, 2018), [www.stsme.com/static/mainsite/graphics/resources/TTCT\\_Interp\\_Man\\_TT120012-181.pdf](http://www.stsme.com/static/mainsite/graphics/resources/TTCT_Interp_Man_TT120012-181.pdf).

people whose strengths lie in refinement, iteration, or systems thinking. Creativity becomes associated with lateral thinking, effusive group brainstorming, and clever ideation, rather than with thoughtful problem structuring, execution, or long-term commitment to delivery. Designers who do not self-identify as “idea people,” or those who are more introverted or quiet, may be overlooked or left out, even if their contributions are critical to the success of a project.<sup>10</sup>

In 1953, Stein too was working in the context of academic psychology, and his work focused on understanding why some creative ideas “stuck” and some did not. He described how “the creative work is a novel work that is accepted as tenable or useful or satisfying by a group in some point in time.”<sup>11</sup> This perspective implies a link between newness and market adoption and advances a split between “creative” innovation and “non-creative” production.

Stein’s emphasis on public or market acceptance reinforces a hierarchy of design activities. Designers who learn to value clever ideas featured in popular media and blog posts may come to feel that their work is valuable only at the fuzzy front end—where innovation supposedly occurs—and not in the refinement, specification, or implementation phases. This marginalizes forms of creativity rooted in process, judgment, and deep engagement with materials or technical details, and further reinforces the idea that creativity must be visible, immediate, and distinctive in order to count. This is visible in students who are just emerging from university, where idea generation is often viewed as the “fun” part of the job and the detail work as necessary but boring.

Barron, working in largely the same academic context as Guilford and Stein, contributed a wide range of studies on personality and creative traits, and originality was a recurring theme in his work. He argued that an original product should “have a certain stated uncommonness.” His writing reinforced the idea that originality sits at the core of what *output* counts as creative;<sup>12</sup> this, therefore, prescribes what gets made and how. When novelty becomes the only metric for evaluating value in an artifact, it shifts priorities away from relevance, appropriateness, and refinement, and toward differentiation for its own sake. In contexts constrained by scarcity of time or resources, efforts placed pursuing innovation are efforts that are not placed on other things. Design processes may be optimized to generate more ideas faster, as if volume correlates with value. Lateral thinking techniques, common in design education and workshops, are often used to produce a breadth of divergent concepts yet are rarely subjected to scrutiny about whether quantity is an appropriate goal in an organization. In practice, most design problems are not solved by generating hundreds of ideas—they are solved by attending closely to constraints, users, and needs.<sup>13</sup>

10 Oliver Mauroner and Lara Zschau, “Idea Generation and Brainstorming under the Aspect of the New Groupthink—The Differences between Extraverts and Introverts,” *Journal of Organizational Psychology* 21, no. 4 (2021), <https://doi.org/10.33423/jop.v21i4.4543>.

11 Morris I. Stein, “Creativity and Culture,” *The Journal of Psychology* 36, no. 2 (1953): 311–22, <https://doi.org/10.1080/00223980.1953.9712897>.

12 Frank Barron, “The Disposition toward Originality,” *Journal of Abnormal and Social Psychology* 51, no. 3 (1955): 478–85, <https://doi.org/10.1037/h0048073>.

13 Bryan Lawson, *How Designers Think: The Design Process Demystified* (London: Architectural Press, 1990).

- 14 Jonna Kwiatkowski, Oshin Vartanian, and Colin Martindale, "Creativity and Speed of Mental Processing," *Empirical Studies of the Arts* 17, no. 2 (1999): 187–96, <https://doi.org/10.2190/2Q5D-TY7X-37QE-2RY2>. "The more creative the participant, the slower the reaction time."
- 15 Roger E. Beaty and Paul J. Silvia, "Why Do Ideas Get More Creative across Time? An Executive Interpretation of the Serial Order Effect in Divergent Thinking Tasks," *Psychology of Aesthetics, Creativity, and the Arts* 6, no. 4 (2012): 309–19, <https://doi.org/10.1037/a0029171>. "People higher in fluid intelligence started with better ideas and did better throughout the task—their initial ideas were as good as their later ones."
- 16 Carmen Binnewies and Sarah C. Wörlein, "What Makes a Creative Day? A Diary Study on the Interplay between Affect, Job Stressors, and Job Control," *Journal of Organizational Behavior* 32, no. 4 (2010): 589–607, <https://doi.org/10.1002/job.731>. "On days when an employee felt active and enthusiastic in the morning the employee was more creative during the day."
- 17 Doris Zahner, Jeffrey V. Nickerson, Barbara Tversky, James E. Corter, and Jing Ma, "A Fix for Fixation? Rerepresenting and Abstracting as Creative Processes in the Design of Information Systems," *Artificial Intelligence for Engineering Design, Analysis and Manufacturing* 24, no. 2 (2010): 231–44, <https://doi.org/10.1017/S0890060410000077>. "Designers presented with concrete situations will be more likely to fixate, generating uninteresting but usually correct analogs, and designers presented with abstract situations will be more likely to generate original but often incorrect analogs."
- 18 Andy Warr and Eamonn O'Neill, "Understanding Design as a Social Creative Process," in *C&C '05: Proceedings of the 5th Conference on Creativity & Cognition* (New York: Association for Computing Machinery, 2005), 118–27, <https://doi.org/10.1145/1056224.1056242>. "The larger the number of ideas that are produced, the greater the probability of achieving an effective solution."
- 19 Berys Gaut, "The Philosophy of Creativity," *Philosophy Compass* 5,

The single idea offered by Guilford, Stein, Barron, and Runco and Jaeger that creativity must be original, unusual, or novel is incredibly durable and has become a de facto foundation upon which peer-reviewed creativity research and declarative findings about human behavior have been piled. With *novelty* accepted as a primary goal of creativity, creative activities (and people) can be further defined and measured: who can come up with novel ideas the fastest,<sup>14</sup> if smarter people come up with more novel ideas, faster,<sup>15</sup> if being excited in the morning leads to more novel ideas in the afternoon,<sup>16</sup> and so on. And if creativity is an objective measure that can be quantified, it follows that creativity can also be perfected and can be incorrect or correct,<sup>17</sup> that more is better,<sup>18</sup> and that it can be bounded (both inclusively and exclusively) by very precise edges.<sup>19</sup>

### Beyond Creativity as Novelty

As described above, Runco and Jaeger and many others ground their work in a standard definition of creativity based heavily on texts from Guilford, Stein, and Barron. While researchers commonly build on this definition to substantiate their pursuit of quantifying novelty, many other valuable parts of those initial texts have been ignored.

Guilford, Stein, and Barron were all interested in the qualities of a creative *person*, not just creative *output*. Guilford's interest in creativity is mentioned in just a small portion of his portfolio of over three hundred articles, the majority of which are focused on understanding the traits and qualities of a person as a whole. Barron was focused on creativity traits (as compared to output) as well. The foundational researchers who are cited as focusing on novelty had broad and extensive sets of *other* criteria to delineate creativity, too. Guilford lists *nine* qualities, where novelty (as "fluency") is just one. The others include sensitivity to problems, flexibility of set, synthesizing ability, analyzing ability, reorganizing or redefining ability, span of ideational structure, and evaluation ability. Additionally, these qualities are not asserted, as if they are proven; they are proposed as factors of creativity that can be studied to begin to frame a definition of creativity.

These factors of creativity are familiar to design scholars and to design practitioners, who will recognize things like synthesis and redefinition as some of the most fundamental parts of framing design problems and working toward solutions. In many ways, Guilford's oft-cited article *is* a strong candidate for how creativity might come to life, at least in the context of design, if one views the pursuit of uniqueness as only one of many qualities that designers lean on during creative design work, but those other qualities seem to have gotten lost.

Stein, too, identified many more facets of creativity than novelty. Beyond simply discussing originality, his 1953 definition

explores personality integration, cultural receptivity, social processes, and the tension between individual expression and collective norms. He references how creativity must be judged by others and negotiated in the context in which it is presented. He wrote about the “sociocultural matrix” that enables creativity to emerge, and how the individual creator must be “committed to the world of his imagination,” while still navigating the constraints of existing structures and outside opinions. To read Stein’s definition fairly, the focus should not be on the word *novel* but on the presence of other people: “The creative work is a novel work *that is accepted as tenable or useful or satisfying by a group in some point in time*” (emphasis added).<sup>20</sup>

Guilford was careful to explain that his work focused on a specific domain, not on some universal perspective on creativity. He described that his theories are proposed only in the context of “the scientist and the technologist, including the inventor.”<sup>21</sup> He explicitly indicates that “the consensus of the philosophers seems to have been that creativity is the same wherever you find it. To this idea I do not subscribe.” For creativity to be considered domain-specific means that, while there may be overlap of creative elements and behaviors in each context, there is no universal set of parameters to define creativity.

Runco’s work has historically included and advanced a perspective that creativity can be measured. But even within this body of work, he has explicitly noted that creativity is not novelty, at least not exclusively; that novelty is an indicator that someone is creative, but the two are not the same: “DT [divergent thinking] is not synonymous with creativity, but DT tests provide useful estimates of meaningful potential.”<sup>22</sup>

Considering these other factors in the creative design process begins to broaden the aperture of creativity. Stacy Hsueh et al. have illustrated the breadth of perspective that is possible when viewing other areas of creativity research to be on equal footing with the study of creativity as a measurable psychological phenomenon.<sup>23</sup> Perhaps counterintuitively, our understanding of creativity can be further broadened by entirely rejecting the assumption that creativity can be (or should be) quantitatively measured.

### Creativity as Contextual

Creativity, particularly in design, is not a singular trait or disembodied executive function; it is always contextual, emerging from specific cultural, material, and institutional circumstances. It is embedded in a tangle of values, constraints, and expectations that shape what kinds of actions can be taken, what problems are deemed worthy of solving, and what solutions are seen as valid or desirable. As Daniel Fallman describes, according to a pragmatic perspective of creativity, “Design is always carried out somewhere in particular. This ‘situatedness’ locates the design

no. 12 (2010): 1034–46, <https://doi.org/10.1111/j.1747-9991.2010.00351.x>.

“Suppose that in walking through a studio you accidentally knock over a set of paints, which spill onto a canvas, and they happen to combine to produce a beautiful and original painting. You would not be creative, since the painting was purely the product of luck.”

20 Stein, “Creativity and Culture,” 311.

21 Guilford, “Creativity.”

22 Mark A. Runco and Selcuk Acar, “Divergent Thinking as an Indicator of Creative Potential,” *Creativity Research Journal* 24, no. 1 (2012): 66–75, <https://doi.org/10.1080/10400419.2012.652929>.

23 Stacy Hsueh, Marianela Ciolfi Felice, Sarah Fdili Alaoui, and Wendy E. Mackay, “What Counts as ‘Creative’ Work? Articulating Four Epistemic Positions in Creativity-Oriented HCI Research,” in *CHI ’24: Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems*, ed. Florian Floyd Mueller, Penny Kyburz, Julie R. Williamson, Corina Sas, Max L. Wilson, Phoebe Touns Dugas et al. (New York: Association for Computing Machinery, 2024), <https://doi.org/10.1145/3613904.3642854>.

process in a world which is already crammed with people, artifacts, and practices, each with their own histories, identifies, goals and plans.”<sup>24</sup> This view echoes the phenomenological orientation of other pragmatist researchers, who emphasize that action and thought are grounded in experience, not abstraction.<sup>25</sup>

For example, a designer working on public health communication in rural India will approach the creative process differently from one working on the navigation interface for luxury vehicles in Germany. What “counts” as a creative solution, and even what counts as a problem, is shaped by local needs, stakeholder input, infrastructure, tools, and institutional norms. Ethnographic and discourse-based studies of design show creativity as socially negotiated, culturally variable, and temporally bound.<sup>26</sup>

### Creativity as Process

Creativity does not need to result in a discrete output. In many cases, it is only a process, and it may even be invisible to observers. Consider a visual designer refining the spacing of type in a complex layout or an interaction designer moving fields around an interface. Neither task involves originality in the traditional sense, but both require judgment, refinement, and a practiced sensitivity to form and meaning. This form of creativity is often cumulative and emerges over time rather than in a singular moment of creation.

Creative work may also be purposefully redundant, or even accidental. The designer who repeatedly draws the same icon to perfect its curvature or who pulls ideas from a previous project is engaging in a process that may appear unoriginal but is rich with form-giving. Moments of serendipity or error—misaligned grids, using incorrect tools in design software by mistake—can produce unexpected explorations that are retrospectively understood as creative.

Creativity can also be private and exploratory, pursued for its own sake. A designer absentmindedly sketching a form on the back of a napkin is similar to a ceramicist throwing pots and then returning them, in a lump, to the bag; these actions are not goal driven in any conventional sense yet are clearly creative activities. They are investigations in search of something unknown, often with no intended outcome beyond deepening familiarity with a material or medium or an idea. In such cases, the creative act is intrinsic, reflective, and even meditative. Its value lies in engagement, not delivery; in making, not producing. This form of creative practice, termed “art-in-the-making” by Frédéric Vallée-Tourangeau,<sup>27</sup> is likely overlooked in creativity research, perhaps because it’s unplanned or invisible.

### Creativity as Problem-Solving

Among the alternate framings of creativity, one of the most relevant for design practice is creativity as a mode of problem-solving. In

- 24 Daniel Fallman, “Design-Oriented Human–Computer Interaction,” in *CHI '03: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (New York: Association for Computing Machinery, 2003), 225–32, <https://doi.org/10.1145/642611.642652>.
- 25 Paul Dourish, *Where the Action Is: The Foundations of Embodied Interaction* (Cambridge, MA: MIT Press, 2001).
- 26 Vlad Petre Glăveanu, “Paradigms in the Study of Creativity: Introducing the Perspective of Cultural Psychology,” *New Ideas in Psychology* 28, no. 1 (2010): 79–93, <https://doi.org/10.1016/j.newideapsych.2009.07.007>.
- 27 Frédéric Vallée-Tourangeau, “Systemic Creative Problem-Solving: On the Poverty of Ideas and the Generative Power of Prototyping,” *Systems* 13, no. 3 (2025): 150, <https://doi.org/10.3390/systems13030150>.

this view, creativity is not the production of novelty but the capacity to navigate ambiguity, reframe constraints, and structure ill-defined problems into actionable paths (sometimes on the way to novelty and many times not). This echoes long-standing ideas in design studies that distinguish between problem-focused and solution-focused modes of thinking, as with Nigel Cross's illustration of a creativity leap as "the recognition of a satisfactory bridging concept that provides the illumination of the creative flash of insight."<sup>28</sup>

Design problems are not puzzles with singular-faceted solutions but rather complex situations. Creative work here involves defining what the problem is, identifying who it affects, and interpreting measures of success in context. This reframing of creativity aligns with the realities of professional practice and emphasizes appropriateness over originality. The value lies not in how strange or new a solution is but in how the designer negotiates tradeoffs, leverages and selectively ignores requirements, and enables meaningful action in an organization.<sup>29</sup>

Understanding creativity as problem-solving also reorients how we teach, reward, and research it. It encourages attention to process over output, to context over abstraction, and to skillful interpretation over brute-force ideational capacity. This lens, grounded in design's applied nature, offers a more robust account of creativity that does not require detaching it from the messy realities of doing design.

### Storytelling and Modeling, Instead of Measuring and Counting

Reframing creativity away from measurement and toward a view that is situated, process-based, practical, and rooted in problem-solving opens new paths for understanding it. This shift also helps generate shared knowledge of how creativity works while retaining the rigor and empirical grounding of meaningful research. One way to bring this to life is through storytelling; another is through modeling.

It is reasonable and extremely valuable for researchers to *tell stories* of what they have observed.<sup>30</sup> Through narrative, we can learn what decisions are made along the way toward producing an artifact. One of the most commonly cited and considered texts on how design occurs in practice is Donald Schön's *The Reflective Practitioner*,<sup>31</sup> and the primary mechanism he uses for building and sharing knowledge of creativity is through analyzing the discourse of the architect Wim Quist as he works with a student. This text resonates because it spotlights a story: We believe the context and get to know the characters, and so we can learn from their decisions and the way they present themselves and engage in their work. This form of storytelling shows up in Inger Mewburn's criticism of Schön's work too.<sup>32</sup> Mewburn notes that Schön's stories are incomplete, as they focus almost entirely on Quist rather than the experiences of his students. She too tells stories of alternative

28 Nigel Cross, "Creativity in Design: Analyzing and Modeling the Creative Leap," *Leonardo* 30, no. 4 (1997): 311–17, <https://doi.org/10.2307/1576478>.

29 Rahul Mohanani, Paul Ralph, Burak Turhan, and Vladimir Mandić, "How Templated Requirements Specifications Inhibit Creativity in Software Engineering," *IEEE Transactions on Software Engineering* 48, no. 10 (2021): 4074–86, <https://doi.org/10.1109/TSE.2021.3112503>.

30 James Paul Gee, *An Introduction to Discourse Analysis: Theory and Method*, 4th ed. (New York: Routledge, 2014), <https://doi.org/10.4324/9781315819679>.

31 Schön, *The Reflective Practitioner*.

32 Inger Mewburn, "Lost in Translation: Reconsidering Reflective Practice and Design Studio Pedagogy," *Arts and Humanities in Higher Education* 11, no. 4 (2011): 363–79, <https://doi.org/10.1177/1474022210393912>.

ways of teaching, one introspective account of what she perceives as her own failing and another story of observing a colleague in action, teaching through overly animated sighing during critique. These stories generate data about creativity, and what's more, Mewburn's body of research acts as a check on the validity of Schön's work, just as a replicability study helps build skepticism or confidence in laboratory findings and, again, generates new knowledge. Trading measurement for narrative does not abandon rigor. It just changes what we mean by the word.

Another way to tell stories of creativity is by modeling design work as it happens, and analyzing the result to identify patterns and trends, both within a group of designers and across design teams. Rianne Valkenburg and Kees Dorst modeled the way design teams work collaboratively<sup>33</sup> and used a unique visual language to illustrate how large-scale strategies relate to smaller design moves—the way *naming*, without advancing into *framing*, can stall progress. The findings themselves are interesting; the diagrammatic way in which they are represented is an illustration of the rich way creativity can be understood without resorting to counting novelty.

These stories and models do not reduce to generalizable facts—because creativity is not factual. The pursuit of a truth about creative cognition has no actual relevance to design in practice. Put another way, “proving” that people are more creative in the morning or that they produce more novel ideas when prompted with certain stimuli does not patchwork together into a meaningful understanding of creativity. Tests like Guilford's Alternative Uses battery compound the problem because they produce numbers that can be scored, compared, and graphed, but they do so by flattening creativity into quantity and speed, separate from judgment or context. A list of clever ways to use a brick shows that people can come up with clever ways to use a brick; it says nothing about how creativity happens in practice. These measures are dangerous, because they can be easily mistaken for understanding. Stories and models of behavior, on the other hand, reduce to generalizable *knowledge*. And that is the purpose of academic research.

### Creativity in Design Practice

Creativity, understood not as novelty but as process and problem-solving, is already shaping day-to-day design work (in ways that we may not actually like). In software development, teams routinely run A/B tests and push microreleases, adjusting a button color or reordering fields in ways that rarely appear creative when judged by novelty. When creativity is understood as an ongoing process, these small decisions become visible as cycles of exploration, iteration, and judgment. Over time, those refinements compound into measurable revenue gains—not because they are unprecedented, but because they are effective. A minor change in copy or form layout can produce a measurable increase in signup or purchase

33 Rianne Valkenburg and Kees Dorst, “The Reflective Practice of Design Teams,” *Design Studies* 19, no. 3 (1998): 249–71, [https://doi.org/10.1016/S0142-694X\(98\)00011-8](https://doi.org/10.1016/S0142-694X(98)00011-8).

rates. This creative work is a form of problem-solving—interpreting analytics, identifying friction, and making contextually appropriate design choices. It is also situated, because what succeeds depends on market expectations, organizational constraints, and the affordances of specific platforms.

These examples show that creativity, when understood beyond novelty, aligns directly with how businesses create value, not just how they generate ideas. The same pattern appears in more overt financially motivated contexts, such as when design is used to strategically increase average revenue per user. Teams may construct a premium version of a product from existing capabilities or refine feature bundles so that their value is more apparent, as is the case with good/better/best consumer electronics positioning. These activities draw on judgment and contextual experimentation rather than invention, and they are contingent on the needs of specific customer segments and cultural expectations. Similarly, entering an adjacent market with an existing product rarely involves creating something entirely new, but instead involves reframing (and often, redesigning in simple ways) what already exists to meet different regulatory and operational requirements. These are situated acts of creativity in the context of strategic design that solve concrete problems within known boundaries. Designers refine error states to be clearer, adjust images based on the dynamic needs of marketing, and streamline workflows to improve usability—activities that do not produce novel artifacts but that address specific obstacles to retention and operational efficiency.

The realities of this form of creativity may help us understand why a focus on innovation, which GE's former CEO described as the "only way out of the abyss called commodity hell,"<sup>34</sup> may have contributed to the implosion of the company,<sup>35</sup> or why the business community has largely rejected design thinking.<sup>36</sup> These ideas were grounded in a framing of creativity as novelty, driven in great part by the research described above.

For researchers, the implication is significant. When we study these forms of creativity and tell their stories through academic work, we provide a knowledge base that can inform both education and practice. The result is not only a richer theoretical understanding but also a set of insights that can travel outward, shaping how creativity is recognized, supported, and rewarded in the contexts where design work occurs. This work may not be as high profile or exotic as producing many new ideas for things that do not yet exist. For some in academia, the examples above may seem superficial or even antithetical to what they view the purpose of creativity to be. But it is precisely the tie from creativity to the realities of business that makes this body of knowledge worth expanding—because these design activities are connected to revenue and business growth, they become first class citizens in the eyes of business leaders.

34 Jeffrey R. Immelt, Vijay Govindarajan, and Chris Trimble, "How GE Is Disrupting Itself," *Harvard Business Review* 87, no. 10 (2009), [www.hbs.edu/faculty/Pages/item.aspx?num=48478](http://www.hbs.edu/faculty/Pages/item.aspx?num=48478).

35 Duri Chitayat, "[Case Study] GE FastWorks Transformation," *Duri Chitayat* (blog), October 2020, [www.durichitayat.net/ge-fastWorks-transformation](http://www.durichitayat.net/ge-fastWorks-transformation).

36 Lee Vinsel, "Design Thinking is Kind of like Syphilis—It's Contagious and Rots Your Brains," *Medium*, December 6, 2017, [sts-news.medium.com/design-thinking-is-kind-of-like-syphilis-its-contagious-and-rots-your-brains-842ed078af29](https://medium.com/sts-news/design-thinking-is-kind-of-like-syphilis-its-contagious-and-rots-your-brains-842ed078af29).

## The Influence of Reframing Creativity on Design Education

Research priorities impact pedagogy, and the way creativity is defined in scholarly work sets the frame for how programs teach students to approach design work. Because research has historically equated creativity with novelty, design education has inherited that bias. Students are taught to prioritize generative leaps over refinement and situated work. By shifting what we research and publish, we can help build curricula to better prepare students for forms of creativity that they will be expected to practice after they graduate.

A long-standing emphasis on novelty has led many design education programs to prioritize the early, generative stages of design—encouraging students to dream up entirely new products and services, sometimes grounded in research and sometimes driven purely by imaginative exploration. These activities are appealing because they feel unconstrained and playful, and students naturally gravitate toward them. The result is that new ideas are implicitly framed as better than existing ones, and portfolios emerge full of new apps and gadgets.

This focus has created a mismatch between what students are taught and what they encounter after graduation. When they enter the workforce, many discover that design work is often the practical, incremental, and heavily resource-constrained realities described above—far from the visionary ideation exercises they experienced in school. They may be demoralized to find that their work tasks involve optimizing the chamfers on a piece of industrial equipment, improving a payment flow for a piece of software, or adapting a product for a new regulatory environment. While these activities may not appear glamorous, they are precisely where creativity, understood as situated and process driven, thrives.

If academic research champions these alternate views of creativity, educators have an opportunity to change curricula accordingly. Programs can reduce overemphasis on lateral thinking exercises and the “go big” front end of the Double Diamond process, instead giving equal or greater weight to later phases of iteration and refinement. Capstone projects can be designed not around inventing something new but around improving something existing—redesigning an overlooked feature, simplifying something complex, or extending a product into an adjacent market. Discursive and speculative projects become more important, because they encourage students to design things that should not exist at all and then reflect on the consequences of their actions. Allan Chochinov argues, “I absolutely think that students (and indeed, professionals) should learn how not to design products,”<sup>37</sup> and that by encouraging the framing of novelty as critique rather than as aspiration, we can highlight the limits of “new for new’s sake” rather than celebrating it. Courses can also explicitly address the negative implications of novelty—sustainability, repairability,

37 Allan Chochinov, “To Design or Not to Design: A Conversation with Allan Chochinov,” interview by Steven Heller, *AIGA Voice: Journal of Graphic Design* (2009), [www.hellerbooks.com/pdfs/voice\\_allan\\_chochinov.pdf](http://www.hellerbooks.com/pdfs/voice_allan_chochinov.pdf).

and the long-term consequences of design decisions—so that students see both the cost and the value of what they create.

The methods we teach should also shift. Instead of one-off studies that treat research as a source of inspiration for innovation, students can be guided through longitudinal investigations, following a single design problem or product over time to understand how creativity accumulates and adapts. Through these changes, students can begin to see that practical, incremental work is not less useful or uncreative; it is the backbone of how design creates value. Students should leave school with portfolios that reflect process and refinement as much as innovation and with an understanding that creativity is most often found in ongoing decisions and adaptations rather than singular flashes of inspiration.

### Conclusion

Creativity is larger than, and different from, novelty. Research that treats the link between creativity and novelty as quantifiable reduces creativity to a positivist construct and often to *only* a positivist construct. It is unfortunate that the richness of creativity that was studied in the 1950s has been lost to the pursuit of an objective creative truth, but there is no reason that future creativity research, and design research in specific, must continue to embrace that goal. We should stop treating creativity as quantifiable and universal and instead study it in a situated manner. Boundaries of a definition of creativity should be based on the realistic way creativity shows up *in practice*: Creativity is embodied, situated, culturally contextual, disciplinarily specific, and phenomenological. These boundaries offer the academy a rich and true-to-life canvas of research opportunities—and a framing of creativity suitable for emergent curricular design and teaching.