

# Building Failure Fluency for Successful Failures in Architectural Education

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**Keywords:** Successful Failure, Failure Fluency, Community Education, Transformative Learning, Critical Reflection

**In the face of rapid change, instability, ambiguity and uncertainty, people require skill in adaptation and resiliency. These skills are applicable to the design profession and are a necessary part of being a global citizen in today's world.<sup>1</sup> An essential quality to adaptation and resiliency is failure fluency, a phrase that builds out from the concept of successful failure. For the authors, an interest in the phrases "successful failure" and "failure fluency" derive from narrative and grounded theory research into the experience of architectural and community educators. Specifically, architectural educators expect that students will be willing to explore, to fail, and to try again.<sup>2</sup> This expectation for a willingness and ability to fail—rooted in aspects of developing innovation and creativity<sup>3</sup>—often remains tacit, a desired outcome expected to arise out of the design process. Explicating the capacity for resilience developed through and within the design process, especially as it builds failure fluency for global citizenship, can be facilitated by aspects of co-creative learning found in community education. Placing at its foundation the work on successful failure by Eve Weinbaum, this paper presents definitions for both successful failure and failure fluency as they are developed through adult and community education theories. The paper outlines the process for that development and applies it to the specific site of the design studio to support architectural educators who, like the authors, wish to apply it to their teaching practice to develop agency in themselves and their learners. The paper concludes by tying back into the larger global goals of the conference.**

## BEGINNINGS

Motivation for this research derives from the authors' personal areas of research and this paper builds out from their collective conversations about the place of failure in community and professional education. For Wendy, successful failure is part of a larger conversation to support the development of learners as agentic beings who can guide their communities toward becoming more sustainable and more just. Wendy's 25+ years of experience as a community educator, working with national and international communities, imbues in her a commitment to the

global citizenry. Throughout her work, she has found impactful resonance with Eve Weinbaum's work on successful failures, having witnessed the concept in her own work with communities addressing environmental contamination. Though larger community goals may not have been met within the time frame of her involvement with a community (such as redeveloping a former landfill into a park), Wendy consistently witnessed community learners who were successful in building their capacity and agency to work toward such goals in collaboration with a range of stakeholders. And, more significantly, Wendy observed that community learners recognized this built (individual and collective) agency as a significant and meaningful outcome for themselves and their community.

Jennifer's interest derives from research into the authentic practices of architectural educators, which revealed that educators believe their role is to guide students in the processes and projects of design education and they expect students will be willing to explore and to fail.<sup>4</sup> This research was conducted in the author's community of practice and arose from larger faculty interests to help students develop critical thinking skills about the social and environmental impact they have as designers. Realizing that these beliefs about failure were often implicitly held expectations prompted the authors to discuss the potential of addressing failure for the co-creative capacity of professional education—more specifically, the growth and development of both the learner and faculty member within the design studio.

## FAILURE AND THE COSMOPOLITAN ARCHITECT

The emphasis on failure presented an opportunity for discussion among the authors about the concept of successful failure as Weinbaum alludes to it in her early research. Specifically, this includes Weinbaum's description that successful failures are defining elements for human agency. Her research undergirds this paper because of its direct and recurring relevancy in the authors' lived experience of their research and its particular focus on agency—what the authors present as the key to developing a cosmopolitan architect. The authors define the cosmopolitan architect as a person who can participate in the work of the built environment with agency, nimble enough to move from broad to specific architectural landscapes because they approach learning with a transformative lens. That is, the cosmopolitan

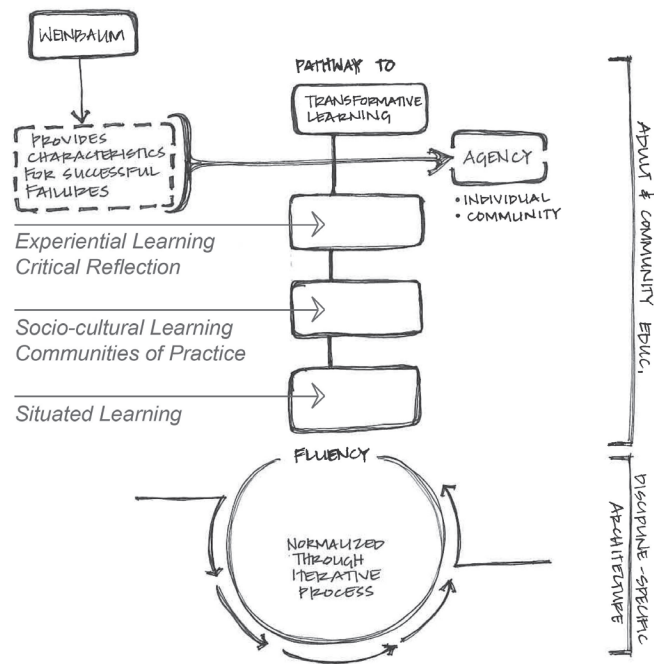


Figure 1. A visual map to explore connections among ideas. This one shows the shift from Weinbaum's characteristics for successful failure towards the outcome of agency by moving through qualities of transformative learning. Figure by authors.

architect can understand the structure of systems that influence their views of the world and how those influences impact decision-making in design. They employ these in their problem-naming and their problem-solving in a way that is respectful to the values of the places where they co-create. Their ability to vacillate across structural systems is made possible because they practice fluency in failure.

### BACKGROUND AND PROCESS FOR TERM DEFINITION

This paper works off the definition of successful failure as achieving agency despite a tangible goal not being achieved. The phrase successful failure is found in the work of Dr. Eve Weinbaum,<sup>5</sup> Associate Professor of Sociology & Labor Studies at the University of Massachusetts, Amherst and a community-activist and labor organizer researcher. Weinbaum's use of the term seeks to reposition the connotation of failure as it relates to political/economic activism: even though organizers' original goals were not accomplished, personal development still occurred. Weinbaum found that participating community members gained confidence in their activism, developed their sense of self, felt empowered, and developed critical awareness and understanding of becoming an agent for change. This fostered professional growth, sustaining platforms for future political and economic activism, which further secured community membership. Ultimately, this led to a sense of something having been accomplished and a feeling of the ability to do more, shifting

from hopelessness to hope and an ability to see possibility for change in the future (of which the participants' themselves could mobilize).

Weinbaum's use of successful failure indicates a link to self-actualization and the development of critical consciousness, concepts in liberatory pedagogy and democratic education as defined by Paulo Freire, Myles Horton, and bell hooks.<sup>6</sup> It also links to transformative education,<sup>7</sup> and through other adult and community education theories, it connects to aspects of human development and the role of post-secondary, higher, and community education to assist people in their own development.<sup>8</sup> Personal development, in the form of critical consciousness, is what leads people to becoming better members within their local and global environments.<sup>9</sup>

### EXPLICATING FAILURE FLUENCY

Part of the intent of this paper is to find a working definition for the concept of successful failure (as outlined above). In exploring the definition, the authors came to see the concept of successful failure as outcome dependent and, upon further discussion, determined that there is something else taking place to foster agency relative to failure—the idea of failure fluency. As a connected phenomenon to successful failure, the authors have come to define failure fluency as an increasing capacity in the ability to sustain and utilize failure for developing agency, which evidences an increase in resiliency to handle and pursue failure. Clarifying the use of the term provides the context by which the action of failure fluency can be described, specifically within the educational community of practice of the design studio. In this way, the theoretical concept of failure fluency is developed from adult education theories to become a teaching methodology.

### TRANSFORMATIVE LEARNING AND FAILURE FLUENCY

Figure 1 presents the basic connective information the authors use to situate the concepts of successful failure (outcome) with failure fluency (engaged process). Though there are many educational theories at work in this process, the interconnected ones of transformative learning, experiential learning, critical reflection, socio-cultural learning, communities of practice, and situated learning are among the strongest for engaging aspects of failure within the site of architectural education. Agency recognizes a person who has been transformed, whose perspective has been widened. A key element of this transformation is failure fluency, which is made possible by educational theories that address learning through doing and learning in place. To provide a context for each of these theories, a brief description is presented below.

Transformative learning is an adult development process whereby learners' worldviews and perspectives are significantly affected by critically reflective integration of experience.<sup>10</sup> The goal is developing a perspective "that is more inclusive, differentiating, permeable (open to other viewpoints), critically reflective of assumptions, emotionally capable of change, and integrative

of experience.”<sup>11</sup> Learners developing new perspectives on failure is an indication of experiencing transformative learning.<sup>12</sup> In a study involving adult literacy programs in community and prison settings, Tett identified a connection between early learning experiences and learners’ subsequent self-identification as failures with respect to literacy and learning. This study also uncovered processes which contributed to learners overcoming negative discourses, including those around failure identities. These include recognizing knowledge and experience, learning and changing as part of a group/community, giving and receiving care in learning environments both with instructors and peers, and exploring changing their habitual practices around learning.<sup>13</sup> Emphasis on conscious attenuation to changing past behaviors and beliefs about failure suggests the importance of making failure fluency an explicit goal of education, including any sub-discipline of education such as the professional education of architecture.

Because experience, critical reflection, awareness of socio-cultural factors, and the site of learning all play into transformative education, further inclusion of the responding theories becomes significant. Theories about experiential learning explore the relationships between life experience and learning. Facilitating experiential learning involves developing authentic activities reflecting real-life experiences and acknowledging the role of past experiences in new learning. In experiential learning, reflection is one of the two major ways that learners transform information into learning.<sup>14</sup> Reflection becomes critical when it involves the identification of assumptions that frame the way individuals think and act, including checking the validity of these deeply-held assumptions. Thinking and action are evaluated by assessing ideas and decisions from different perspectives.<sup>15</sup> A way in which this can be achieved is by following a conscious process of critical reflection through stages of learning, to include: noticing what is being learned; making sense out of the learning; and assimilating the learning to make meaning out of it through attunement to past learning so that it may accommodate tensions, contradictions, and complexities that allow the learner to reframe their own knowledge, with increasing ability.<sup>16</sup>

To be capable of doing this, the learner must be aware of the spheres of influence that play into their meaning-making. This happens by recognizing major forces that shape their beliefs, as well as the sites or specific situations where beliefs are reinforced or challenged. Socio-cultural learning theories assert that learning occurs in and is shaped by social and cultural contexts. Advocating for learner-centered approaches, facilitation of socio-cultural learning takes into account the social, community, and cultural relationships in which learners are steeped.<sup>17</sup> This includes the communities of practice where learning occurs and where varying social and cultural contexts bump up against one another. “Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.”<sup>18</sup> Theories about situated learning or cognition acknowledge this role of context

in learning. The people, places, and resources that populate any given context shape the learning process and experience;<sup>19</sup> attention to this learning through doing allows the learner to become better at their craft<sup>20</sup> and to become better at holistic, meta-level thinking.<sup>21</sup>

Nuances of all these theories play into the way that learners work to understand and develop failure fluency, and they are all, at one time or another, integrated into the work and thinking of design education as it is explored in the design studio. Furthermore, these theories are at work in all individuals within that learning setting (i.e., students, faculty, and other stakeholders alike). For this reason, it is important to understand how the individual may further develop to gain ability and clarity in the practice of failure fluency for the creation of successful failures.

### THE SIGNIFICANCE OF A COMMUNITY EDUCATION APPROACH

Community education refers to educational programming and processes that address community-identified needs and problems. It “involves recognizing the rights of those who experience problems to define appropriate solutions and campaign for their implementation often against the vested interests of the powerful.”<sup>22</sup> At its best, community education can provide learners with the opportunity to develop agentic and collaborative skills for addressing locally identified issues through democratic processes, both strengthening civil society and developing a citizenry capable of decision-making and action. Key characteristics of community education include 1) recognizing and reinforcing learners’ existing knowledge and experiences as resources for addressing problems, 2) combining existing local and cultural knowledge and practices with new learning to help learners identify new concerns, 3) acknowledging that deep learning comes from group hands-on activities, 4) reflecting critically can flow from these activities, and 5) learning in community extends from local to national and global levels.<sup>23</sup>

Defining the concept of successful failure acknowledges the importance of reframing an individual’s past experience with failure. According to Horton, failures are more educational than successes, provided they are critically reflected upon and integrated into future efforts. Developing a willingness to fail was an important learning objective for Horton as without it, he felt that individuals would “always choose easy goals and learn from that to continue to choose easy goals.”<sup>24</sup> A willingness to fail encourages the pursuit of higher goals and advances the possibility of change.

Moreover, Tett asserts that participating in community education can help learners reframe past personal failures in learning from an individual into a social problem.<sup>25</sup> Community education, which is rooted in social change, can help learners connect their individual experiences to larger issues, which can lead to awareness of inequity, questioning of assumptions, and challenging societal norms (all important factors in the current set

of complex global issues). Facilitating failure fluency is key to community education efforts as

Once people and communities are positioned as failures then it becomes difficult to make choices and have their desires fulfilled. However, if they can be helped to challenge individually-based, deficit views of themselves and their communities then a small step has been taken in enabling their voices to be heard.<sup>26</sup>

### SUCCESSFUL FAILURE AND FAILURE FLUENCY IN CREATIVE PRACTICE

There are unique considerations to design education that must be considered to ground the phenomena of successful failure and failure fluency in architectural pedagogy, especially as it relates to creative practice. One helpful resource for the concept and practice of resiliency and failure is the text *Iterate*.<sup>27</sup> The authors, both game designers and teachers, clearly describe and demonstrate the iterative process of creation as it is generated through successive failures. They provide thick descriptions for the process, and name portions of the process, indicating a workable definition for the execution and understanding of failure nuanced to the process of design itself. They do this by interlacing three concepts of design: creativity, failure, and iteration.

Sharp and Macklin find that “failure is ever-present in creative practice, so any useful approach to making things has to account for failure.”<sup>28</sup> The authors find that failure offers creative practitioners new ways to perceive their practice, their perceptions of the world, and their ability to express themselves. They, too, note that the possibilities to learn more about the creative process and the creator’s self is made possible through critical reflection. To account for meaningful failures, Sharp and Macklin point to Amy Edmondson’s<sup>29</sup> continuum of failure. Edmondson, a professor of leadership and management at Harvard Business School, developed the spectrum of failure reasons to indicate that when failure types are better understood, there is more room for them to become an actionable procedure in the way people work. This can be extended to the way people behave outside of work and can be utilized to foster greater agency as it gives people language to reconsider their previous learning about failure. It is important that normalizing the concept of failure include a more in-depth consideration of failure as a multi-faceted concept. In many ways this demystifies failure; it also provides a clear tool for critical reflection on the part of both the student and the educator.

Both Edmondson and Sharp and Macklin mention the importance of vulnerability and openness (especially with critique) relative to “failing better.” In her Critical Response Process, dancer, choreographer, and teacher, Liz Lerman, points to the importance of helping creative practitioners hone in on what they really want to accomplish, to make explicit what they are trying to do, and then to have the audience ask them targeted questions to help them further understand how their work and

intentions are received.<sup>30</sup> In both Sharp and Macklin’s work and Lerman’s, there is emphasis on the intention of the work and deliberate practice—an awareness on the part of the practitioner to become better by gaining insights into their work through failure. A notable distinction in the practitioner’s ability to do this is an “intentional vulnerability that transforms failure from something to fear to something to respectfully acknowledge, consider, and integrate into one’s practice.”<sup>31</sup> Sharp and Macklin also make the important clarification that one cannot presume that all learners “have the resources to face failure head on.”<sup>32</sup> This makes attention to adult and community education theories—which clearly encompass how to help learners gain critical developmental resources—vital for the use of failure fluency in architectural education.

### SITUATING EDUCATIONAL THEORIES IN THE CONTEXT OF THE DESIGN STUDIO

What adult and community education theories offer, especially the ones noted here, are a way to consider the culture, systems, and procedures<sup>33</sup> of education that impact how learning takes place. The authors contend that the educational environment that inspires global citizenship is one of co-creation. That is, learning happens in relationship to agents within a context. The context is one of mutuality between the agents, which at the very least, are the student and instructor.

Mutuality in co-creative learning spaces acknowledges that all parties involved are capable of learning, or as literacy advocates and community educators Paulo Freire and Myles Horton referred to it, the people involved are unfinished, in a state of becoming.<sup>34</sup> This acknowledgement then provides a way to look at what each participant might achieve regarding successful failure in their shared co-created learning space.

Both parties seek to accrue agency, and both do so in terms of criticality, but from different positions of power—the student gaining power and the instructor shifting power. Both seek personal involvement, but from different positions of development. Both also seek skill, but from different levels within their community of practice. This happens through careful consideration, attending to the co-creative space as well as the external spheres of influence that define one’s worldview or knowledge paradigm (figure 2).

At the disciple specific level of architectural education, and at the heart of its curricular structure, the design studio, there is a unique co-created space. Achieving agency out of successful failures by developing failure fluency requires attention to the external spheres of influence, including the participants’ attitudes and beliefs about failure. To do this, the instructor must be deliberate in the intention of the studio. Edmondson notes that there must be a culture in place that not only tolerates failure as a learning tool, but honors it. There must be systems in place that make failing, and failing faster to fail better, possible. There must also be procedures that make recognizing failure a regular



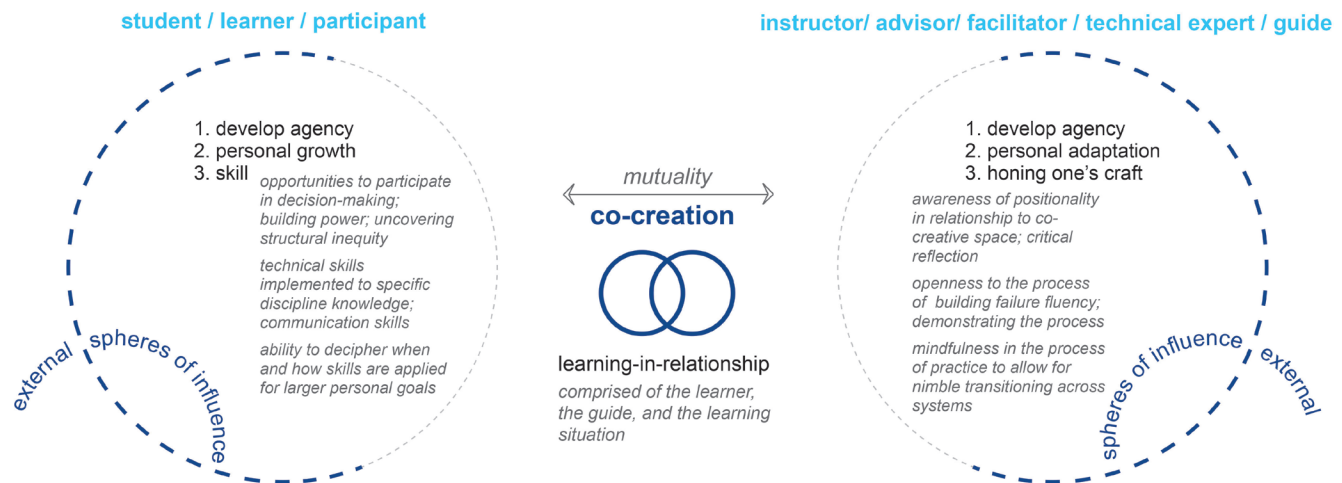


Figure 2. A visual map of the co-created space for developing failure fluency in participants within the community of practice. Figure by authors.

part of the daily work.<sup>35</sup> In terms of creative work, Sharp and Macklin believe that iteration is the procedure that accounts for this. And in the design studio, iteration is a recognized practice.

### ENGAGING FAILURE FLUENCY IN THE DESIGN STUDIO

Pulling all these thoughts together and instrumentalizing them in the design studio involves three major ideas. First, to normalize failure, instructors must have explicit conversations about failure, this includes unpacking the idea that failure is one universal concept of being wrong. Presenting students with readings about failure that teach them about the term and its profitable use within creative activities helps them understand that failure is a multi-faceted concept of its own and not something negative and unproductive.<sup>36</sup> To uncover attitudes and beliefs about failure, students may engage in writing prompts.<sup>37</sup>

Second, the coursework must be designed to allow for students to engage failure. This includes accounting for enough time for students to participate in iterative cycles with several opportunities to begin again. The coursework should also allow the instructor the ability to make real-time shifts to the descriptions and deliverables of the project that are responsive to the evolving needs of the students. The coursework should incorporate time for reflection throughout its length. One of the most significant aspects of this approach is a shift in emphasis from a product-oriented approach to one that focuses on process. Additionally, students need support in unpacking their goals for design so that they can learn to become intentional with their evolving design practice. This includes helping students to think critically about how their worldviews influence their conception of failure, as well as the creative process in general.<sup>38</sup>

Third, the instructor must do the difficult work of evolving their own understanding by demonstrating their ability to move through failure. This includes showing an openness to what the

project exploration may lead to, based on getting to know the individual students and their ways of processing. Edmondson remarks that part of building a culture that fails well is by engaging discussions on failure with humility and curiosity.<sup>39</sup> Educators able to do this demonstrate that the studio environment (and ultimately the practice of architecture) is a laboratory for evolving ideas that have the capability to address complex issues, such as those faced by contemporary practitioners. To further support the culture and systems of the community of practice, faculty must be willing to critically reflect on the actualization of the studio with other faculty to make meaningful future iterations of the course and larger curriculum.

### BROADENING THE SCOPE TO THE GLOBAL SCALE

Architecture, as a profession, requires continuing education. Life-long learning, a hallmark of adult and community education, professes the importance of continuing education as a co-learning process that is a necessary and important characteristic of adulthood. Community education also promotes critical assessment of adult development with a focus on self-defined growth. That is, it derives from what is important to the individual in their environment, to help them define and improve their individual lives, the lives of those in their community, and their local environments. In a globalized world, local environmental changes have an impact on global scales.<sup>40</sup>

For global paradigm shifts to occur in the field of architecture, participants in the creation of the built environment must share the resiliency skills evidenced across various types of education.<sup>41</sup> To develop a global citizenry capable of addressing current and future challenges, learners must prioritize citizenship and climate education.<sup>42</sup> This takes many types of literacies beyond the foundational (e.g., reading, numeracy), including science, health, environmental, digital literacies, and failure fluency. To move toward holistic sustainability, global citizens must create

a new normal that allows individuals and the communities they participate in to experience failure constructively. Part of that process is social and cultural change around established norms (e.g., time is money, no space for reflection, no margin for failure) that do not serve the greater global population. This type of paradigm shift is only made possible through the attentive education of forthcoming decision makers, to include advocates such as the cosmopolitan architect.

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35. Edmondson, "Strategies for Learning from Failure."
36. Suggested readings include Sharp and Macklin, *Iterate*, and Edmondson, "Strategies for Learning from Failure."
37. Selected prompts for exploring failure fluency may include: for failure, My failures have helped me learn...Not living up to my expectations means...; for success: If I knew I would not fail, I would...The time I succeeded at...; for resiliency: My struggles have shaped me into...When I act from my courage...; for fluency: Practices that have helped me develop fluency in something are...I am fluent at \_\_\_\_\_ because...
38. This is fostered through the critical reflection process highlighted earlier in the paper, which utilized the work of Brookfield, *Teaching for Critical Thinking* and Moon, *Reflection in Learning and Professional Development*.
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