# MYRUBRIC, A CO-CREATIVE JOURNEY TO ACTIVATE RESILIENT LEARNING COMMUNITIES

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## ABSTRACT

Nowadays, designers deal with increasingly complex and meaningful challenges. Because of that, design schools are required to deliver professional designers capable of handling what future decades might bring. Therefore, resilience, generally described as the process of adapting well in the presence of adversity, makes it a valuable quality future generations of designers could develop. As resilience is still an abstract concept within the education domain, this MSc graduation project aimed to explore how it could be built and enhanced in such context. The approach chosen to tackle that question was initially to analyse the literature regarding resilience. Then, to perform an in-depth autoethnographic study in a moment resilience was systematically present in the faculty of Industrial Design Engineering: the COVID19 lockdowns. Finally, the learnings from that period and previous literature research were synthesized into a theoretical framework that aims to assist educators in conceptualizing interventions to foster resilience in learning systems. This framework was implemented to design and evaluate My Rubric, a co-creative guide for adaptive assessment, which aims to offer a constructive and resilient alternative to the current rubric.

*Keywords: Resilience, design education, rubric*

## 1 INTRODUCTION

Now more than ever, designers deal with increasingly complex and meaningful challenges [13]. One clear example of those is how the world had to cope with the effects of the COVID19 pandemic on a global scale [4, 15]. In any case, the future decades will also bring all sorts of new threats that designers will need to face for mankind's sustainable development [20]. Such complex problems require complex solutions, as they often involve elaborate systems of stakeholders and issues [4]. However, designing for such complexity is not easy, especially in a world that is changing and evolving at a fast pace. Consequently, innovation in Design curriculums is required [13] to ensure that the next generations of designers are capable of handling what future decades might bring.

It was the beginning of 2020 when the COVID19 pandemic made people's lifestyles change radically [15]. Despite the severe nature of the crisis the world was and still is experiencing, this moment can be seen as a basis for meaningful change and transformation. The pandemic surfaced the need to acknowledge mental health and well-being in our daily lives [7,15]. Furthermore, there is a concept that gained strength these past few years as a response to the pandemic's impact [2]: Resilience, which is generally described as the process of adapting well in the presence of adversity or, in other words, bouncing back despite difficulties and thrive. Those characteristics, along with others that will be further explored through this article, make resilience a valuable trait designers could develop to be ready to face those so-called 'wicked problems' of the 21st century.

Although resilience is widely known in psychology, unfortunately, it is not clear yet how it can be conceptualized within the education domain, as the methodology to implement it in higher education's curricula is still under research [5]. Consequently, some questions arise from that, such as how resilience is conceptualized in that specific domain, how to promote it among educators and students and how it can be embedded in educational structures, practices or tools.

The approach chosen to tackle those questions was to first unveil what resilience entails in educational settings through a literature review. To complement that research, a case study was carried out in the faculty of Industrial Design Engineering (IDE) to gain first-hand insights into how resilience was present in a moment in which was mostly needed, the COVID19 Lockdowns. All those research inquiries are finally synthesized in the Resilient Learning Communities framework, which aims to assist educators

in conceiving actions that will serve resilience development in learning systems. Finally, this framework was implemented to design and evaluate a specific intervention, My Rubric.

## 2 UNDERSTANDING RESILIENCE

### 2.1 What is resilience?
Resilience has no universal definition [5]; it can be observed through different lenses and those can vary in function of the context within it is described. After exhaustive desk research on resilience definitions, 4 different variables were identified as core characteristics of resilience in learning environments.

- Resilience as the capacity to **overcome challenges**, adapting well in the face of adversity and dealing with unpredictability [1].
- Resilience as the capacity to **embrace setbacks as learnings**, by seeing those moments as opportunities for innovation, meaningful change, and development [6, 18]
- Resilience as the capacity to **manage well-being, stress and anxiety** that directly affect one's physical and emotional state [1, 6].
- Resilience as the capacity to **maintain core elements such as identity and/or structure** when facing difficulties [10, 12].

### 2.2 How to build resilience?
Resilience is defined as a developmental process [18], which can be indeed modified as new threats or challenges emerge along with life events. In other words, it is performative [6], and dynamic [11]. Some authors even envision it as a practice [12], which educators can foster by creating environments that support it [6]. Therefore, it can be concluded that acquiring resilience is a process that learners can train through time, and the conditions for that to happen can be priorly designed for [6].

Authors generally refer to those threads as risk factors, which represent a detrimental effect on an individual's Basic Psychological Needs (BPN) such as protection, emotional security, attachment, and social interaction [18]. Even though those factors can be subjective, there are several educational and psychological theories that support BPN reinforcement at a universal scale, and therefore when combined, might lead to effective resilience development. For that, Mitchell and Shastri described in their research three fundamental Resilience Building Blocks, which represent a basis for a practical approach to resilience theory [14, 18]. Being those 1, 'Secure base', refers to having a good network of external support figures and a sense of belonging and security. 2, 'Good self-esteem', means to have a clear perception of internal qualities, which are seen as strengths and a sense of worth and competence. And finally, 3. 'Self-efficacy 'addresses the sense of mastery and control, when learners possess a deep understanding of personal strengths and limitations.

### 2.3 Bringing resilience into education
The RBB serve as a frame to evaluate and choose theories that fit the purpose of building resilience in educational settings by supporting the reinforcement of the BPN and matching with resilience's definition in learning systems. The following elements compose the basis of a construct that aims to translate the theory of resilience to its practical application:

*i* Self-Determination Theory (SDT): The SDT has its roots in the fulfilment of the basic psychological needs of Relatedness, Competence, and Autonomy, fundamental for social development, growth, and integration, as well as personal well-being [17]. Those BPN, can be respectively related to the RBB.

ii 13 Fundamental Needs: Desmet & Fokkinga identified 13 universal and fundamental needs [8], which are organized in a design-focus typology and are considered essential for growth and happiness.

*iii* Reflective Practice (RP): Harvey's ecology of reflection theory explains how beneficial reflective practice in experiential learning is [10]. Reflection is a key support for members of a Learning Community in their own learning processes, which may lead to transformative learning, improvement of self-regulation abilities, and development of learner's identity [19].

## 3 EXPERIENCING RESILIENCE
In order to get first-hand insights into how resilience can be present in learning environments, a case study was carried out. Autoethnography [9, 21] was used as the main method to explore how the Learning Community (LC) of TU Delft's faculty of Industrial Design Engineering (IDE) underwent a

process of building resilience during a specific range of time: The COVID19 Lockdowns, which represented a pivotal moment in education. That resilience emerged from the synergy originated between students, educators, and institution, which led to positive change and transformation from individuals to the whole system; fostering in this way collaborative change and iteration of the community′s strategies to cope with the situation in healthier and effective ways. And thrive.

The recollection of experiences that served as main source of data was supported by interviews with representatives of different parts of the system: 4 Design for Interaction students, 3 Course Coordinators and 4 members of the faculty′s Management Team. The autoethnographic research posed an opportunity to collect the learnings from that time and abstract what made resilience stem in a specific academic context. Those inquiries led to six Resilience Factors:

- **Vision:** Setting a clear and common vision, specific goals, as well as structure in how to get there.
- **Flexibility:** Enabling the right tools to let staff and students choose their own pathways to reach those common goals.
- **Collaboration:** Forming partnerships across the faculty to strengthen each other.
- **Support:** Having open communication that enables safe spaces to voice needs, hopes, and concerns and act upon them.
- **Connection:** Nourishing trust and meaningful relationships based on empathy and kindness and community feeling.
- **Well-being:** Changing priorities from performing efficiently to balancing work and personal life in healthier ways.

## 4    SPREADING RESILIENCE

All the insights drawn from the literature review and autoethnographic research were synthesized in a framework that would serve as lenses for effective resilience development. The framework, depicted in Figure 1, combines the bits of the theories and factors identified to be essential for it to flourish. Its main purpose is to translate the knowledge on resilience into actionable insights that assist educators to conceptualize interventions that foster resilience in learning communities.
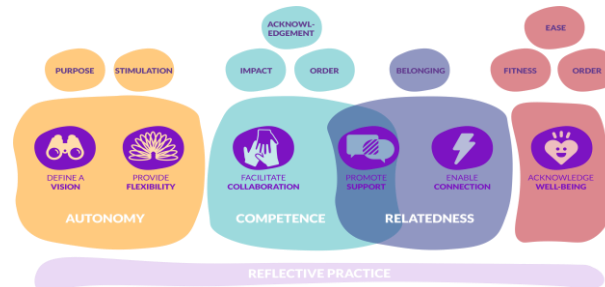


*Figure 1.The Resilient Learning Communities*

## 5    FINAL INTERVENTION: MYRUBRIC

The next step was to put the framework into practice by designing an intervention for the faculty of IDE. One of the insights drawn from the case study is how students' BPN are highly influenced by the interactions they have with their coaches and mentors. Therefore, it seemed a context that could benefit a resilient intervention. The focus of the intervention was expectation misalignment in courses, which was identified as one of the main tensions that affects coach-student interactions in multiple levels.

### 5.1  Intervention design

The articulation of constructive alignment in education [3] is made explicit in rubrics. Currently, the rubric is usually crafted in a unidirectional way coming from course coordination, which might be seen as a hinder to students  autonomy and competence. Therefore, the intervention will build up on the main pillars of the Resilient LC framework and aims to reframe this widely used tool towards: **Relatedness:** Feeling welcomed and supported through one′s learning process; **Competence:** Having one′s learning

environment under control and a sense of safety to exercise and learn new skills; and **Autonomy:** The facilitation of critical thinking and ownership to steer one′s learning process in the desired direction.

## 5.2  My Rubric's characteristics

My Rubric is a co-creative guide for adaptive assessment, which aims to offer a constructive, resilient alternative to the current rubric. In a nutshell, it will assist the development of resilience in members of learning communities by facilitating a process in which teachers and students (i) align their expectations by co-constructing a shared understanding of the learning objectives (LO) and outcomes of a given course (ii) prompt active reflection and dialogue to reach that alignment, (iii) develop awareness and ownership of their personal learning experience. My Rubric has three main intervention moments scheduled throughout a course, which are:

*   **Kick-off:** This co-creation workshop scheduled at the very beginning of the course represents the core of the intervention. Its main goal is to create a common ground between coach and students and facilitate the translation of abstract course LO's into feasible and desirable actions or outcomes that would contribute to their collective and individual learning progress. Through it, students and coaches deconstruct and discuss the meaning of the original course LO. Furthermore, they are given the possibility to change those LO in agreement with the group.
*   **Reflective moments:** Both reflective moments intend to bring awareness back to what was agreed on during the Kick-off session and how that is reflected in students ′learning process and work. Both follow Rolfe's reflective model [16] and are organized around important course milestones. On each moment, students and coaches reflect and discuss the course progress, student's (self)assessment of LO, next steps for the learning journey, and how student and coach contribute to each other's learning experience.

## 5.3  Intended impact

This research assumed that My Rubric would have a positive impact on resilience. To assess its effects, it was considered how its actions contribute to the 4 resilience variables in learning systems (Table 1).

*Table 1. My Rubric's intended impact in the four main resilience variables.*

| ACTION | OVERCOME CHALLENGES | FOCUS LEARNING | MAINTAIN WELL-BEING | HAVE A SENSE OF IDENTITY |
|---|---|---|---|---|
| **a.** Enrich the interactions between coaches and students in dialogue sessions | | | +++ | + |
| **b.** Provide the group an environment in which they are welcome to explore | ++ | + | ++ | + |
| **c.** Collaboratively define a common vision composed by outcomes ought to be achieved, possible actions to get there, and assessment criteria | +++ | +++ | | |
| **d.** Facilitate the bridging between personal past and future experiences and examples to enable such reflections | ++ | ++ | | ++ |
| **e.** Offer the possibility to modify in agreement aspects of the LOs and their success criteria | | +++ | + | + |
| **f.** Reflect on individual ambitions towards the course | | ++ | + | +++ |
| **g.** Trigger self-reflection and assessment on one's learning process | | +++ | | +++ |

## 6   EVALUATIONS

Once the design of the intervention was finished, it was essential to conduct a session to assess such impact. For that, 3 coaches and 4 students from the MSc Design for Interaction evaluated and reflected on My Rubric in a morning session by role-playing its Kick-off session in an already existing course. In it they used its materials and discussed how their journey would have changed if the intervention had been implemented in the course programme. Students and coaches came up with the following reflections:

**a.**   My Rubric helped them understand each other's perspectives and allowed them to introduce to meaningful topics in the conversation.

**b.**   Taking the LO apart could be helpful to get a better grip of what the course is about and what is expected from students and offer the possibility to discuss other ways to reach the same common goal.

c. My Rubric helped them clarify what the definition of 'quality of work' was for the group and offered them opportunity to address things that are never contemplated in a rubric, but definitely affect a project's process and outcomes, such as individual core values.

d. Both agreed on the importance bringing up examples and personal experiences, not limiting the conversation to outstanding results, but rather focus on the process or depict failure as means of learning.

e. From their perspective, when developing the 'new rubric', it would be essential to seek fairness and coherence instead of making the gaps between groups bigger. Despite that, they acknowledged that developing an agreement among their group might help diminish that feeling.

f. Students appreciated the possibility to create a personal goal to reflect on and define their individual motivations on the course.

g. By conveying that the process is open, debatable, and non-linear, students felt they could steer it to the most inspiring directions. Both coaches and students argued the importance of reflection in the learning process.

## 7 IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS

Resilience as a practice is a widely known concept in psychology, however, the methodology to embed it in educational curricula is still under investigation [5]. Consequently, the purpose of this research was to explore how resilience could be built and enhanced in the education domain to be able to conceptualize interventions, mechanisms, or tools to assist its development in higher education systems. The results of both literature and contextual research inquiries indicate that a theoretical equivalence exists between theory in resilience [14, 18], education [19] and wellbeing [8]. Those insights supported and built on each other, having as a basis the correlation between the main Resilience Building Blocks and the fulfilment of the basic psychological needs of Autonomy, Competence, and Relatedness defended by the Self-Determination Theory [19]. This hypothesis led to a practical construction of resilience′s lenses: the Resilient Learning Communities framework, which aims to fill the gap between resilience theory and practice and assist educators in conceptualizing resilient interventions in learning systems. The research concluded with the design and evaluation of a single intervention, My Rubric.

Because of the lack of methodology in resilience within education, the framework poses an initial attempt to bring resilience from abstract to actionable in learning environments. Furthermore, as it is based on universal needs, it can be applied to multiple contexts and levels of abstraction, from individuals to whole systems. Indeed, the practical application of those lenses in the development of My Rubric, had highly promising results, as the actions thought to make an impact on resilience were positively received by the participants. The most rewarding insight is how the co-creation of a shared understanding among teachers and students of a course learning objectives, could have a huge positive impact on their learning processes, triggering reflection, ownership, and collaboration.

However, there are a few limitations that affect the conclusions of this study. From a methodological approach, the evaluation unfolded through a morning, making it hard to define concrete results on the long-lasting effects of the intervention. Fairness between groups, time, and self-assessment accuracy were the main concerns shared among participants. Following that line, there are some recommendations worth be considered in future research studies. Firstly, to evaluate the effectiveness of the framework by letting other educators or experience designers create new resilient interventions. Secondly, bigger-scaling testing with My Rubric is required to determine its overall impact on learners' resilience.

## 8 CONCLUSIONS

Now more than ever, designers need to tackle complex problems, which are becoming more and more demanding, as they involve all kinds of disciplines and stakeholders. Therefore, resilience, the capacity to overcome difficulties and thrive, seems a great aspect designers could develop to be able to tackle those future challenges. This study suggests that the best place to start to develop such resilience would be in our current Design Education. Consequently, it explored ways in which it can be built and enhanced in higher education systems. The literature and context studies were collected to fill the gap between resilience theory and practice: The Resilient Learning Communities framework, which aims to assist educators to conceptualize resilient interventions. Such framework is based on three main pillars identified as essential for resilience development, being those: a. Feeling welcomed and supported through one′s learning process, b. Having one′s learning environment under control and a sense of safety

to exercise and learn new skills and c. Practicing critical thinking and ownership to steer one′s learning process in the desired direction. All the knowledge gathered is synthesized in a single intervention, My Rubric, a co-constructive and resilient alternative to the current rubric, which evaluation led to promising results in all these three pillars. Consequently, further research needs to be conducted to assess the framework's effectiveness and My Rubric′s real impact on staff and student  resilience.

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