

## WORKSHOP

# ‘Failure’ in engineering education: Moving forward by taking a step back

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### WORKSHOP MODE

The workshop will be facilitated **in-person**.

### OVERVIEW OF WORKSHOP

“Failure” is an inherent part of engineering, in for example the screening or prototyping phases of design process. However, many undergraduate students don’t see such ‘failures’ for the learning opportunities that they can be (Kelley & Kelley, 2015) and instead often start their engineering degrees with a fixation on getting things right, first time. We want to open up discussion about the place of failure in engineering, different types of failure (Edmondson, 2023), and discuss how failure might be incorporated in teaching and assessment.

### ACTIVITIES

The workshop will involve a mix of interactive whole-group activities, plenary discussion, as well as small-group discussion and presentations. Tables for groups of 5-8 participants, along with poster paper, markers, and post-it notes, will be used to facilitate interaction and discussion.

### TARGET AUDIENCE

No prior knowledge is required for this workshop. It will be of interest to engineering educators interested in normalising failure and shifting students’ fixation on getting correct answers.

### OUTCOMES

The objectives of this workshop are to:

- Normalise ‘failure’ as a part of engineering
- Introduce a framework of different types of failure
- Equip participants with some ideas of incorporating ‘failure’ into curriculum
- Equip participants with some strategies to assess “learning from failure”

### REFERENCES (OPTIONAL)

Edmondson, A. C. (2023). *Right kind of wrong: The science of failing well*. Simon and Schuster.

Kelley, D., & Kelley, T. (2015). *Creative confidence: Unleashing the Creative Potential Within Us All*. HarperCollins publishers.

### KEYWORDS

learning from failure, intelligent failure, design iteration

### PRESENTERS’ BACKGROUNDS

Both Adam Liberatore and Scott Daniel are experienced engineering educators who have successfully presented many workshops around the world. Some of the workshops, however, have been failures.