



YALE NATIONAL INITIATIVE

to strengthen teaching in public schools®

Curriculum Units by Fellows of the National Initiative
2021 Volume V: Human Centered Design of Biotechnology

Harnessing the Power of Failure as a Catalyst for Innovation

Guide for Curriculum Unit 21.05.09, published September 2021
by Charlette Walker

One of the greatest obstacles to learning is a paralyzing fear of failure that keeps a person from making an effort. However, the process of learning involves trying, making mistakes, learning from those mistakes, and trying again. Failure is a necessary component of innovation as well, and students must be taught to embrace the process of exploring different possibilities, making mistakes along the way, learning from those mistakes, and making new discoveries. This will require a shift in mindset towards a growth mindset that will increase the capacity for students to learn any subject and to become innovators in the process. This unit will use the principles of Design Thinking to help students harness the power of making mistakes to find novel solutions to challenging problems. Students will be inspired by other innovators who made discoveries by mistake while in the process of trying to create something else. Students will have multiple opportunities to participate in hand's-on activities where they will learn from their mistakes and innovate something new. This unit is appropriate for middle school students, but can be modified for older and younger students in S.T.E.M. classes, as well as any class where students are struggling with the concept of failure.

(Developed for General Science/Digital Literacy, grade 8; recommended for Science and ELA, grade 6-8, and Engineering/STEM, grades 9-12)

<https://teachers.yale.edu>

©2023 by the Yale-New Haven Teachers Institute, Yale University, All Rights Reserved. Yale National Initiative®, Yale-New Haven Teachers Institute®, On Common Ground®, and League of Teachers Institutes® are registered trademarks of Yale University.

For terms of use visit https://teachers.yale.edu/terms_of_use