DCU Credne
Fostering Creativity at DCU

Speedy Techniques

Designed to Fail

Problem-solving in reverse

CATEGORIES: PROBLEM-SOLVING, DESIGN, DIVERGENT THINKING

This simple concept can be modified and used in lots of different situations – with groups or with students working individually, and with everything from short concept exercises to the design for their own research projects. The idea is to reverse the usual approach, and plan at first not for success but for failure – extravagantly, flamboyantly, imaginatively. The technique encourages divergent thinking, and in the end should produce ideas that students wouldn't come up with if they approached the task in the usual way.

Steps

1. Begin by sharing some examples of notable design failures with the students. These can be detailed examples directly relevant to the subject area (e.g. the anatomy of an engineering or marketing failure). But if you just want some generic funny "epic fails" to warm things up, there are lots of online examples. Encourage students to think about **how** those failures happened – what was the process?
2. Set the students up with their design task. It can be something that they will actually go on to produce, or purely hypothetical; it can also be "design" in the broadest or most abstract sense: plan a business strategy, suggest an economic policy, design a research project. But instead of taking the usual approach, tell students that they must actively design the project to fail. In every element and at every stage, everything about it must be deliberately intended to avoid success. There are two rules:
    a. They have to actually produce a design/plan; doing absolutely nothing will obviously lead to failure – but it's not allowed here. If the task is to design a boat, they have to actually design a (failing) boat!
    b. One single catastrophic failing element (e.g. the boat has a huge hole in the hull) is not enough; they need to build in failure in all areas.

Monitor and periodically remind students to identify and eliminate any remote possibilities for success.

3. **Optional steps**:
    a. Students will probably surprise you by how quickly they focus on "serious" failings for their design; e.g. "the boat's engine mounting will be poorly positioned so it ends up going round in circles", rather than "the boat is also used to house a wild tiger". But if they are coming up only with tigers, you may need to nudge them to include a few poorly positioned engine mountings too!
    b. Warn students against creating an inadvertent "so bad it's good" success (you could mention the Leaning Tower of Pisa or the cult movie *The Room* as examples). Their design should have absolutely no redeeming qualities.
    c. Conduct a failure audit: if students are working in teams, have members from other teams temporarily join as auditor; the auditor should question the group about their design, and probe for any chances of success that might have been overlooked.
    d. At the end of the process, you could ask students to present their design. This should get some laughs, and you could also use it as a variation on the audit process, with other students questioning the presenters about any lingering chances of success they might spot.
4. At the end of the process, tell students to itemise the failure-guaranteeing aspects of their design. Having done this, tell them to simply reverse the process – what would they need to do to **avoid** each of those routes to failure? In the end they will have a list of elements and attributes designed for success. Some will be very obvious – "make the boat out of paper" (which should have been picked up by an auditor – a paper boat would work if well-enough waterproofed and reinforced) swopped for "make the boat out of fibreglass". But some should be highly original, and should mitigate in advance against potential weaknesses which would not otherwise have been identified.

ONLINE? YES – THIS WORKS IN AN ONLINE CLASSROOM WITH BREAKOUT ROOMS.

PHYSICAL RESOURCES? NONE REQUIRED FOR THE BASIC FORMAT, BUT YOU MAY WANT TO PREPARE RELEVANT EXAMPLES OF DESIGN FAILURE FOR THE INTRO.