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Help Your Students Apply Their Research By Learning to Pivot

What is a Pivot?

Eric Ries, author of The Lean Start-up uses the term "pivot" to describe a change in strategy without a change in vision.

This involves identifying and focusing on the most valuable elements of an idea through a process of hypothesizing, researching, and modification:

1. **Develop a hypothesis.** Great ideas start as questions rather than answers. It's all too easy to fall in love with a fully formed idea or product, making it difficult to modify it.
2. **Conduct primary research.** To do so, entrepreneurs develop and compare different prototypes, conduct surveys, and observe how people react to their idea.
3. **Modify the original hypothesis.**

Why is it Valuable?

Learning is a process of continually adding to our ideas, and modifying ideas that are based on flawed assumptions or incomplete information. Our ability to learn is frustrated when we become overly protective of our ideas, or start to see them as end points rather than stepping stones to more sophisticated concepts.

By encouraging students to continually test and revise their ideas as their projects take shape, we are arming them with a fundamental tool for lifelong learning.

VIDEO RESOURCE

Eric Ries Explains The Pivot. This 4 minute video can be found in the Research & Discovery section of the Entrepreneurial Thinking Toolkit.

Pivoting in Your Classroom

Introduce a class assignment with the short activity on the reverse of this page.

- This activity reinforces the importance of building the ability to pivot directly into the start of a project.

Have your students keep track of and share moments when they pivoted.

- Have your students keep a point-form journal throughout a large project, and have them identify and justify moments in which they pivoted their idea.
- Alternatively, you can have students provide these project updates orally at key moments throughout the project.

Add a section for pivoting directly to your marking schemes. Here are some success criteria that you can adapt:

- Progression of ideas is evident through multiple iterations of project thesis.
- Student is able to explain and justify changes made to initial project concept.

Lead by example and pivot your lesson approach/assignment design based on student feedback.

- By asking students to provide feedback on how to improve, you are empowering them as co-creators of their education while simultaneously modeling the flexible, pivot-based approach that will help them succeed well beyond any single classroom activity.

ACTIVITY: The Importance of Pivoting in Research

Click here to download a PowerPoint version of this activity

Activity Time: 10 - 20 mins

The Kremer Challenge:

In 1959, wealthy business magnate Henry Kremer offered £50,000 to anyone who could build an airplane powered entirely by a human.

Conditions of the Kremer Challenge:

- The aircraft must be able to take-off under human power
- It must be able to fly in a figure 8 course covering approximately 3 km
- It must be able to clear a 10 foot barrier in the middle of the course

Class Ideation:

In groups, have students generate answers to the following:

1. What are the main problems that must be overcome to build an aircraft that can accomplish the conditions outlined by the Kremer challenge?
2. How would you attempt to solve these challenges?

Activity Debrief:

Students present the problems they identified and the solutions they came up with.

Compare these problems and solutions to the approach taken by Paul MacCready, the engineer who won the challenge in 1977:

MacCready's Problem:
How do I get feedback that will allow me to rapidly pivot my design?

MacCready's Solution:
Build a modular aircraft that could be quickly changed in the field using simple tools. As a result, he was able to run many test flights each day, then rapidly pivot his design based on what he learned from that field data.

MacCready's competitors focused on making a light weight, low-drag version of planes that already existed. In other words, they relied on what they already knew about how airplanes work.

By defaulting to their existing ideas, they were unable to come up with a dynamic solution to a set of new aeronautical problems.

THE LESSON: The most innovative research leads you to new ideas, rather than reinforcing what you already know.