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Help Your Students Structure Brainstorms Using Design Thinking

What is Design Thinking?

Design thinking is a mindset and a methodology used to better understand problems and implement creative solutions.

This approach was first articulated by David Kelley, co-founder of the world-renowned design firm IDEO. His company has designed products for some of the most iconic brands in the world, including Apple, Steelcase and Oral-B. Its rapid growth throughout the 1980s was due to the fact that it didn't simply create "things" - it designed solutions for customers' problems. Kelley realized early on that this approach could be applied to much more complex problems.

In 2004, Kelley founded the d.school at Stanford University, a fellowship program that provides design tools for engaging with systems-level problems. Since then, design thinking tools have become increasingly popular among entrepreneurs and educators.

Why is it Valuable?

- **It encourages intrinsic motivation.** Effective design starts by considering why a problem is important to solve, providing a definitive sense of purpose for the project.
- **It combines multiple learning styles.** The design process is highly visual and tactile because it relies heavily on prototypes. It also cultivates effective oral and written communication because collaborators must constantly share their ideas.
- **It encourages self-assessment.** Designers assess themselves by tracking the extent to which their designs solved the initial problem, then adapt their approach accordingly.

MaRS VIDEO RESOURCES

Sherry Lin, from the consulting and design firm Architext, discusses simple techniques her team uses to encourage new ways of seeing problems.

This short video is titled "Importance of Play" and is located in the Getting Started section of the Entrepreneurial Thinking Toolkit.

Design Thinking in Your Classroom

Introduce design thinking with the brainstorming activity on the back of this page.

- This highly collaborative activity introduces a process used by design teams as they generate ideas and solve problems.

Use the process outlined on the back of this page to structure course-specific brainstorms.

- Since no two projects or problems are exactly alike, the design process must remain highly adaptable. With this in mind, adapt the techniques introduced in this activity to meet the specific needs of your course.

Find inspiration in other design-inspired educational initiatives:

- For a deep dive into design thinking, check out this free educator's package from IDEO: http://www.ideo.com/work/toolkit-for-educators
- To see a really interesting application of design thinking check out Maximum City, a program developed at a Toronto high school that uses design to help students rethink urban spaces: maximumcity.ca

Design Thinking Brainstorming Activity

Activity Time: 25-35 minutes

Design Challenge

In groups of three to four, students have 25 minutes to come up with ways of increasing self-directed learning in their classroom.

STUDENTS SPEND FIVE MINUTES ON EACH OF THESE STEPS

Look For Analogies

In their groups, students make a list of places and activities that require them to explore or choose their own path.

EXAMPLES: MUSEUMS, CAMPING, RECESS, MINECRAFT OR OTHER BUILDING-BASED VIDEO GAMES.

Ideate Using Sticky Notes

How could you incorporate features of these places/activities into the classroom? Write each idea on a sticky note, and place it on a piece of chart paper.

REMEMBER: STUDENTS SHOULD NOT BE CENSORING THEMSELVES AT THIS POINT. GO FOR QUANTITY, AND ENCOURAGE CRAZY IDEAS.

Build on Others' Ideas

Move to another group's chart paper and expand upon their brainstorm. Write new ideas on sticky notes, and stick them to the initial ideas they have built upon.

HINT: DURING THIS ACTIVITY, STUDENTS SHOULD BE ASKING QUESTIONS LIKE "WHAT WOULD MAKE THIS WORK?" AND "WHAT WOULD MAKE THIS EVEN BETTER?"

Analyze and Organize

Groups return to the chart paper they started with, and move the sticky notes into clusters of similar ideas or themes. Give each cluster a label that explains the similarities.

EXAMPLES: LABELS MAY INCLUDE "SELF-DIRECTED ACTIVITIES," "NEW CLASSROOM LAYOUT," "TECHNOLOGICAL SOLUTIONS" AND SO ON.

Rapid Prototype

Each group selects the cluster of ideas that they are most interested in pursuing. Have them create a rough sketch or diagram of one way that these ideas could be executed. Share these prototypes with the class.

HINT: FOR MORE DETAILS, SEE THE RAPID PROTOTYPING ACTIVITY FOUND IN THE IDEA DEVELOPMENT SECTION OF THE TOOLKIT.

What Success Looks Like

Students emphasize the positive aspects of each idea generated

- Rather than dismissing ideas, students expand upon them. You hear them saying "Yes, and..." rather than "No."

Creative synthesis of information

- Students build on each other's ideas. You see clusters of connected sticky note ideas that have been generated by multiple students.
- Students try multiple headings or themes when organizing ideas.