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HACK MY SCHOOL

PROJECT-BASED LEARNING

Teacher Overview

A hackathon is a sprint-like design event with a specific focus. The goal of the hackathon is to improve upon or innovate a selected industry, service, or even a company. Hack My School is a project-based learning (PBL) activity that asks students to address a problem happening in their school with the belief that addressing this problem will improve their school environment. Students will use the five stages of the Design Thinking process to identify a specific problem and generate one solution or perhaps multiple possible solutions that address the specific needs of their target market. This is a real-life application activity, as students will be encouraged to test their prototypes and continue to iterate their solution or solutions.

When to Use This Lesson

This activity can be used at any point during your YE program.

Time

The amount of class time required will depend on the way you choose to have students experience the Hack My School project.

BEFORE CLASS PREPARATION

- If you need a design thinking refresher, review the "Design Thinking How To Guide" on YE Academy.
- Decide any additional learning outcomes you expect your students to achieve.
  - For example, do they need to address specific marketing, business finance, economics, or entrepreneurship standards in addition to the general expectations of the activity?
- Develop your project timeline, including deadlines and deliverables.
  - Include a deadline when your students need to share the prototype(s) (e.g. product, service, procedure, etc.) they will create and test with their target market so you can purchase the necessary supplies.
  - Using the date of when students will present their solution, work backwards to outline milestones and expectations so students can stay on track.
- Determine how your students will regularly reflect and receive feedback throughout the project.
- Decide how the school problem will be selected. Here are some ideas:
  - Allow your students to choose which problem(s) they want to address.
  - Select a specific problem that your students will address.
  - Work with your school leadership or school board to determine a problem(s) they would like your students to address.
- Decide if you will have students work individually, in teams, or allow student choice of with whom they work.
  - Consider having your students, whether working individually or in teams, complete an "Action Plan" – see this document posted in the lesson on YE Academy.

MATERIALS

- Depends on the kind of the prototype solution(s) students decide to create.
- Optional:
  - Hack My School - Action Plan
  - Hack My School - Research Log
  - Hack My School - Reflection Log

KEY TERMS

- Market research
- Target market
- Customer focus
- Empathy

LEARNING OBJECTIVES

- PE LO 1c, 1g, 3a, 3b, 3d, 3e

FOUNDATIONAL VALUES

- Responsibility
- Knowledge
- Passion
- Opportunity
- Sound Judgment
- Win-Win Focus

ACTIVITY INTRODUCTION

- Your school's leadership wants to improve upon or innovate your school environment to better address the needs of its target market… you and your peers! It has approached you to help identify a problem(s) and generate a solution(s), as it knows some of the most creative and best solutions come from its students and wants to encourage ownership of the solution(s) developed.

ACTIVITY DIRECTIONS

Throughout the project, it is important that students are reflecting on their work regularly. Check out the "Reflection Log" document posted in the lesson on YE Academy for an idea of how you could do this.

Part 1: Empathize

- Students must conduct research to learn more about the problems of their school so they can determine which problem they should address to improve or innovate their school environment.
  - Ideally, your students will survey their peers to learn what they see as school-related problem or problems.
  - This market research may involve interviews, shadowing, observing, or engaging with their target market.
- Allow students to generate their own driving questions – These are questions that focus their research through the design process. What do they need to discover to help them generate a solution and answer the essential question of "How can my school environment be improved or innovated upon to better address the needs of our target market (its students)?" As they research, make sure they are recording what they learn – Check out the "Research Log" document in the lesson on YE Academy for a way to do this.
- Examples of driving questions might include:
  - Who is the target market that I want to help? (e.g. all students, female athletes, 12th graders, etc.)
  - What problem(s) does my target market identify as being the greatest barrier to their success at school?
  - What problem(s) can be addressed to improve my target market's school experience?
  - What goals does my target market have? How can our school help them achieve those goals?
- Some potential problems that students may be interested in addressing:
  - Improving school spirit
  - Increasing graduation rates
  - Stopping bullying, including cyber bullying
  - Enhancing opportunities for students to engage in career experiences (job shadowing, internships, etc.) during the school day
  - Decreasing tardiness
  - Decreasing truancy
  - Preventing vandalism or graffiti
- Options:
  - Do a school walkabout. Get your students out of the classroom and exploring your school campus to inspire ideas.
  - Coordinate with other staff to allow your students to conduct market research with their target market. This may need to happen on multiple occasions as students refine and test their solutions.
  - Host an in-class panel with your school leadership and/or staff. Allow students to pick their brains about the kind of problems they notice or would like to see solved.

Part 2: Define

- Based on what they learned during the Empathy component of the Design Thinking process, ask students to define the problem experienced by their target market.
  - **Pro-tip:** Use the Persona Canvas to define the problem from the customer's perspective.
- This may also include: identifying needs or pain points, recording insights, outlining objectives of the target market, etc.
- **IMPORTANT:** Make sure the information developed in each step is recorded throughout the project. This information can be recorded in the "Research Log".

Part 3: Ideate

- Now that students have defined the problem experienced by their target market, it is time to ideate solutions. This is when students brainstorm creative solutions, using "Yes and" thinking to diverge and converge upon potential ideas.
- It is important that you (as the facilitator of the project) are encouraging wild ideas and helping the student prioritize those ideas.
- **IMPORTANT:** Again, the development of their ideas and solutions should be recorded throughout the project. The "Research Log" can be a potential document – This Research Log may gradually morph into more of a Project Log over the course of the project.

Part 4: Prototype

- As students narrow down their several ideas to a potential solution, it is time to develop prototypes. This might include illustrating their ideas or building mockups or storyboard displays.
- Your role in this stage is to encourage students to fail fast and iterate quickly. And if students need material to develop a prototype(s), to help supply those materials.
- Option: Use the Business Model Canvas or other tools from www.Strategyzer.com to have students outline their solution.
  - Although students may not be developing a business idea, the BMC can be a useful tool to outline any kind of customer-focused solution.
- Option: Hold in-class panels with school administrators and/or staff so students can receive feedback on their prototypes throughout this phase of the Design Thinking project.
- **IMPORTANT:** Again, the development of their ideas and solutions should be recorded throughout the project - the "Research Log" can be a that document.

Part 5: Test

- Allow students the opportunity to test and receive feedback about their prototype solution(s) from their target market. Does it solve the problem(s) identified during the Empathy phase? What works? What doesn't work?
  - As they test their prototypes, they should gather feedback and record it in their "Research Log".
- This feedback will often likely prompt the need to ideate again, to refine their prototype(s) and conduct additional testing with their target market.
- As the facilitator, encourage and allow time for students to test their prototype multiple times. The more times they test their prototype(s) and receive feedback from the target market, the more they will solve the market's specific needs.

Part 6: Present Solution

- Have students prepare a brief pitch to share their solution. Here are some ideas of how you could set up this pitch:

- Class Pitch: Students can pitch their solution in front of the class, using whatever visual aid they feel best supports their idea (PowerPoint, model, display board, etc.).
- Video Pitch: Incorporate digital media and audio/visual skills by having students create a video pitch to share their idea. This can be posted to YouTube or your school website to share with community members.
- Gallery Walk: Students can create a display for their solution. Visitors to the gallery walk will visit each display to learn about the problem being addressed and the proposed prototype that solves the problem. You could split the class into groups and rotate who plays the role of visitors in each round. You could also invite other classes to visit. Be sure to include a way for visitors to give feedback to the presenters – This could be comment cards, have visitors "vote" for their favorite idea, etc. You could use YE bonds to have students vote.
- Judges Panel: Invite in staff, administrators, school board members, community members, etc. to sit on a panel to hear each prototype be pitched. The judges will provide feedback to the presenters. You could also have the judges select the top pitches.
- Student Choice: If possible, allow students to choose which presentation method best suits their solution and personality. This may be difficult logistically; however, it will give your students greater ownership in the project.

Part 7: Post-Presentation Reflection

> Engage students in a reflection of the entire project by referencing their Research Log or Project Log. Ask them to think about what they learned and the process of how they learned it. Are they proud of their work? What would they do differently next time?

SUPPLEMENTAL ACTIVITIES

> Optional: Expand this project to include a variety of other standards or competencies that with which your students may need more practice. For example, you could ask your students to design a marketing campaign or conduct a S.W.O.T. Analysis if they need to improve mastery in these areas. This project also allows for great cross-curricular opportunities, like collaborating with digital media classes to design logos or advertisements or an English class to write a research paper.

ACTIVITY DEBRIEF

> What do you think was the cause of the problem that you chose to address?
> How effective do you believe your solution is? How could you measure this?
> How is developing solutions to problems within your school demonstrating Responsibility?
> How did you seek and use the best Knowledge during this project? Did you share any Knowledge that you discovered with others?
> How did Freedom play a role in the selection of the problem you chose to address, as well as the design of your solution?
> Were you able to show Passion through this project? How so?
> How were you able to demonstrate the Foundational Value of Opportunity during this project?
> How did the design of your solution display Sound Judgment?
> Were you able to use Win-Win Focus in the design of your solution? How would your target market and school environment benefit from implementing your solution? Are there any losers as a result of your solution?
> What was the most challenging part of this project and why?
> If your school leadership could only select one solution to implement, how would you justify your solution over all the others?