

Entrepreneur: Measures of Central Tendency

Adventure Description:

In this adventure, students will think like entrepreneurs and start a food business after analyzing data from a focus group using measures of central tendency.

Activity

Step 1: Background Information on Entrepreneurs and Measures of Central Tendency (5-10 minutes)

- Show [Video: Measures of Central Tendency](#).
- Discuss how an entrepreneur is someone who starts or runs their own business. Before entrepreneurs start a new business, they conduct research to understand whether people will buy their product or use their service. Discuss what would happen if entrepreneurs didn't conduct research before launching a business idea.
- Explain that one way that entrepreneurs collect data on the viability of their business idea is by getting feedback from focus groups. A focus group is a diverse group of people that represent the opinions of a larger group. If time permits, discuss pros and cons to analyzing data based on feedback of focus groups.
 - Pros:
 - Allows for data to be gathered quickly.
 - Allows an entrepreneur to get feedback on their product before sending it to production.
 - Cons:
 - The focus group's opinions might not represent the opinions of the larger group. (e.g., a focus group of middle school students from San Antonio, TX might not have the same opinions as middle school students in San Francisco, CA).
 - Might not include representatives from all demographics (e.g., age, race, socioeconomic status).
- Next, explain that one way that entrepreneurs analyze data from focus groups is by using the measures of central tendency. Show [Handout: Measures of Central Tendency](#) and review how to find the mean, median, mode, and range.

Step 2: Activity Set Up (2-5 minutes)

- Explain to students that they will imagine they are entrepreneurs who want to start a new food business. They will analyze data from a focus group and develop a product to sell. Provide students [Handout: Steps to Start a Food Business](#) and [Handout: Data From a Focus Group](#).
- Teacher note: students can work individually, in pairs, or in small groups for this activity.

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Step 3: Analyzing Focus Group Data (20+ minutes)

- Have students complete step 1 on the handout. Students will read background information. Once students have read through background information, have them complete step 2. Students will use measures of central tendency to analyze data collected from a focus group.
- Provide students with calculators to complete this step.
- See [Handout: Teacher Key](#) for answers to student questions.
- Optional discussion:
 - Do you see any outliers? How can outliers skew or change the results we see? Why might an entrepreneur choose to ignore an outlier and not include it in analysis?
 - There is an outlier in the data set: Number of Purchases From a Food Truck in the Last Month.
 - An entrepreneur might ignore that data point because it doesn't represent the average number of food truck purchases.

Step 4: Creating a Minimum Viable Product (25+ minutes)

- Explain to students that they will complete step 3, creating a minimum viable product (known as an MVP). Explain to students that a minimum viable product is a preliminary version of a product. It is a product that can be used to see whether or not people would be interested in buying the product.
- As a class, discuss reasons that an entrepreneur would create a minimum viable product (e.g., get feedback on a product before spending a lot of money producing it).
- Provide students with art supplies and recycled materials to create their MVP.
- When students are finished building, have them present their MVPs to the class. Encourage students to discuss how they analyzed the focus group data to make their decision about whether to start a vending machine business or a food truck business.
- If time permits, discuss pitfalls of analyzing data only using measures of central tendency.

Extra Time?

- Explain to students that they will create a crowd-funding video to raise awareness and money to fund their new food business. Explain to students that “crowd funding” is when an entrepreneur funds their business with money from a lot of different people. Entrepreneurs develop an internet campaign that explains the goal of the business to advertise to potential contributors. In exchange for giving money to the company, contributors typically own a part of the company.
- Provide students with [Handout: How to Create a Crowd-Funding Video](#). If time allows, have students record their videos using a smart phone or tablet.

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Materials List

Provided online:

- Video: Measures of Central Tendency
- Handout: Measures of Central Tendency
- Handout: Steps to Start a Food Business
- Handout: Data From a Focus Group
- Handout: How to Create a Crowd-Funding Video
- Handout: Teacher Key

Not provided:

- Art Supplies and Building Materials

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