

Teacher Overview

The following activity will challenge your students. Many of them will fail to answer correctly. Correct answers are not the goal of this activity.

Known as the Cognitive Reflection Test (<https://www.aeaweb.org/articles?id=10.1257/089533005775196732>) it has many uses. For the purpose of the Youth Entrepreneurs curriculum, it helps introduce and reinforce concepts related to Sound Judgment, Be Principled, and, if deployed in conjunction with the YE Classroom currency (YE dollars) it can create an Opportunity for the students to build wealth by solving problems.

The goals of this activity include knowing when to use reflection to make sure that you understand the real question being asked and not fall into the trap of reflexive thinking. These questions allow the facilitator to point out the tendency toward over-valuing our mental reflexes when it is much more valuable to slow down and reflect on the problem presented.

Also, this activity is a solid introduction to the concept of humility in the face of failure. It helps your students recognize that moments of failure are inherent to long term success. We can find value in failure through learning new things and managing circumstances that lead to failure in the future.

Also, the lesson reinforces the concept that we must be willing to acknowledge when we don't know an answer. This requires integrity and humility to admit failure publicly and to oneself. When faced with lack of knowledge, or a lack of the skill set necessary to overcome a problem or take advantage of an opportunity, an entrepreneur knows that the need to create value remains. In order to do what is right (integrity) by continuing to pursue value creation, an entrepreneur appeals for help from others. This requires humility to admit a lack of understanding or skill, and the respect to recognize such skill or knowledge in others.

When to Use This Lesson

This lesson should be used within the first week of class. It can also be used again, several times, to reinforce the underlying goals and to check to see if students are truly learning and retaining the concepts.

Time



FOUNDATIONAL VALUES

- > Knowledge
- > Sound Judgment
- > Be Principled

BEFORE CLASS PREPARATION

- > Review questions and answers. Make sure you have an understanding as to how to arrive at the correct answers.
- > Have notecards and YE dollars ready along with the slide presentation.
- > Do not display the slide presentation until directed to in the lesson.

LEARNING OBJECTIVES

- > Principled Entrepreneurship LO 2a, 2b
- > Innovation LO 2b, 2c

MATERIALS

- > Notecards for each student to record answers
- > Three Simple but Not Easy Questions slide presentation
- > YE currency

KEY TERMS

- > Integrity
- > Value Creation
- > Respect
- > Humility
- > Competitive Advantage
- > Reflective Behavior
- > Reflexive Behavior

ACTIVITY INTRODUCTION

Remind students that Entrepreneurship is simply solving problems for profit and that they are going to get an opportunity to earn profit by solving some simple problems today.

ACTIVITY DIRECTIONS

- > Each student gets a note card. Ask them to write their name on their card.
- > Tell the students that they will be asked 3 simple but not easy questions one at a time, and that you will give them 60 seconds to answer each question. Ask them to write their answers on their note cards.
- > Let them know that you will be paying for correct answers:
 - 1 YE Dollar for the first correct answer
 - 2 YE Dollars for the second correct answer
 - 3 YE Dollars for the third correct answer
- > Each student can potentially earn 6 YE dollars for the answers.
- > Have students signal you individually when they are ready for you to check their answers..
- > Move around the classroom to check their answers and pay them accordingly.
- > Do not reveal to the individual students which answers they got correct or incorrect. Save this for the debrief.
- > Take mental notes while checking their answers. How did they react?

ACTIVITY DEBRIEF

- > Say: "The brain is made to see patterns and we reflexively think and act based on those expected patterns."
- > Call on a student and ask them to reflect on how they learned to add $2+2$. Once they have responded, ask them if they still use that same process. Generally the answer will be yes. This will help the students understand the previous statement.
- > Lead students slowly through the correct answers and allow them to ask questions as you go. Using the presentation titled "3 Simple, but Not Easy Questions", go through the three questions. The goal is to help them arrive at the correct answer to the questions.

1. A bat and ball cost \$1.10 in total. The bat costs \$1.00 more than the ball. How much was the ball?

Answer: \$.05

Say the ball costs X .

Then the bat costs \$1 more, so it is $X + 1$.

So we have $\text{bat} + \text{ball} = X + (X + 1) = 1$.

1, because together they cost \$1.10.

This means $2X + 1 = 1.1$, then $2X = 0.1$, so $X = 0.05$.

This means the ball costs 5 cents and the bat costs \$1.05

OR

Ball = X

Bat = $X + 1$

Together the ball and bat = \$1.10

$X + (X+1) = 1.10$

Combine like terms, $2X + 1 = 1.10$

Subtract the 1 from each side, $2X = .10$

Divide X by 2, $.05 = X$

This means the ball costs 5 cents and the bat costs \$1.05

ACTIVITY DEBRIEF

2. If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 of the same machines to make 100 widgets?

Answer: 5 minutes

- > If it takes 5 machines 5 minutes to make 5 widgets, then it takes 1 machine 5 minutes to make 1 widget (each machine is making a widget in 5 minutes).
- > If we have 100 machines working together, then each can make a widget in 5 minutes. So there will be 100 widgets in 5 minutes.

3. In a lake there is a patch of lily pads. Every day the patch doubles in size. If it takes 48 days to cover the entire lake, how long would it take to cover half of the lake?

Answer: 47 days

- > Every day FORWARD the patch doubles in size. So every day BACKWARDS means the patch halves in size. So on day 47 the lake is half full.
- > Ask students: "Was it personally difficult to accept that you got the answer wrong? Or that you were not figuring it out? How did you respond to not figuring it out?" Take a few responses from the class.
- > Say: "Successful entrepreneurs have the integrity and humility to acknowledge their own lack of understanding when they don't know something. They have the humility to seek out others who can help them understand why their thinking was flawed."
- > Explain to students that entrepreneurs have to be able to control their use of reflexive and reflective behavior. Operating solely on reflexive behavior can easily lead to costly decisions and negative outcomes.
- > Give them an example they can relate to. Ask if anyone has played basketball. Ask if anyone has ever gotten a technical or fouled out of a game. Ask them to explain their behavior directly after. Explain how their reflexive behavior affected the team, coach, etc. You can also relate it to something that has happened in your life.
- > Sound Judgment requires reflection and contemplation as well as not falling into the trap of deceptive patterns like the 3 questions.
- > Tie this back to the example you discussed with the students. Did they foul out of a game again, if so how did they react?
- > Even though you may not have gotten the questions all correct, what did you learn through this activity? For example, did students give up? Did they not believe that their answers were incorrect even after walking through the correct answers? Perhaps you had students get all of them correct. How did they behave when they were validated? Did they show humility toward their peers or did they flaunt their intelligence? Dig deeper into what it means to have Sound Judgment and Be Principled in regard to the outcomes of this activity.

Simple, but Not Easy Questions

1. A bat and ball cost \$1.10 in total. The bat costs \$1.00 more than the ball. How much was the ball?
2. If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 of the same machines to make 100 widgets?
3. In a lake there is a patch of lily pads. Every day the patch doubles in size. If it takes 48 days to cover the entire lake, how long would it take to cover half of the lake?