

## Adapted Activity

### Description of Original Activity

Describe the textbook activity in paragraph form. Include the following information: 1) What are students required to do? 2) What language skill is the activity focused on? 3) What is the level of difficulty of this activity? Explain

This activity comes from *Step Forward (Level 5)* Unit 10 Lesson 3 Section 2 “Preview and Read” (p 114-115). Students are asked to read an article, answer eight reading comprehension questions on their own, and then pair off with a classmate and answer four more questions. The activity is challenging because of the vocabulary but the subject matter might be boring and unapplicable to some students.

## 2 Preview and read

- A** Skim the first paragraph of the article. What is the source for the ideas and arguments the article will discuss?
- B** Read the article. According to Professor Juma, what is one reason people resist innovation? Why is it important to understand resistance to new technologies?

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## WHY DO PEOPLE RESIST INNOVATION?

Although many welcome and embrace new technology, technological advancement has long been a cause of public controversy. Throughout history, humans have resisted new innovations, even when they would benefit from them. In a book titled *Innovation and Its Enemies: Why People Resist New Technologies*, Professor Calestous Juma chronicles<sup>1</sup> the history of human opposition to innovation over 600 years and explores reasons for it. Examples in the book range from controversy over coffee in medieval times to current debates about the potential impact of technology such as drones, 3D printing, or artificial intelligence.

One of Professor Juma's main assertions<sup>2</sup> is that people don't resist innovation because it's



Listen for phrases that signal opinions or express hedging; read and discuss attitudes towards innovation

new or because of ignorance. Rather, they resist it because they fear loss: loss of identity, loss of income, loss of power, or loss of a traditional way of life. One historical example was the adoption<sup>3</sup> of mechanical farm equipment. People who lived off food grown in the community or who farmed land for money were less eager to use farming machinery because they knew it would change their way of life.

Both proponents and opponents of an innovation often make bold claims to bolster their arguments. Sometimes the claims are based on fact, and other times they are not. Coffee, for example, was banned at various times in different places because, among other claims, it was said to cause hysteria<sup>4</sup>. Juma argues that the basis of this type of reaction was an instinctive fear of new technology. He says that a new product or technology challenges people's outlook on the world, and that reaction is frequently based on emotion and perceptions of a new technology, rather than actual evidence.

These reactions can be intensified if the public believes that benefits of the innovation will apply to only a small segment of society, while risks could have an impact on a large portion of society. This explains why technologies advanced by large corporations often encounter stronger opposition from the public. In a similar fashion, opposition to innovation is likely to be stiffer if the public feels that risks will be felt in the short term, but benefits are only likely to appear later on. Additionally, presenting scientific evidence to address resistance, without addressing the underlying loss, is less likely to be successful.

Why is understanding the underlying reasons for resistance important? Resistance to innovation could deny society the opportunity to take advantage of new technologies that might address environmental, economic, or health challenges. Juma definitely recognizes the need for adequate research regarding safety and security with innovations. He refers to the accelerating pace of innovation and cites concerns about emerging fields such as robotics, artificial intelligence, and gene editing<sup>5</sup>. Nonetheless, he believes it is important to understand resistance and address it head on in order to avoid backlash against technologies that may benefit society. He argues that the key is to ensure that innovation benefits everyone—especially those who suffer loss as old technologies are replaced—and that it contributes to the common good.

#### READER'S NOTE

Writers use connectors such as *although* and *nonetheless* to introduce differing opinions.

1 **chronicle** (v) to record events in the order in which they happened

2 **assertion** (n) [C] a statement saying that you strongly believe something to be true

3 **adoption** (n) [U] the decision to start using something such as an idea, a plan, or a name

4 **hysteria** (n) [U] a state of extreme excitement, fear, or anger in which a person or a group of people loses control of their emotions and starts to cry, laugh, etc.

5 **gene editing** (n) [U] a treatment in which scientists remove, repair, or replace genes that are not normal, using special enzymes

### C Read the article again. Answer the questions. When possible, underline or bracket [ ] evidence in the text for your answers. 🖋️

1. What has been the contradiction in people's attitude toward innovation throughout history?
2. According to Juma, what is the main reason people don't want to accept new technology?
3. How does the example of using more modern farm equipment support Juma's thesis?
4. Explain how coffee demonstrates an instinctive, or fear-based, reaction to a new product.
5. Why do innovations from large corporations often face more opposition?
6. How does the public's perception of risk affect possible acceptance of innovation?
7. Where would Juma stand on extensive testing of new technologies?
8. Based on Juma's research, how would you advise a company to promote its newest technology?

### D WORD STUDY Work in a team. Respond to the prompts. 🖋️

1. Locate the words *accelerate*, *bolster*, and *backlash* in the text.
2. Discuss what you think the words mean based on the context. State your reason(s).
3. Look up the words in the dictionary, select the meaning for this text, and copy the definition.
4. Write a new sentence for each word.

## Strengths

The strengths of this activity are:

- The activity is relevant because college students need to be able to read and understand technical writing.
- Part D is interactive because students need to work in pairs.

## Weaknesses/Adaptation

The weaknesses of this activity are:

- Although students need to be able to read research papers, the specific topic of the article might not be relevant to everyone in the class.
  - Adaptation: Students should find a reputable research article related to their field of study (students should check with teacher after this step).
- Although Part D asks you to work in pairs, conversation is not a key component of this activity, and students could just as easily do Part D on their own.
  - Adaptation: Students share their research with the class.

## Revised Activity (“Conducting Research”)

*I wanted to make this activity more challenging and applicable as it is the very last unit in the highest level of this textbook series. After this class, students should be prepared for college in the United States.*

Objectives: Students will be able to...

1. Locate research material for their other classes
2. Read technically challenging texts
3. Summarize and present information in English

Instructions (This will take places over two class periods)

1. Class 1: Students locate a reputable research article related to their field of study (Or Teacher chooses articles for Students based on their interests).
2. Class 1: Students read the article and answer the questions such as:
  - a. Who is the author?
  - b. What is the author trying to say?
  - c. What are three vocabulary words you had to look up? Define them.
3. At home: Students prepare a 3-minute summary speech
4. Class 2: Students find a classmate to practice their speech with
5. Class 2: Students present their research findings

Materials

1. Optional: A printed copy of a short research article for each student based on their fields of study/interests
2. Optional: PowerPoint Slides explaining activity since it is a multi-step process
3. Copies of reading comprehension questions for students to fill out as they read their article
  - a. Who is the author?
  - b. What is the author trying to say?
  - c. What are three vocabulary words you had to look up? Define them.