Lesson 10:

The Lorax and What the Lore Lacks

Author

Curt Anderson, Ph.D., Professor Emeritus, University of Minnesota-Duluth

Standards and Benchmarks (see page 10.15)

Lesson Description

Students read Dr. Seuss' *The Lorax*, a section at a time, stopping to discuss the economic assumptions and lessons of the story. These discussions are used to illustrate how the outcome of the story could have been avoided.

Grade Level

6-8

Economic Concepts

Capital resources

Cost of production

Goods

Human resources

Incentives

Natural resources

Opportunity cost

Price

Profit

Services

Value

Objectives

Students will be able to

- define goods, services, value, resources, human resources, capital resources, natural resources, opportunity cost, price, cost of production, positive incentive, and profit;
- distinguish between price and value;
- distinguish between opportunity cost and cost of production;
- describe how the cost of producing a good affects its price;
- explain that ignoring costs leads to environmental problems; and
- explain the role of incentives in determining how the environment is used.

Compelling Question

How do incentives affect people's use of environmental resources?

Time Required

45 to 60 minutes

Materials

- A copy of the book *The Lorax*, by Dr. Seuss
- Visual 10-1
- A copy of Handouts 10-1 and 10-2 for each student
- One yellow and one green highlighter for each student

Procedure

1. Tell the students they are going to listen to the story *The Lorax*, a book by Dr. Seuss. Ask the students if they have read or listened to it before. (*Answers will vary.*) Explain that the book is about how greed leads to the destruction and pollution of the environment, but that hidden in the story is the secret to avoiding its sad ending.

2. Explain that you will describe some important economic terms before they listen to the story. These same terms are important to uncovering the secret.

3. Distribute a copy of *Handout 10-1: Economic Vocabulary* to each student and display *Visual 10-1: Economic Vocabulary*. Tell students to use the handout to take notes during the discussion. Discuss the following:

- People have economic wants that can be satisfied by consuming goods and services.
- **Goods** are objects that satisfy people's wants. Goods are produced by people, businesses, or the environment itself.
- Give some examples of goods you consume. (*Cereal, milk, clothes, books, toys, water, air*)
- **Services** are actions that satisfy people's wants. Services are produced by people, businesses, or the environment. For example, when the school nurse takes care of a student, the nurse is providing a service.
- Give some examples of services you consume. (*Haircuts, watching a baseball game, shade from a tree, flowers in the woods*)
- The **value** of goods and services is measured by how much people are willing and able to pay for them. The value of a good or service depends on the amount of satisfaction a consumer would receive from it.
- **Resources** are things that are used to produce goods and services.
- **Human resources** are people who do mental and/or physical work to produce goods and services.
- Give some examples of human resources. (*Barber, doctor, teacher, clown, baseball player, doctor, nurse, lawyer, bus driver, mechanic, store clerk*)
- **Capital resources** are goods that have been produced and are used to produce other goods and services. These are things made by people and used over and over again, such as tools and machinery, in the production of other goods and services.
- To produce a haircut, a barber uses capital resources such as a barber chair, scissors, combs, and a clipper.
- Name some other examples of capital resources. (*Stethoscope, truck, bus, projector, desks, chairs*)
- **Natural resources** are things that occur naturally in and on the earth that are used to produce goods and services. Water is a natural resource.
- Name some other examples of natural resources. (*Land, trees, coal, gold, silver, air, oil*)
- All resources are scarce; that is, people want to produce more goods and services with resources than are possible. Because people can't produce all the goods and services they want, they must make choices.
- Choosing to use resources to produce one good or service means that these same resources can't be used to produce another good or service. For example, if a tree is used to produce pulp for making paper, that same tree can't be used to provide shade.
- **Opportunity cost** is the value of the next-best alternative when a decision is made. When a good or service is produced, the opportunity cost is another good or service the resources could have been used to produce. So in the tree example, the cost of producing paper is the value of the shade given up.

- **Price** is the amount of money a buyer must pay to acquire a good, service, or resource. So the price of 200 sheets of paper might be $2.25. That's the amount a person pays to buy the paper at a store. The price of the trees needed to make the paper might be $100 per tree. That's the amount the business producing the paper must pay to use the trees.
- Businesses are only willing to produce goods and services if the price businesses receive for the goods and services they sell is greater than the amount they must pay for all the resources used to produce the goods and services. The amount producers pay for the resources used to produce a product is called the **cost of production**.

4. Discuss the following:
   - What is the value of a car? (*The amount people are willing and able to pay for the car*)
   - The amount people are willing and able to pay for a car varies among people. It depends on the satisfaction they gain from owning a car.
   - Why would a car have more value for a person living in Los Angeles than for a person living in New York City? (*In Los Angeles, a car is the primary means of transportation and highly valued. In New York, subways and trains are popular means of transportation.*)
   - What is the price of a car? (*The amount people pay to actually buy it*)
   - Name some resources used to produce a car. (*Steel, glass, autoworkers, assembly line, machines, tools, plastic, leather, cloth*)
   - What is the opportunity cost of producing a car? (*The highest-valued good or service these resources would have been used to produce*)
   - What is the cost of production for a car? (*The amount the car producer must pay for all the resources used to produce a car*)

5. Tell students they should think about the terms value, cost, and price as they listen to the story.

Section 1: Paying the Once-ler for a Story, pp. 1-10, ending with the line "such a long, long time back…"

6. Read or select students to read the first section of the book aloud. At the completion of this section, discuss the following:
   - What is the Once-ler willing to do if you pay him? (*He will tell the story about the Lorax.*)
   - Is the Once-ler willing to sell a good or a service? (*A service*)
   - Does this service have value for anyone? (*Yes, people who are like the boy in the story are willing and able to pay to satisfy their desire to know the story.*)
   - What price does the Once-ler charge for this service? (*15 cents, a nail, and the shell of a great-great-great grandfather snail*)

- What human and capital resources are needed to provide the service? (*Human resource: the Once-ler; capital resource: the whisper-ma-phone*)

Section 2: Nature's Goods and Services, pp. 11-15, ending with the line "while splashing around."

7. Read or select students to read the second section of the book aloud. At the completion of this section, discuss the following:
   - What are goods? (*Objects that satisfy people's wants*)
   - Give some examples of natural resources in the area where the Truffula trees grow. (*Clean air, Truffula fruit, and homes for Swomee-Swans, Barbaloots, and Humming-fish*) NOTE: Air is categorized as a good because there are molecules in the air that aren't seen but are ingested—consumed like food.
   - What are services? (*Actions that satisfy people's wants*)
   - Give some examples of services provided by nature in the area where the Truffula trees grow. (*Shade, morning breeze, and natural beauty*)
   - Do these goods and services have value? (*Yes*) Why? (*People are willing and able to pay for clean air, food, and visits to beautiful places.*)
   - What price does nature charge for these goods and services? (*Nothing; zero*)

Section 3: Producing Thneeds, pp. 16-33, ending with the line "He didn't show up any more."

8. Read or select students to read the third section of the book aloud. At the completion of this section, discuss the following:
   - What good did the Once-ler decide to produce? (*Thneeds*)
   - What natural, human, and capital resources were used to produce thneeds? (*Natural: Truffula tufts; human: the Once-ler and family members; capital: shop/factory, knitting needles, and the Super-Axe-Hacker*) NOTE: Students might also mention that the air and the water (pond) were used to dump the waste created. That is exactly correct, but don't emphasize it at this point.
   - Why would anyone buy a thneed? (*It could satisfy many wants. It could be used as a shirt, sock, glove, hat, carpet, pillow, sheet, curtain, or bicycle seat cover. People are willing and able to pay for such things.*)
   - What price did the Once-ler charge for a thneed? (*$3.98*)
   - Why is the Once-ler willing to produce and sell thneeds? (*People are willing and able to buy them, so he expects to get rich.*)
   - If the Once-ler thinks he can get rich charging this price, what is his cost of production for thneeds? (*It must be less than $3.98 for each thneed.*)

- Would people buy more or fewer thneeds if the Once-ler raised his price? (*Fewer*)

9. Explain that the Once-ler has a positive incentive to produce thneeds. A **positive incentive** is a reward that encourages people to behave in a certain way. The positive incentive for the Once-ler is the money he receives when he sells thneeds.

Section 4: The Opportunity Cost of Producing Thneeds, pp. 34-49, ending with the line "which everyone, EVERYONE, EVERYONE needs!"

10. Read or select students to read the fourth section of the book aloud. At the completion of this section, discuss the following:
    - What price does the Once-ler pay for each Truffula tree that he cuts down and uses? (*Nothing, the price is zero.*)
    - What price does the Once-ler pay to use the air as a place to dump his "smogulous smoke"? (*Nothing, the price is zero.*)
    - What price does the Once-ler pay to use the pond as a place to dump his "gluppity-glupp" and "schloppity-schlopp"? (*Nothing, the price again is zero.*)
    - Is there actually a cost to use these things? (*Yes, the opportunity cost*)
    - What is the opportunity cost to use these things? (*The lost value of the goods and services identified in Section 2, such as clean air, homes [habitat] for wildlife, shade, and so on that are given up as a result of his production*)
    - If the price the Once-ler had to pay to use these resources equaled the opportunity cost, what would happen to his cost of production for thneeds? (*The cost of production would be higher because he's paying for all the resources he uses.*)
    - If this cost of production were higher, what would he have to do to the price he charges for thneeds? (*He would raise the price enough to cover his higher cost of production.*)

Section 5: Unless..., pp. 50-61, ending with the last line of the book.

11. Read or select students to read the fifth section of the book aloud. At the completion of this section, discuss the following:
    - What did the Once-ler say must happen if things are to get better? (*"Someone like you cares a whole awful lot"*)

12. Point out that many people, including the people in this class, care about the environment "a whole lot," and yet it still gets polluted and overused. Caring may not be enough.

13. Ask students why the Once-ler wanted to make thneeds in the first place. (*He could get rich. The encouragement or incentive for him to produce thneeds was to earn a lot of money.*)

14. Explain that people who start businesses expect to earn profit. **Profit** is the money left over from selling goods or services after businesses pay their costs of production. Discuss the following:
    - Did the Once-ler probably earn a lot of profit? (*Yes*) Why? (*His cost of production was a lot lower than his price for a thneed.*)
    - Did he pay for all the resources he used to make thneeds? (*No*)
    - For which resources didn't he pay? (*He didn't pay for the use of the trees, air, and water.*)
    - If he had to pay for these resources, what would happen to his cost of production and his incentive or encouragement to produce? (*His cost of production would have been higher. His incentive to produce would have been less.*)
    - It is possible that if he had to pay for all the resources he used, no one would be willing and able to buy thneeds at the price he would have to charge to cover his costs. If that were the case, he wouldn't have produced thneeds in the first place.

15. Point out that the Once-ler says that unless someone cares a whole lot, nothing will change. However, the economics of the story tells us something else. Unless users of resources pay for all the resources they use, and pay the opportunity cost of using these resources, producers will have an incentive (encouragement) to overuse (use too many of) these resources. For example, the Once-ler didn't have to pay for the trees, water, and air he used, so he had an incentive to overuse or use too many of them. And, because these resources are scarce, using them involves opportunity cost.

16. Remind students that when they first began reading *The Lora*x, you said there was a secret to avoiding the story's sad ending. Does anyone know what that secret is? (*Making people pay the opportunity cost for all resources they use, even those provided by the environment such as air or water, will help reduce the destruction and pollution of the environment.*)

17. Ask students what a moral is. (*An important lesson taught by a story*) Explain that the real moral of *The Lorax* is what we learned from the hidden secret—when people use resources for which they do not have to pay the opportunity cost, there's an incentive (encouragement) for people, and Once-lers, to do things that later they probably wished they hadn't, such as polluting the air and water.

Closure

18. Review the key points of the lesson by asking the following questions:
    - What are goods? (*Material things that provide satisfaction*)
    - Name some goods that you use. (*Paper, books, pencils, watches, lunch boxes, shirts, pants, shoes, bikes, food*)

- What are some goods provided by the environment? (*Fruits, vegetables, water*)
- What is a service? (*Actions that provide satisfaction*)
- What are some services that you use? (*Education, transportation to school, radio or television for entertainment, mom/dad washing your clothes*)
- Name some services provided by the environment. (*UV protection from the ozone layer, beautiful things to look at, shade, cool breezes*)
- What do we use to produce goods and services? (*Resources*)
- What are natural resources? (*Things that occur naturally in and on the earth that are used to produce goods and services*)
- Give some examples of natural resources. (*Water, sunlight, trees, soil, coal, oil, gold, silver*)
- What are human resources? (*People who do mental and/or physical work to produce goods and services*)
- Give some examples of human resources. (*Teacher, bus driver, computer programmer, engineer, mechanic, doctor, chef, truck driver*)
- What are capital resources? (*Goods that have been produced and are used to produce other goods and services. These are things made by people and used over and over again, such as tools and machinery, in the production of other goods and services.*)
- What are some examples of capital resources that a doctor would use? (*Stethoscope, x-ray machine, scale) A barber? (Barber chair, scissors, combs, clippers*) A chef? (*Oven, pots, pans, refrigerator, counter*)
- What is the price of a good or service? (*The amount a consumer pays to buy a good or service*)
- What is the value of a good or service? (*The greatest amount a person would be willing and able to pay for a good or service*)
- What determines the value of a good or service? (*The amount of satisfaction a consumer receives from the good or service*)
- What is the opportunity cost of producing a good or service? (*The value of the goods or services that could have been produced using the same resources*)
- What is the cost of production of a good or service? (*The amount of money actually paid for the resources used to produce the good or service*)
- What is an incentive? (*A reward or penalty that encourages people to behave in a certain way*)
- What is profit? (*Revenue [price for a unit of a good or service] minus the cost of production for a unit of a good or service; a positive incentive that encourages businesses to produce goods and services; income for the business owner*)

- What will happen if producers don't pay the costs of all resources they use to produce a good or service? (*The producers' costs of production will be lower. As a result, producers will charge a lower price than they would if they paid all the costs for producing the good or service.*)
- How will buyers react to this lower price? (*They will be willing and able to buy more of the good or service than they would at a higher price.*)

Assessment

19. Distribute a copy of *Handout 10-2: Assessment* and a yellow and a green highlighter to each student. Read the directions and answer any questions the students may have. Have students complete the assignment. Use the answers below to review students' work.

Part A

- *Goods produced by people (circled): Shoes, pizza, ice cream, candy, jewelry, shirts*
- *Goods produced by the environment (yellow highlight): Fruit, flowers, water*
- *Services produced by people (underlined): Bike repair, entertainment, baseball game*
- *Services produced by the environment (green highlight): Shade, beautiful scenery, sunlight, UV protection (from the ozone layer)*

Part B

1. *Price is the amount people pay to buy a good or service.*
2. *The cost of producing a box of Wiggly Worms is $0.70. The cost of producing a box of Jelly Beans is $1.10. Cost of production is the amount a business pays for the resources it uses.*
3. *Willy's incentive is to earn a profit.*
4. *Wiggly Worms profit = $1.00 – $0.70 = $0.30 per box*
5. *Jelly Beans profit = $1.50 – $1.10 = $0.40 per box*
6. *He earns more profit for each box of Jelly Beans.*
7. *Factory, machines*
8. *Workers*
9. *Willy gives up the chance (opportunity) to produce Wiggly Worms with those resources.*

Part C

1. *Willy is using the river as a place to dump melted chocolate, sugar solution, and dirty water, and he's using the air to dump smelly, dirty smoke.*
2. *Environmental goods and services, such as clean water for drinking and swimming, clean air, and beautiful vistas.*
3. *If Willy had to pay for these resources, his cost of production would go up.*
4. *This would encourage Willy to use fewer resources from the environment.*
5. *There would be less pollution.*

Visual 10-1: Economic Vocabulary

Goods: Objects that satisfy people's wants. Goods are produced by people, businesses, or the environment.

Services: Actions that satisfy people's wants. Services are produced by people, businesses, or the environment.

Value: Measured by how much people are willing and able to pay for goods and services. The value of a good or service depends on the amount of satisfaction a consumer would receive from it.

Resources: Things that are used to produce goods and services.

Human resources: People who do mental and/or physical work to produce goods and services.

Capital resources: Goods that have been produced and are used to produce other goods and services. These are things made by people and used over and over again, such as tools and machinery, in the production of other goods and services.

Natural resources: Things that occur naturally in and on the earth that are used to produce goods and services. Water is a natural resource.

Opportunity cost: The value of the next-best alternative when a decision is made. When a good or service is produced, the opportunity cost is the other good or service the resources could have been used to produce.

Price: The amount of money a buyer must pay to acquire a good, service, or resource.

Cost of production: The amount producers pay for the resources used to produce a product.

Handout 10-1: Economic Vocabulary

Goods: Objects that satisfy people's wants. Goods are produced by people, businesses, or the environment.

Services: Actions that satisfy people's wants. Services are produced by people, businesses, or the environment.

Value: Measured by how much people are willing and able to pay for goods and services. The value of a good or service depends on the amount of satisfaction a consumer would receive from it.

Resources: Things that are used to produce goods and services.

Human resources: People who do mental and/or physical work to produce goods and services.

Capital resources: Goods that have been produced and are used to produce other goods and services. These are things made by people and used over and over again, such as tools and machinery, in the production of other goods and services.

Natural resources: Things that occur naturally in and on the earth that are used to produce goods and services. Water is a natural resource.

Opportunity cost: The value of the next-best alternative when a decision is made. When a good or service is produced, the opportunity cost is the other good or service the resources could have been used to produce.

Price: The amount of money a buyer must pay to acquire a good, service, or resource.

Cost of production: The amount producers pay for the resources used to produce a product.

Handout 10-2: Assessment (page 1 of 2)

Part A: In the list below, circle the goods produced by people, use the yellow marker to highlight the goods produced by the environment, underline the services produced by people, and use the green marker to highlight the services produced by the environment.

Fruit	Flowers	Shoes	Pizza
Shade	Ice cream	Bike repair	Entertainment
Candy	Baseball game	Beautiful scenery	Sunlight
Jewelry	Shirts	Water	UV protection

Part B: Read the paragraph below and answer the questions that follow.

Willy Wonder owns a candy factory. He produces many different candies, including Willy Wonder Wiggly Worms and Willy Wonder Jelly Beans. He uses sugar, water, corn syrup, fruit flavoring, machines, and many workers to produce Wiggly Worms and Jelly Beans. The price of Wiggly Worms is $1.00 for a 2-oz. box. The price of Jelly Beans is $1.50 for a 2-oz. box. Willy thinks he should begin producing more Jelly Beans. The cost of producing Wiggly Worms is $0.70 a box. The cost of producing Jelly Beans is $1.10 a box.

1. The price of Wiggly Worms is $1.00 a box. The price of Jelly Beans is $1.50 a box. Write a definition for price.

2. What is the cost of producing a box of Wiggly Worms? What is the cost of producing a box of Jelly Beans? Write a definition for cost of production.

3. What is Willy's incentive to produce candy?

4. How much profit does Willy earn for each box of Willy Wonder Wiggly Worms? (Show your work.)

5. How much profit does Willy earn for each box of Willy Wonder Jelly Beans? (Show your work.)

Handout 10-2: Assessment (page 1 of 2)

6. Why does Willy think he should produce more Willy Wonder Jelly Beans?

7. What is a capital resource Willy uses to produce candy?

8. What is a human resource Willy uses to produce candy?

9. If Willy decided to produce more Jelly Beans with his resources, what does he give up?

Part C: Look carefully at the picture below and answer the questions that follow.

© Tomacco / iStock / Getty Images Plus

1. Which resources is Willy probably not paying to use?

2. When Willy uses these resources, what is being given up?

3. What would happen to Willy's cost of production if he had to pay to use these resources?

4. Would paying a price to use these resources encourage Willy to use more or fewer resources?

5. Would paying for these resources result in more or less pollution?

Standards and Benchmarks

Voluntary National Content Standards in Economics

Standard 1: Scarcity

- **Benchmarks: Grade 4**
    3. People's choices about what goods and services to buy and consume determine how resources will be used.
    4. Whenever a choice is made, something is given up because resources are limited.
    5. The opportunity cost of an activity is the value of the best alternative that would have been chosen instead. It includes what would have been done with the money spent and the time and other resources used in undertaking the activity.
    7. Natural resources such as land are "gifts of nature"; they are present without human intervention.
    8. Human resources are the people who do the mental and physical work to produce goods and services.
    9. Capital goods are goods that are produced and used to make other goods and services.

Standard 4: Incentives

- **Benchmarks: Grade 4**
    2. Penalties are negative incentives that make people worse off.
    3. Both positive and negative incentives affect people's choices and behavior.
    4. People's views of rewards and penalties differ because people have different values. Therefore, incentives can influence different individuals in different ways.
- **Benchmark: Grade 8**
    3. Incentives can be monetary or non-monetary or both.

Standard 7: Markets and Prices

- **Benchmark: Grade 4**
    1. A price is what people pay when they buy a good or service, and what they receive when they sell a good or service.

Standard 8: Role of Prices

- **Benchmark: Grade 4**
    1. Higher prices for a good or service provide incentives for buyers to purchase less of that good or service and for producers to make or sell more of it. Lower prices for goods or services provide incentives for buyers to purchase more of that good or service and for producers to make or sell less of it.
- **Benchmark 4, Grade 8**
    4. Scarce goods and services are allocated in a market economy through the influence of prices on production and consumption decisions.