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### Lesson by

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### Lesson Description

In this lesson, students participate in a simulation to learn about choices, alternatives, opportunity cost and human capital. They learn the PACED decision-making model, apply the model and recognize that learning the model is an investment in their human capital. Student groups build a tower with paper cups. Each group has different physical abilities based on an assigned level of human capital.

### Age Level

9-ll years old

#### Content Standards

#### **National Standards in Economics**

- **Standard 1:** Students will understand that productive resources are limited. Therefore, people cannot have all the goods and services they want; as a result, they must choose some things and give up others.
  - Benchmark I, Grade 4: People make choices because they cannot have everything they want.
  - Benchmark 6, Grade 4: Whenever a choice is made, something is given up.
  - Benchmark 7, Grade 4: The opportunity cost of a choice is the value of the best alternative given up.
- **Standard 2:** Students will understand that effective decision-making requires comparing the additional costs of alternatives with the additional benefits. Most choices involve doing a little more or a little less of something; few choices are all-or-nothing decisions.
  - Benchmark I, Grade 4: Few choices are all-or-nothing decisions; they usually involve getting a little more of one thing by giving up a little of something else.

- **Standard 15:** Students will understand that investment in factories, machinery, new technology, and the health, education and training of people can raise future standards of living.
  - Benchmark I, Grade 4: When workers learn and practice new skills, they are improving their human capital.
  - Benchmark 2, Grade 4, Workers can improve their productivity by improving their human capital.

### Concepts

Alternatives
Decision-making
Human capital
Investment in human capital
Opportunity cost

### **Objectives**

Students will be able to:

- l. Define and demonstrate the PACED decision-making process.
- 2. Define and identify opportunity cost.
- 3. Explain what is meant by human capital and give examples.

### Time Required

60-90 minutes

#### Materials

- On the Court with ... Michael Jordan (ISBN: 1-58246-112-0) by Matt Christopher
- Visuals 1 and 2
- A copy of Handout l for each student and a copy of Handout l for each group of three students to be used in the assessment
- A copy of Handout 2, cut apart
- Five rolls of masking tape
- 75 small paper cups
- Enough handkerchiefs for one-fifth of the class

#### Procedures

- 1. Ask the students if they know who Michael Jordan is. (He is a famous former professional basketball player and a spokesman for companies such as Nike and McDonald's.)
- 2. Tell students that Michael Jordan became a very successful athlete and entrepreneur through hard work, training, practice, determination and by surrounding himself with others who were successful. Tell the students that they are going to read the biography *On the Court with ... Michael Jordan* by Matt Christopher. Show students the cover of the book. Point out that the cover has a photo that shows Michael Jordan playing basketball with the Washington Wizards, a professional basketball team. Tell the students that Michael Jordan's path to becoming an excellent professional basketball player is very interesting and inspiring. Explain that in addition to playing professional basketball, Michael Jordan left basketball for a while to play professional baseball.
- 3. Have the students read the book and pay special attention to Michael's decisions in chapters 1 and 2 of the book. The first two chapters deal with Michael's early life and the decisions he makes.
- 4. Discuss the following:
  - Was Michael Jordan "cut" from his high school's varsity basketball team as a sophomore? (Ves.) Why? (He was "cut" from the varsity team in his sophomore year because the varsity coach felt that Michael would improve at a faster pace by acquiring more playing time at the junior varsity level. Michael had considered quitting basketball, but he decided to continue working on his basketball skills by playing basketball at the junior varsity level.)
  - How did Michael's decision to continue playing basketball, even though it was at the junior varsity level, lead to his success at the varsity level? (Michael got extra playing time at the junior varsity level, which helped him improve his basketball playing skills. Michael turned his disappointment from not making the varsity team into motivation to practice more and eventually try out for the varsity team again.)
- 5. Point out that because Michael was doing so well at the varsity level, his high school coach and a college coach that saw him play recommended that he be invited to participate in the Five Star camp, a summer basketball camp. Michael decided to attend the camp. Ask the students how this decision affected Michael's confidence and how the camp helped Michael see his future in basketball. (As he played against some of the best high school basketball players in the country, Michael's basketball playing skills continued to improve at the camp. He gained confidence and

came to the realization that he was a very good player. He also recognized that it would be possible for him to obtain a college basketball scholarship.)

- 6. Explain that even with his success, Michael Jordan made some mistakes—or bad decisions. Discuss the following:
  - Give an example of a bad decision that Michael made. (Michael decided to skip biology class. [p.17])
  - Why did Michael make this decision? (Michael decided to skip biology class a few times in order to go to the gym and play basketball. He enjoyed playing and practicing basketball more than learning about biology.)
  - What were some consequences of this decision? (He disappointed his parents. He was suspended from school.)
- 7. Explain that Michael probably didn't consider all of the negative consequences of his decision when he made it. Explain that a decision is a choice made between one or more possibilities or alternatives. Point out that Michael could have made a better decision if he considered the positive and negative consequences of his options before he made his decision. If he had realized that he was actually going to give up something when he decided not to attend biology class, perhaps he would have made a different decision.
- 8. Tell the students that the next best alternative that is given up when a choice is made is the **opportunity cost**. Explain to the students that they should consider the opportunity cost of any choice they make.
- 9. Explain that individuals must make choices about how to use their time. If they choose to go play basketball during science class, they won't be able to learn more about science.
- 10. Explain that Michael Jordan chose to play basketball during class time. His opportunity cost was attending his class and learning more about biology.
- ll. Present the students with the following situation:
  You are Michael Jordan and you must choose between attending biology class and playing basketball in the gym. You can go to biology class or to the gym.

- 12. Discuss the following:
  - If you are Michael, what must you do? (Make a decision.)
  - Why can't you play basketball and attend biology class? (not enough time to do both)
  - If you go to biology class, what do you have to give up? (playing basketball, improving your basketball skills)
  - If you go to biology class, what is your opportunity cost? (playing basketball, improving your skills)
- 13. Remind students that by choosing to go to biology class, they lose the opportunity to play basketball and improve their skills. However, if they play basketball, they lose the opportunity to go to biology class and learn more about biology.
- 14. Explain that **decision-making** involves carefully evaluating alternatives. It is an important skill for everyone to learn. People can learn to make more informed and careful decisions by using a decision-making model.
- 15. Explain to the students that they will learn how to use the PACED decision-making model. Display Visual l.
- l6. Explain to the students that the PACED decision-making model consists of five steps, as follows:
  - identify the problem or decision to be made (P);
  - list the available **alternatives**, the options from which people choose in a given situation (A);
  - identify a set of criteria, specific areas of evaluation, that can be used to judge or evaluate the different alternatives (C);
  - evaluate the alternatives based on the criteria using "+" (it meets the criteria), "-" (it does not meet the criteria), or "?" (not sure whether it meets or does not meet the criteria) (E); and
  - make a decision between the different alternatives based on the evaluation step (D). In making a decision, sum up each alternative's positives and negatives. Remember that a "?" has no value because it represents uncertainty about whether the specific alternative meets a specific criterion or not. The alternative with the most positives compared to the negatives is the most logical alternative to choose.

- 17. Explain to the students that **human capital** is the knowledge and skills that people obtain through education, experience and training. People can invest in their human capital by practicing, studying, receiving instruction or training. Explain that while Michael chose to work on improving his athletic skills at the cost of improving his knowledge of biology, both practicing basketball and learning biology are **investments in human capital**. However, Michael couldn't improve both his basketball playing skills and his knowledge of biology at the same time.
- 18. Explain that the students are investing in their human capital by learning how to make informed decisions using the PACED decision-making model.
- 19. Display Visual 2 and distribute one copy of Handout 1 to each student.
- 20. Explain that the students will learn to use a decision-making grid to help them with the PACED decision-making process. They will use the decision-making grid to analyze the same question that Michael Jordan faced: Should he attend biology class or play basketball in the gym?
- 21. Point out that Michael Jordan's problem was that he couldn't be in two places at the same time. He couldn't play basketball in the gym and attend biology class at the same time.
- 22. Explain that his alternatives were to play basketball or attend biology class. Write these alternatives in the correct spaces on Visual 2. Instruct the students to write these alternatives in the correct spaces on Handout 1.
- 23. Explain that criteria are specific areas of evaluation or items that are important to consider when making a choice. Have the students brainstorm possible criteria that Michael Jordan might have or could have used in making his decision. Possible criteria include whether each of the alternatives makes Michael's parents happy or not, leads to Michael improving his grades or follows the school's rules. Instruct the students to write the criteria in the grid on Handout I as you write them on Visual 2.
- 24. Using one of the criteria as a sample, demonstrate on Visual 2 how Michael Jordan may have evaluated the alternatives using the chosen criterion. Use the "+", "-" and "?" scoring system. If an alternative meets a criterion it should receive a "+". If it doesn't meet a criterion it should receive a "-". If it is unclear whether the alternative meets a criterion or not, that alternative should receive a "?". Have the students, in small groups, complete Handout I as if they were in the same situation as Michael Jordan. Give the students time to work on the activity. Discuss with various students how they evaluated the alternatives using the criteria.

25. Explain that now each student must make a decision based on his or her evaluation of the alternatives based on the criteria. The alternative with the most plusses relative to minuses could be chosen as the best alternative based on the criteria the students used to evaluate the alternatives. Explain that the students should also consider each plus and minus and its importance to the decision. Some plusses and/or minuses may have more importance in a decision than others. Instruct each student to circle the alternative they choose on the grid.

#### 26. Discuss the following:

- Did using the PACED decision-making model and grid help you make a more thorough and informed decision? (Answers will vary. Note: Point out that using the PACED decision-making model and grid helps students make more thorough and informed decisions. The PACED decision-making model and grid allows students to evaluate alternatives based on carefully considered criteria. The model and grid helps students make informed decisions instead of emotional or impulse decisions.)
- Even though both alternatives presented to Michael in this decision-making example represent investments in human capital, why would his decision to go to biology class be the better choice? (That alternative scored more positive results relative to the negative results based on the criteria used in the grid.)
- Why was Michael's decision to skip biology class to play basketball in the gym probably not the best decision? (Skipping biology class to play basketball in the gym probably wasn't the best decision because it resulted in a suspension from school, disappointed Michael's parents and broke the school's rules.)
- 27. Remind the students that even though Michael's decision to play basketball, instead of attending class, did contribute to his investment in human capital as a basketball player and ultimately helped him become a professional basketball player, his situation is a rarity. Not many people become professional basketball players. Many people would receive more benefits later in life from choosing to learn more about science vs. choosing to play basketball.
- 28. Remind the students that investing in their human capital is improving their skills or knowledge through practicing, receiving instruction, acquiring more education and studying. Explain that they will participate in a group activity to demonstrate the importance of choosing to invest in human capital and to show that individuals with greater human capital tend to earn more income.
- 29. Divide the students into five groups. Distribute one paper cup tower game card from Handout 2 to each group. Give each group 15 small paper cups and a roll of masking tape. Distribute a handkerchief to each member of the high school dropout group.

- 30. Have one member from each group read the group's paper cup tower game card to the class. Explain that a high school dropout is someone who chooses to quit high school before finishing the 12th grade.
- 31. Explain that each group has been assigned a certain level of attained education that is also a specific level of human capital attainment. The higher the level of education attained by each group, the more human capital that group can draw from and the more ability and skill that group has to complete the task. Explain that the task is to build the tallest free-standing paper cup tower they can create using only paper cups and masking tape while following the limitations on their group's card.
- 32. Assist the members of the high school dropout group in tying their hands behind their backs using the handkerchiefs.
- 33. Give the groups five minutes to create their towers.
- 34. Discuss the following:
  - How many groups were successful in building a paper cup tower with all of their cups? (*Answers will vary.*)
  - Ask each group what difficulties they encountered in building their towers. (Answers will vary but will likely include: it was difficult to build a tower with both hands tied behind our backs, it was difficult to build a tower with only one hand, it was difficult to build a tower without being able to talk to one another.)
  - How was the extent of human capital each group possessed represented in this activity? (The more education a group had, the less restriction they had in building the tower. For example the group with an associate degree had to use nonverbal communication and those with a college degree had one person who could talk. The group with graduate degrees had no restriction.)
  - Which group had the most restrictions or obstacles to overcome in order to build its paper cup tower? (high school dropout group)
  - Why did the high school dropout group have the most obstacles? (They had to create a free-standing paper cup tower with their hands tied behind their backs.)
  - Why did the high school dropout group have their hands tied behind their backs? (to represent the limited human capital of high school dropouts in the real world)
  - In the real world, do you think that people who haven't finished high school have more difficulty getting jobs that pay well than people who have finished high school? (Answers will vary.) Tell the students that high school dropouts have more difficulty getting jobs that pay well than high school graduates.

- Do you think that people who have finished college will be more or less likely than high school graduates to get jobs that pay well?. (Answers will vary.) Tell the students that college graduates are more likely to get a job that pays well than high school graduates.
- Why do you think that, in the real world, people who have less education or fewer skills than others are less likely to get jobs that pay well? (People who have less education or fewer skills are less likely to get jobs that pay well because employers are willing to pay more for workers who have more human capital and therefore are more likely to produce more.)

#### Closure

- 35. Review important content from the lesson by discussing the following:
  - What is opportunity cost? (the next best alternative that is given up when a choice is made)
  - If you had to choose between going to the movies or a birthday party, what would you choose? (Answers will vary.) What would be the opportunity cost of your choice? (If you choose to go to the birthday party, your opportunity cost will be going to the movies. If you choose to go to the movies, your opportunity cost will be going to the birthday party.)
  - What does PACED stand for? (Identify the problem [P], list the alternatives [A], identify the criteria for evaluation [C], evaluate the alternatives based on the criteria [E] and make a decision [D])
  - Why are the PACED decision-making model and grid helpful in making decisions? (They allow individuals to evaluate alternatives based on carefully considered criteria. The model and grid help individuals make informed decisions instead of emotional or impulse decisions.)
  - What is human capital? (The knowledge and skills that people obtain through education, experience and training.) Give examples of human capital that you possess. (Answers will vary but may include: the ability to read, the ability to use a computer to create written documents, the ability to play a musical instrument, the ability to hit a baseball, etc.)
  - How can people invest in human capital? (continue their formal and informal education, obtain training in specific skills and practice their skills)
  - Why is it important for individuals to invest in their human capital? (Individuals who invest in their human capital usually have higher-paying jobs and have fewer problems finding jobs than individuals who do not invest in their human capital.)
  - Michael Jordan said, "My advice is find fuel in failure. Sometimes, failure gets you closer to where you want to be." How does this quote relate to

Michael's life story as portrayed in the book? (Michael's failure to make the high school varsity basketball team as well as his team's failure to win the NBA championship early in his career drove him to improve his human capital by practicing harder. The process of recovering from failures also helped Michael to focus on his goals.)

#### Assessment

- 36. Place students in groups of three and have those groups use the PACED decision-making model to decide whether Pat, a student-athlete, should leave college to attempt to play professional basketball after completing three years of college. This is the same decision Michael Jordan found himself facing. (See page 38 of the book.) In the end, Michael's decision was the right one for him, but make sure the students look at all possibilities when making their decision for Pat. Distribute one copy of Handout 1 to each group. Instruct the students to complete Handout 1 for Pat's problem by identifying Pat's alternatives, identifying criteria by which to evaluate Pat's alternatives, evaluating Pat's alternatives based on the criteria using +/-/?, and make a decision for Pat based on their evaluation of the criteria. Have the students identify the opportunity cost of the choice they have made for Pat.
- 37. Ask students to write a short essay describing a time when they invested in their own human capital in order to reach a goal. Instruct them to include a drawing that depicts the investment in human capital and that investment's connection to the goal. Tell the students to be sure to fully describe their goal, how they invested in their human capital and how that investment helped them to reach their goal. The students should also describe what additional changes the investment in human capital brought about in their lives and identify the opportunity cost of investing in their human capital.

### Visual 1: PACED Decision-Making Model

- P Identify the problem or decision to be made.
- A List the available alternatives.
- C Identify a set of criteria that can be used to evaluate the different alternatives.
- E Evaluate the alternatives based on the criteria using either "+", "—" or "?".
- D Make a decision, based on the evaluation, between the different alternatives.

Visual 2: PACED Decision-Making Grid

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# Handout 1: PACED Decision-making Grid

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| Alternatives |  |  |  |       |
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|              |  |  |  |       |

### Handout 2: Paper Cup Tower Cards

#### **High School Dropout**

Team members will have both hands tied behind their back to represent limited skills and education, compared to the other groups.

#### College Degree

Team members will have full use of their hands and the team must designate one person who can talk. The others must communicate nonverbally to represent limited skills and education compared to the graduate degree group.

#### **High School Graduate**

Team members can use only one hand and the other must be kept behind their back to represent limited skills and education, compared to the group with associate degrees.

#### Graduate Degree

These individuals have obtained the highest level of education, and therefore they have no limitations for building a paper cup tower.

#### Associate Degree

Team members have full use of their hands but all communication must be done nonverbally to represent limited skills and education, compared to the four-year college and graduate degree groups.