

**ENTREPRENEURSHIP AWARENESS EDUCATION: AN EXAMPLE IN AN  
ELEMENTARY SCHOOL**

**Rebecca W. Ball**  
**Fred M. Beasley**  
Northern Kentucky University

**ABSTRACT**

*Issues of entrepreneurship and small business development have become increasingly important as the worldwide economy depends more and more on new firms for the production of the world's products and services and employment of the world's population. This research examines entrepreneurship awareness education in the elementary curriculum. An example of how entrepreneurship awareness can be introduced to elementary school students is described. The results of an assessment that sought to measure student knowledge of entrepreneurship and economics and constructs related to new venture creation prior to and following entrepreneurship and economics instruction are offered. Findings suggest that entrepreneurship instruction and parental role models may influence positive attitudes toward and an awareness of entrepreneurship at the elementary school level.*

**INTRODUCTION**

Issues of entrepreneurship and small business development have become increasingly important as the worldwide economy depends more and more on new firms for the production of the world's products and services and employment of the world's population. The first step in the process of new venture creation and success is awareness of entrepreneurship. When potential entrepreneurs become aware of the process of new venture creation, they will be open to information from the environment concerning such opportunities (Ashmore, 1992). Indeed, research has begun to show that in the absence of awareness about entrepreneurship, new venture creation becomes extremely difficult (Marchigiano-Monroy, 1993).

In the context of entrepreneurship education, McMullan and Long (1987) suggest that the focus of the entrepreneurship awareness stage should be to inform students about the skills, abilities, and knowledge required to create a new venture in an effort to moderate their attitudes and intentions about the possibilities for the creation of a new business. In addition, even students who do not pursue entrepreneurial careers can benefit. Entrepreneurship education can allow students to make better career decisions and provide a greater understanding of the entrepreneurs that might employ them some day.

However, the value of entrepreneurship education is often challenged. There is some evidence that entrepreneurial success is more dependent, not on education, but on psychological attributes such as the need for achievement (McClland, 1961), internal locus of control (Brockhaus & Nord, 1979), risk-taking propensity and tolerance for ambiguity (Begley & Boyd, 1987), and personality (Begley & Boyd, 1985), as well as on the presence of family role models (Matthews and Moser, 1996). Studies of entrepreneurial executives (Hood and Young, 1993) and college professors (Vesper, 1982) find some support for the notion that successful entrepreneurs are "born." In fact, some researchers have argued against the educational development of entrepreneurs, because they believe it can inhibit the creative nature of those individuals (Shapero, 1975). Yet, entrepreneurship education programs continue to increase (Gartner & Vesper, 1986), and authors attribute this increase to a belief that entrepreneurship education aids in entrepreneurial development (Kuratko & LaFollette, 1986).

In recent years, entrepreneurship education has become a part of the elementary school curriculum in many states. One example can be found in the state of Ohio. In an effort to assure adequate instruction in its public schools, the state of Ohio recently introduced proficiency exams for grades 4, 6, and 9. These exams cover a wide range of topics, including a social studies component, which covers economics and entrepreneurship. Thus, increased classroom instruction is being devoted to entrepreneurship education in Ohio's public schools during the elementary years.

This research has three goals. Two immediate objectives are to provide an example of how entrepreneurship awareness can be introduced to elementary school students, and to see what these students have learned about entrepreneurship and economics. In addition, a third long-term objective of this research is to provide a baseline of information about participating students that can offer the opportunity to examine the effects of early introduction to entrepreneurship awareness.

### **INTRODUCING ENTREPRENEURSHIP AWARENESS**

Vast differences exist in the delivery of entrepreneurship education, however, all programs could be classified in terms of inputs, process, and outputs (Marchigiano-Monroy, 1993). Inputs include the issues of student population, instructors, and objectives. The process component involves such issues as pedagogies, materials used, and location. Outputs can include intentions, attitudes, skills, start-ups, satisfaction, and success. The remainder of the paper is organized around these three components.

#### **INPUTS**

Four classes of fifth graders at an Ohio public school participated in a specialized program designed to introduce young people to entrepreneurship awareness. A team-teaching approach was used to introduce the students to the concepts of entrepreneurship and economics that were deemed most important. One of the instructors was a university professor of entrepreneurship and management and the other was the homeroom teacher. The two primary objectives of the program were to create awareness of entrepreneurship as a career option, and to introduce the students to the economics and entrepreneurship terminology that would be included in the 6th grade proficiency exam.

## PROCESS

The program included 10 segments that were approximately 1 hour in length and were spread over a two-week time period. The program included lectures as well as in-class and home assignments. The primary project that students were involved in was the development of a simplified business plan.

During the first session, students were introduced to the basic factors of production and the concept of how an entrepreneur creates profit. As homework on the first night, each student was asked to create a list of five products or services that they believed could be produced for a profit.

At the start of the second session, the homeroom teacher placed the students into groups of four and five students. Prior to the start of classroom instruction, each student group was asked to choose three of the products or services from the lists generated by each group member and to draw pictures of the products or write descriptions of the services. A homework assignment was then made which required each student to conduct three consumer surveys on each of the three products. These surveys asked potential purchasers of the product or service whether they would buy the product or service and how many they would buy during a specified period at three price levels determined by the student group. Based on the consumer feedback, each student group then chose one of the three products or services as a group product development project.

The third homework assignment attempted to illustrate the concept of specialization within groups. The students were informed that they would each be assigned one of four "jobs" within their group. These four jobs were CEO, Vice President of Research and Development, Vice President of Marketing, and Vice President of Accounting and Finance. The role of each in the development of the business plan was explained and each student was asked to complete a job application and indicate their first and second "job" choice. The teacher then made work assignments based upon these applications.

Students were given a packet and asked to work, as a group, and individually on the development of their group business plan. Throughout the two-week period students were given assistance on their individual projects and mini-lectures on concepts that they needed to use in the development of the business plan. The primary elements of the business plan were a drawing and/or description of the product or service, a list of requirements for production, a financial plan, a marketing plan, and a summary argument outlining the benefits of the product or service and its expected marketability.

Students were motivated by the fact that they were competing with the other student groups for the best business plan. A panel of university business professors read each of the proposals and the "winning" plan received a reward and recognition. Each group received written feedback on their submission.

## OUTPUTS

### Assessment Method

In order to meet the goals of this research a two-part assessment instrument was used. The first tested student knowledge of the concepts covered by the program. The second assessment component examined constructs which have been linked to entrepreneurial success, such as need for achievement (McClelland, 1961), internal locus of control (Brockhaus & Nord, 1979), and risk taking propensity (Begley & Boyd, 1987). A multiple choice exam and a survey of constructs related to new venture creation, both developed by the National Council on Economic Education (Choices & Changes, 1992) were used to meet the two assessment objectives. Student was also asked to indicate if a) their mother owned her own business, and if b) their father owned his own business. In order to obtain accurate responses to these two questions, students received assistance from the test administrator regarding whether their parents could be classified as business owners.

Each of the four classes of 5th grade students in the elementary school participated in the research by completing the multiple-choice exam and the attitude survey. Two of the four classes completed the exam and the survey prior to receiving the educational program in entrepreneurship and economics and two groups completed the exam and the survey after receiving the educational program. The classes were randomly assigned to the "assessment-before-education" and the "assessment-after-education" groups. The use of treatment and control groups permits a fuller appraisal of the impact of the educational program.

The class sizes were approximately equal in size, academic ability, and gender composition. One hundred six (106) children participated in the assessment. Of those, 54 were boys and 52 were girls.

### Assessment Results

#### Section 1: Knowledge of Concepts

A majority of the students answered most of the 20 economics questions correctly. A summary of the questions and the percentage of correct responses is found in the Appendix. The most difficult questions for students were those that examined the concepts of capital resources (question 8, 27 percent correct), the productivity of capital resources (question 17, 41 percent correct), opportunity costs (question 4, 49 percent correct), and production (question 18, 51 percent correct).

On the other hand, nearly all students correctly understood the relationship between effort and outcome (question 1, 97 percent correct), the relationship between attending school and obtaining a higher paying job (question 6, 96 percent correct), and the relationship between price and demand (question 9, 93 percent correct and question 15, 92 percent correct).

For many of the test questions, there were only small differences in the responses of the treatment and control groups of students. However, there were significant differences ( $p < .05$ ) in the responses of the two student groups to several questions. As indicated in Table 1, students that received instruction were more likely to understand the concepts of human capital (22% vs 4%

correct responses), human resources (73% vs 43% correct responses), and entrepreneurship (69% vs 51% correct responses). They also were more likely to correctly answer questions about opportunity costs (59% vs. 40% correct response to question 4) and capital resources (37% vs. 17% correct response to question 8).

**Table 1**  
**Significant Differences in the Knowledge Test Responses of the Students That Did/Did Not Receive Instruction**

<u>Concept (Question number)</u>	<u>Percentage of Correct Responses</u>	
	Students Receiving Instruction	Students Not Receiving Instruction
Human capital (#5)	22% <sup>1</sup>	4% <sup>1</sup>
Human resources (#7)	73% <sup>2</sup>	43% <sup>2</sup>
Entrepreneur (#11)	69% <sup>3</sup>	51% <sup>3</sup>

<sup>1</sup> Chi-square = 10.31 (df=3, p<.02)

<sup>2</sup> Chi-square = 11.93 (df=3, p<.01)

<sup>3</sup> Chi-square = 8.30 (df=3, p<.04)

On only one question was there a significant difference ( $p < .05$ ) in the answers of boys and girls. Boys were more likely than girls to correctly answer that a house painter's skills are a human resource (69% vs. 46%).

## Section 2: Survey of Selected Constructs

The results from the survey of constructs (see Table 2) indicate that students strongly believe that education improves skills (95 percent) and can help one to achieve their personal goals (91 percent). The vast majority of students also believe that they can make plans (87 percent) and make choices (85 percent), and believe that they are important (88 percent), creative (84 percent), and can work with other people (85 percent). The students were less sure that they were part of the economy (45 percent).

There were only small differences in the responses of the treatment and control groups of students, and on only one question was there a significant difference in the answers of the two groups. Those that had received instruction in economics were less likely to believe that they were workers ("I am a worker") ( $t = 2.80, p < .01$ ).

There were some differences in the responses of girls and boys on the survey of selected constructs, however there was a significant difference ( $p < .05$ ) in the answers of boys and girls on only one of the questions. Girls were more likely than boys to feel that they were important.

As mentioned previously, the fifth grade students were also asked to identify if their mother owned her own business and if their father owned his own business. Twenty-nine of the 106 students indicated that at least one of their parents owned a business. There were some

**Table 2**  
**Results of Survey of Selected Constructs**

	<b>Disagree or Strongly Disagree</b>	<b>Not Sure</b>	<b>Agree or Strongly Agree</b>
I can make choices	2	13	85
I am a worker	6	33	61
I am not part of the economy	45	27	28
Education improves my skills & knowledge	1	4	95
I am important	4	8	88
I do not have control over my life	63	21	17
Success in life usually comes from being lucky	67	26	8
I can make plans and set goals	5	9	87
I can be productive	5	25	71
Cooperation Increases productivity	10	15	76
I am not creative	84	4	12
I can contribute to the economy	9	31	60
I cannot work with other people	85	7	9
Education can help me reach my goals	6	4	91

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differences between the responses of these children and the answers of other students on the survey of selected constructs. The children of small business owners felt more positively about the benefits of education and their own importance and value to society. Furthermore, on all positively worded items (e.g., "I am important"), students with parents that owned a business were more likely than other students to agree with the statements (see Table 3).

## DISCUSSION

This research has examined the introduction of entrepreneurship awareness education in an elementary school. Based on the program assessment described, after receiving instruction in entrepreneurship and economics, students more clearly understood the concept of entrepreneurship, human capital, and human resources. Thus, students illustrated a higher level of awareness regarding entrepreneurship.

In addition, student and teacher comments indicated not only a higher level of awareness of entrepreneurship, but a sense of truly enjoying being involved in the program. Students became increasingly excited as they began to compete for the winning business plan. In fact, some students indicated to the guest instructor that they have plans to begin a small part-time venture during the upcoming summer months as a result of their increased understanding of entrepreneurial efforts. Both the classroom teacher and principal were also quite satisfied with the program.

It could be argued that there might have been more striking differences between the students that had and had not received the educational program if the examination questions were more difficult. A number of the questions were quite easy for students to answer even if they had not yet received the instruction in economics and entrepreneurship. For example, one question asks, "What will happen if the price of hot dogs goes up?" More than 93% of the children chose the correct response, "Consumers will buy fewer hot dogs" (see Appendix).

There was only one statement where the responses of those students receiving entrepreneurship awareness instruction prior to the assessment were significantly different from the responses of the students who had not yet received instruction. In response to the statement, "I am a worker," students who had received instruction were more unsure about whether or not they agreed with the statement. This uncertainty could have been a function of their understanding of the term "worker." During the entrepreneurship awareness program students discussed the concepts of management and leadership. Each student was assigned a leadership role for the purposes of completing the business plan project. Thus, based on this assignment the students may have defined worker as a laborer and may have viewed themselves more in a management or leadership role than a "worker" role.

There were few striking differences between boys and girls on both the knowledge test and the survey of selected constructs. However, on one construct, the responses of girls were significantly different from the responses of boys. Girls were found to have a higher perception of their importance than boys. This finding may be attributed to the age of the girls participating in this research. Participating girls were 10 or 11 years of age. They may have been experiencing a period of peak self-esteem prior to the teenage years when perceptions of self-worth typically plummet.

Table 3

**Results of Survey of Selected Constructs (Percent of Students that Agree/Strongly Agree with the Statement)**

	<b>Students with Parents that Own a Business</b>	<b>Students with Parents that Do Not Own a a Business</b>
I can make choices	90%	83%
I am a worker	69	58
I am not part of the economy	31	26
Education improves my skills and knowledge	100	93
I am important	93	87
I do not have control over my life	24	13
Success in life usually comes from being lucky	10	7
I can make plans and set goals	96	83
I can be productive	83	66
Cooperation increases productivity	90	70
I am not creative	11	12
I can contribute to the economy	62	59
I cannot work with other people	4	10
Education can help me reach my goals	97	88

Another important finding of this research is the influence of parental role models. Students whose parents were entrepreneurs felt more positively about the benefits of education and felt more positively about their own productivity, goal-setting capabilities, importance and value to society. Although this study can only provide correlational and not causal results, this finding suggests that entrepreneurial parents can have an influence on the attitudes and self-perceptions of their children. The finding also tends to reinforce the results of previous studies (e.g., Matthews & Moser, 1996; Scott & Twomey, 1988) which have found that a family role model is an important determinant of entrepreneurial behavior. Further research should attempt to validate this finding and begin to examine the underlying factors that might cause children of entrepreneurs to form attitudes that are different from other children.

An important long-term objective of this research is to provide a baseline of information about participating students that can provide the opportunity to examine the effects of early introduction to entrepreneurship awareness. A majority of these students will continue their education together through the local middle and high schools. Thus, those that continue on this expected educational path provide unique longitudinal research opportunities. On an alternating years basis, students remaining in this population can be tested and their awareness and understanding of entrepreneurship can be examined. The findings will be subject to the limitations of this type of research, primarily subject mortality and differences in teaching styles and content presented to participating students.

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## APPENDIX

### ECONOMICS AND ENTREPRENEURSHIP EXAM

Percent Correct (Correct Answer)  
Question

97% ( C )

1. Instead of going out with her friends, Jane chose to stay at home to study for her math test. Jane got a high score on the test. Why did she earn a high score on the test?
- A. Because Jane is smart
  - B. Because Jane doesn't like going out with her friends
  - C. Because Jane chose to study
  - D. Because Jane's teacher likes her

71% ( C )

2. A teacher has five movie tickets to give her ten students. What is most scarce?
- A. Teachers
  - B. Movies
  - C. Tickets
  - D. Students

75% ( D )

3. On your way to the shopping mall, a friend asks you to play basketball. Another friend wants you to go to his house to play video games. What must you do first?
- A. Play basketball
  - B. Go to the mall
  - C. Play video games
  - D. Make a choice

49% ( C )

4. On Saturdays Alicia usually goes to see a movie with her friends. However, last Saturday she chose to visit her grandmother instead. What was the opportunity cost of Alicia's decision?

- A. Visiting her grandmother
- B. The price of a movie ticket
- C. Seeing the movie
- D. Staying home with her parents and watching TV

12% ( B )

5. Jim wants to be a good cook. He is taking cooking lessons. Jim is improving his \_\_\_\_\_?

- A. Opportunity costs
- B. Human capital
- C. Work habits
- D. Alternative choices

96% ( C )

6. After graduating from high school, Marcus found a better paying job than his sister who dropped out of school. Why?

- A. Marcus was luckier than his sister was
- B. Men are always paid more to work than women are
- C. Finishing school made Marcus a more productive worker
- D. Marcus's sister had no choice

58% ( B )

7. Identify which of the following is a human resource.

- A. A hammer
- B. A house painter's skills
- C. A school building
- D. A computer

27% ( C )

8. What do we call a manufactured good that is used to produce other goods or services?

- A. A human resource
- B. A natural resource
- C. A capital resource
- D. An economic want

93% ( A )

9. What will happen if the price of hot dogs goes up?

- A. Consumers will buy fewer hot dogs
- B. Consumers will buy more hot dogs
- C. Consumers will stop buying hot dogs
- D. Consumers will buy fewer hamburgers

**53% (B)**

10. A video game company produced 10,000 copies of its most popular game, "Econ Whiz." Before the holidays, the company received orders for 20,000 copies. What is this a sign of?

- A. A surplus of "Econ Whiz"
- B. A shortage of "Econ Whiz"
- C. High prices for "Econ Whiz"
- D. A shortage of video game players

**60% (D)**

11. What do we call a person who organizes resources to make goods and services for a profit?

- A. An inventor
- B. A consumer
- C. A buyer
- D. An entrepreneur

**68% (A)**

12. Which of the following is a result of limited resources?

- A. We cannot have everything we want
- B. We can always have everything we want
- C. Producers can always make more goods and services
- D. Entrepreneurs earn lower profits

**89% (C)**

13. When buyers exchange their money to sellers for goods and services, we call this a

- A. School
- B. Factory
- C. Market
- D. Street corner

**32% (C)**

14. Thomas Edison created the first electric light bulb. Over several years, he found ways to improve his light bulbs and began selling them to people. What was Thomas Edison?

- A. An innovator
- B. An inventor
- C. Both an inventor and an innovator
- D. A capital resource

**92% (A)**

15. The grocery store cannot sell all of its apples. What can the grocer do to get people to buy more apples?

- A. Lower the price of apples
- B. Increase the price of apples
- C. Lower the price of oranges
- D. Open a new store

**80% (B)**

16. John works for Mr. Stevens selling newspapers after school. Yesterday, Mr. Stevens had \$15 in sales revenue from John's route. The papers cost Mr. Stevens \$7, and he paid John \$3 for his work. What did Mr. Stevens earn?

- A. A capital resource
- B. A profit
- C. A loss
- D. An innovation

**41% (D)**

17. It takes George one hour to wash his family's dishes by hand. When George uses the dishwasher, it takes him only 30 minutes. Why does it take less time when George uses the dishwasher?

- A. George is a slow worker
- B. George is not using his human resources productively
- C. George is not a productive worker
- D. George is a more productive worker when he uses capital resources

**51% (B)**

18. What do we call combining resources to make goods and services?

- A. Financing
- B. Production
- C. Consuming
- D. Marketing

**57% (A)**

19. Mr. Jones pays Sally one dollar every day to walk his dog. What does Sally earn for her work?

- A. Wages
- B. Debts
- C. Costs
- D. Sales

**65% (D)**

20. Why do workers in a factory each perform different tasks?

- A. Because the boss tells them what to do
- B. In order to receive wages
- C. To charge a higher price
- D. Because specialization increases their productivity.

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