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THE EFFECTS OF ENTREPRENEURSHIP TRAINING AND VENTURE CREATION
ON YOUTH ENTREPRENEURIAL ATTITUDES AND ACADEMIC
PERFORMANCE

EXECUTIVE SUMMARY
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Overview

The need for quality entrepreneurship education and training is becoming apparent to students, policy makers, and educators. According to a recent Gallup poll of American high school students (as cited in Kourilsky, 1999), 85% reported they knew little about business; 80% of high school students think that more entrepreneurship should be taught, while 68% indicated a desire to learn more about entrepreneurship. Policy makers have recognized the need for children and family economic empowerment through self-employment with the introduction of the Future Entrepreneurs of America Act (H.R. 1331) in the 106th Congress to promote entrepreneurship education in grades 7 through 12.

Although there is much anecdotal evidence supporting the positive effects of entrepreneurship education at the secondary school level, there has been limited empirical research. This current study focuses on whether entrepreneurship education contributes to the development of entrepreneurial characteristics among youth and whether it contributes to improved student academic performance. It is expected that the findings of this study will help to establish best practices in instructional materials program modality and exemplary entrepreneurship education. This is important to youth organizations, funding sources, and school administrators in order to advance the field to the next level.

Research Questions

Most of the research related to using education as an intervention tool has focused on young adults' attitudes *toward* entrepreneurship as a career option (Ede, Panigrahi, & Calcich, 1998; Hansemark, 1998 Hatten & Ruhland, 1995). This research addresses a question related to early intervention for children in "at risk" situations: can entrepreneurial training affect personality traits or attitudes commonly associated with becoming an entrepreneur? If students can improve their motivation to achieve, their

locus of control and their self-esteem, as well as demonstrate creativity, the more likely they are to avoid self-destructive behavioral patterns such as teen-age pregnancy, drug-abuse, violence, and gang participation. A second research question addresses whether teacher and classroom variables can influence psycho-graphic traits. Does teacher training and experience matter, student enterprise and student classroom tenure make a difference. Finally this research addresses whether entrepreneurship education can lead to better academic performance.

Methods

Sample--the sample for this study consists of students in School Leadership Team IV of the Newark, NJ Public Schools. This population includes nine schools and 28 classes ranging from grades 3 through 8. Within this group of schools, entrepreneurship education and training has been implemented for 450 students using KidsWay curriculum, as an alternative intervention strategy for improving the academic status of an underachieving school population. From this sample a sub-segment of 147 students was randomly developed to test for the effects of entrepreneurship education on academic performance; 91 students were from the treatment group that participated in the training and 56 were from the control group

Procedures--Student attitudes were measured using an Entrepreneurial Attitude Survey that has been adopted from research on adult entrepreneurs (Robinson, Stimpson, Huefner, and Hunt, 1991). It was administered to a sample of 524 students, approximately half of the 30 classes received entrepreneurship training while the other half did not. An approximation was used to survey an equal number of grades from the same school. Final grades before and after the test period were recorded for a sample sub-set of 147 students in reading, language arts, spelling, math, social studies and science.

Measures--Students were grouped into the treatment group--those enrolled in entrepreneurial training, and the control group that did not. A 36-item entrepreneurial attitude survey measured the perceptions of the students relative to achievement, innovation and creativity, personal control, and self-esteem. Students were asked to rate on a scale of "1" to "5" how strongly they feel about personal issues using 9 questions related to each of these factors. The school of attendance was grouped into nine categories. There were 28 class groupings, according to the teacher of record. Teachers were grouped based on whether they had entrepreneurship training, and whether they had prior experience in teaching entrepreneurship. Students were grouped by elementary and middle school status; gender; whether they participated in entrepreneurship classes in the prior year and current grade. Race was categorized by: African American, Hispanic, Caucasian, Asian, and bi-racial. Students were questioned whether there has been entrepreneurial experience in the immediate family. Students were also group according to whether their class engaged in a revenue-generating project. Grades were coded as follows: A=4; B=3; C=2; D=1; and F=0.

Data Analysis--Data analysis was based on a matching sample research design. Classes that did not have a match for the same grade level at the same school were dropped from the sample. Also classes with special language needs or other unique educational characteristics were eliminated. This process left 416 students in the sample, 234 in the treatment group and 182 in the control group. An independent sample t-test indicated

there is not a significant difference in mean scores for the variables: SCHOOL, CLASS, GENDER, GRADE, AGE, RACE, and GROUP between the students in the treatment and control groups for the primary sample and sub-sample. Descriptive statistics, frequencies, and correlation analyses were performed on the data. A series of analysis of variance were performed with entrepreneurial attitudes as the dependent variable. The independent factors were the treatment or control grouping, family history, gender, grade group, and race. Other independent variables included teacher training, teacher experience, student enterprise, and student tenure in entrepreneurship classes. A paired sample t-test was conducted to compare grades before and after treatment for each of the subjects in the sub-sample.

Results and Discussion

Comparing the treatment and control groups, the results indicate:

Students receiving entrepreneurial training have a significantly higher motivation to achieve ($p < .01$); the difference in average scores was 3.8%.

This corresponds with prior literature on adults which indicates that the establishment and growth of business is associated with a higher need for achievement. These findings therefore suggest that by improving a student's need for achievement they are more likely to establish and grow businesses as an adult.

Comparing the treatment and control groups, the results indicate:

Students receiving entrepreneurial training have a significantly higher sense of personal control ($p < .05$); the difference in average scores was 2.8%.

These factors are very important in the short-term behavior of students and the likelihood of avoiding destructive and criminal behavior. Student with more personal control are less likely to resolve conflict and express anger through violence. Personal control, analogous to locus of control, will result in the student taking more responsibility for what happens to them and therefore are less likely to participate in socially undesirable behavior.

Comparing the treatment and control groups, the results indicate:

Students receiving entrepreneurial training have a higher self-esteem ($p < .05$); the difference in average scores was 2.0%.

The greater students self esteem, the more likely they are to avoid undesirable peer pressure such as teen-age pregnancy and gang participation.

Analyzing classroom and teacher variables for the treatment group revealed the following results:

Students with teachers having entrepreneurship training were more innovative and had more personal control.

Students with teachers having more entrepreneurship training were more innovative and had more personal control.

Students with more than one year of entrepreneurship training were more innovative.

These results indicate that the teacher is an important variable in teaching entrepreneurship. In addition to passing on their self-efficacy to students, a trained and experienced teacher encourages creativity from their students. This is particularly noteworthy because the curriculum itself did not produce results in innovation/creativity.

Analyzing the effects of enterprising opportunities it was found that students that participated in a revenue-generating project had:

Higher achievement motivation

More innovative and creativity.

Higher personal control.

Higher self-esteem.

The results also indicate that actually starting a business as well as going through the entrepreneurial education produced the best results, in as much as creativity also increased for the students in the treatment group.

The final research question, investigating the effects of entrepreneurship education on academic performance yielded very interesting results. Scores increased from prior year final academic subject grades for the entrepreneurship classes in:

Reading—the difference in average scores was 13.2% higher.

Language—the difference in average scores was 6.1% higher.

Social Studies—the difference in average scores 11.3% higher.

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Entrepreneurship classes scored better than non-entrepreneurial classes in:

Reading—the difference in average scores was 16.4% higher.

Language—the difference in average scores was 15% higher.

Spelling—the difference in average scores was 15.3% higher.

Math—the difference in average scores was 18.7% higher

Social Studies—the difference in average scores was 19.5% higher.

Science—the difference in average scores was 39% higher.

Conclusions

This study has provided support for theories related to entrepreneurial attitudes in general. The fact that they apply to young children verifies the universality of these concepts. Previous literature has suggested that entrepreneurial training will improve attitudes toward entrepreneurship, but this research implies that training can change the psychological tendencies and propensities associated with business ownership.

Training teachers in entrepreneurship education, as well as teacher tenure is apparently important for student innovation and personal control. The data also suggests providing an enterprising experience for students makes a difference.

The findings also support the hypothesis that suggests entrepreneurial education positively impacts academic performance. Comparing entrepreneurial classes to non-entrepreneurship classes indicates that entrepreneurship training has a positive impact on all academic areas. The results also show an increase for the treatment group in reading, language and social studies, confirming the results that indicate a difference between the treatment and control groups.

From this study, educators, policy-makers, and other stakeholders have documented research supporting the contention that investing in training to develop and nurture entrepreneurship at an early age produces results. By investing early, the implications for economic development and global competitiveness by creating an entrepreneurial culture in our youth are exciting.