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## Should Economic Education Be Left to the Public Schools? The Youth Enterprise Academies for Urban Youth

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Economic education is less frequently offered in large urban high schools than it is in the suburbs or medium-sized cities (Walstad, 2001). This is not surprising. We suspect that concerns about such issues as low academic achievement and low school completion rates would often overshadow the importance of economic and financial education. Nonetheless, there is growing evidence of problems resulting from poor economic and financial education including:

- A large net worth gap between whites (\$94,900 in 1998 as measured in 1998 dollars) and nonwhites (\$16,400 in 1998 as measured in 1998 dollars) (Federal Reserve System, 2000).

- A large number (10 million) of unbanked households in the United States most of which (57 percent) are minority households (Toussaint-Comeau & Rhine, 2000).
- A 51 percent increase in bankruptcy rates among the young from 1991 to 1999 (United States General Accounting Office, 2001).

What explains these problems? We suspect that lack of economic and financial education is among the most important variables. We suggest that we can no longer wait for public schools to act without competition in this area. Instead, colleges and universities along with community partners should consider offering effective economic and financial education programs for urban youth. This paper describes the Youth Enterprise Academy developed at the University of Wisconsin-Milwaukee by a partnership of a private foundation, state government, a private-not-for-profit organization, and the public schools.

### **Youth Enterprise Academy summer program**

In Milwaukee beginning in 1998, several partners including the Wisconsin Department of Financial Institutions, the Helen Bader Foundation, the Wisconsin Council on Economic Education, the Milwaukee Public Schools, and the University of Wisconsin-Milwaukee (UWM) Center for Economic Education developed a model for improving economic and financial education. An important part of this program is the Youth Enterprise Academy and the Youth Enterprise Investment Clubs.

The Youth Enterprise Academy is a ten-day summer program for high school students. It is conducted on the university campus. The goal of the course is to increase the economic and financial education and participation of city youth in the economy. Three areas are emphasized. First, students study personal finance. Students participate in several activities that stress saving, investing, credit, and the importance of

getting a good education (investing, in their own human capital). Students act as “Stock Analysts.” They research various companies for their “clients” and eventually recommend whether stock of a company should be bought, held, or sold. The students use materials developed by the National Council on Economic Education as well as materials published by the National Association of Investors Corporation.

Second, the Youth Enterprise Academy emphasizes basic economics. Students participate in several activities to learn such basics as scarcity, choice, opportunity cost, incentives, profit, laws of supply and demand, market price, price ceilings, price floors and so forth. The students participate in two simulations—an auction market and private property rights simulations. They hear presentations from successful minority business people. A highlight of this part of the program is an all-day field trip to visit the Chicago Board of Trade of the Federal Reserve Bank of Chicago.

Finally, Youth Enterprise Academy focuses on developing leadership skills. We assumed that becoming a leader in today’s economy requires being successful academically in high school and college. Students in the Youth Enterprise Academy examine career options, decide what courses to take now to get ready for college, and discuss how to finance a college education. Using the Internet, students visit the web pages of numerous colleges and examine various academic majors, tuition costs, and so forth.

Students who successfully complete the Youth Enterprise Academy receive a \$500 U.S. Savings Bond—a small but real and immediate step toward reducing the net worth gap. Five students from each Youth Enterprise Academy take the next step. They are invited to join a Youth Enterprise Investment club. Here, the students manage a Youth Enterprise College Fund—a fund with an initial value of \$2,000 per student or \$10,000. The goal of a Youth Enterprise College Fund is to increase the value of the fund to cover most or all of the first year of tuition at a typical college or university. When a member of the Youth Enterprise Investment Club graduates from high school, he or she can



designate that his or her share of the fund be paid to the post-secondary education institution to which the student is enrolled.

### **Statistical analyses of four years of student pre-and post test scores**

The curriculum of the Youth Enterprise Academy stresses the content of personal finance and basic economics and a variety of instructional methods, including direct instruction, simulations, guest speakers, and an all-day field trip from Milwaukee to Chicago. It also offers students certain inducements such as the \$500 U.S. Savings Bond and a chance to be admitted to an investment club. How effectively does the curriculum of the Youth Enterprise Academy teach students the basic concepts and principles of personal finance and economics?

Each year for four years we asked the students to complete pre-and post- tests of their knowledge of personal finance and basic economics. We were interested to examine these data as a whole to measure the effect size of this curriculum on student knowledge.

The test instruments used are comprised of items selected from the *Basic Economics Test* (BET) published by the National Council on Economic Education and items contained in a curriculum entitled *Learning from the Market: Integrating the Stock Market Game Across the Curriculum* (called the Test of Personal Finance or TPF) also published by the National Council on Economic Education.

Before ascertaining the appropriateness of combining the four years of Basic Economic Test (BET) data into one group to test the overall improvement in test scores, we ran tests of normality of these data. The Kolmogorov-Smirnov test of normality (with Lilliefors significance correction) indicated that the four years of pre- and post-data for the BET differed significantly from the normal distribution ( $p < .001$ ). The pre-test scores were skewed to the right (skewness=1.265), actually indicative of a ceiling effect. Because analysis of variance assumes normality of the data, it was deemed inappropriate to use this technique to determine if there were significant differences between the four years

of pre- and post-test data. Instead, we chose a Kruskal-Wallis H test. The results of this test indicated no significant difference in mean rankings between the four years—hence, it was appropriate to combine four years of data.

Table 1 shows that the average pre-test score on the BET, over four years ( $n=101$ ), was 72.7% correct ( $SD=.15533$ ). The average post-test score was 86.2% correct ( $SD=.12493$ ). The average gain was 13.5% ( $SD=.10482$ ).

We next tested the combined gain scores using the Kolmogorov-Smirnov test of normality. As these data also differed significantly from the normal distribution ( $p<.001$ ), using a paired samples T-test was deemed inappropriate to determine if the gains were statistically significant. Instead we chose a Wilcoxon matched-pairs signed-ranks test (see Table 2). This indicated a statistically significant change in test scores ( $Z=8.123$ ,  $p<.001$ ). The Cohen effect size for this gain was 0.96, which Cohen describes as a large effect.

Before ascertaining the appropriateness of combining four years of TPF data into one group to test the overall improvement in test scores, we ran tests of normality on these data. The Kolmogorov-Smirnov test of normality (with Lilliefors significance correction) indicated that the four years of pre- and post- data from the TPF differed significantly from the normal distribution (pre:  $p<.001$ , post:  $p=.006$ ). The pre- and post-test scores were not only skewed, but abnormally shaped. Again, because of this non-normality, we chose to use a Kruskal-Wallis H test to determine whether there was a significant difference in mean rankings between the four years. This test again indicated no significant difference in mean rankings—hence, it was appropriate to combine the four years of data.

Table 1 shows that the average pre-test score on the TPF over four years ( $n=101$ ), was 53.1% correct ( $SD = .140518$ ). The average post-test score was 73.2% correct ( $SD = .137473$ ). The average gain was 20.1% ( $SD = .129510$ ).

**Table 1. Descriptive Statistics for Combined Test Scores of BET and TPF/LMT**

<b><u>Test</u></b>	<b><u>M</u></b>	<b><u>SD</u></b>	<b><u>Minimum</u></b>	<b><u>Maximum</u></b>
BETpre	.7272	.15533	.25	1.00
BETpost	.8619	.12493	.40	1.00
TPFpre	.53083	.140518	.136	.850
TPFpost	.73159	.137473	.364	.955

We again applied the Kolmogorov-Smirnov test of normality to our gain scores over the four years. As these data also differed significantly from the normal distribution ( $p < .001$ ), we again chose a Wilcoxon matched-pairs signed-ranks test (see Table 2). This indicated a statistically significant pre- to post-test score ( $Z = 8.267$ ,  $p < .001$ ). The Cohen effect size for this gain was 1.44, which Cohen describes as a large effect.

**Table 2. Summary of Test Statistics for Improvements in BET and TPF/LMT Scores**

<u>Test</u>	<u><math>\Delta M</math></u>	<u>SD</u>	Wilcoxon Signed Ranks <u>Z</u>	<u>p</u>
BET	.1347	.10482	-8.123	.000
TPF/LMT	.53083	.140518	-8.267	.000

### **Summary and conclusions**

We have suggested that economic and financial education is increasingly important in light of problems resulting from poor economic and financial education, including a large net worth gap, the problems of unbanked households, and evidence of increased bankruptcy rates among the young. Large urban school districts appear unwilling to make economic and financial education a top priority.

Several community partners worked together to establish Milwaukee's Youth Enterprise Academy as one way to address the problem of economic and financial education in large urban districts. The curriculum of the Youth Enterprise Academy stresses the content of personal finance and basic economics and a variety of instructional methods, including direct instruction, simulations, guest speakers, and a field trip. It also offers students inducements, including a \$500 U.S. Savings Bond and a chance to be admitted to an investment club.

The statistical analyses of pre- and post-test scores suggest that this curriculum is unusually effective at improving student knowledge. Based on their test scores, students showed a strongly improved understanding of basic concepts and principles of personal finance and basic economics.

There are many questions we have not addressed in this study. We would like to know, for example, if student behaviors are significantly influenced by their participation in the Youth Enterprise Academy. For example, do students who participate in the Youth Enterprise Academy complete high school and go to college more often than others? Do they exhibit sound money management practices such as maintaining a budget, beginning a savings program, and managing credit wisely more often than do others? While these questions are beyond the scope of this paper, they are important.

We conclude that based on the evidence gathered so far that the curriculum of the Youth Enterprise Academy represents a good first step at improving economic and financial understanding of urban youth. We think the results so far justify consideration that it be replicated in other parts of the nation.

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