

# **Can Charter Schools Improve Financial and Economic Education? The Case of the Milwaukee Urban League Academy of Business and Economics**

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This paper describes an inner city charter school—the Milwaukee Urban League Academy of Business and Economics—that specializes in a business and economics curriculum. We present an overview of charter schools and summarize some of the research on their effectiveness. We then describe the special curriculum in one charter school and present an evaluation of the second year of the effort to implement the curriculum.

## **What is a charter school?**

Charter schools are a special sort of public school. Charter schools are public schools that are exempt from several of the regulations applied to other public schools. Charter schools operate on the basis of a contract approved between the school operator and the state charter authorizer. Charter schools are becoming a popular market-based educational reform. According to the Center for Education Reform, there are 2,695 charter schools nationally. Wisconsin has 128 charter schools.

Charter schools come in all shapes and sizes. Most have a special mission of some kind. Among the more prominent missions are alternative education, core knowledge, science, technology, at-risk, arts, direct instruction, leadership, and careers.

While charter schools are freed from many of the rules of regular public schools, they face many issues that could hamper their success. Charter schools are often start ups. A building may need to be renovated. Decisions have to be made regarding hiring teachers and administrators, selecting benefits packages, setting up the payroll,

opening up bank accounts, recruiting students, selecting curriculum, deciding on assessments, and so forth.

Despite the challenges, the initial research on charter schools has been positive. A national study of charter schools was conducted by Greene, Forster, and Winters (2003). They compared test scores in charter schools serving regular student populations with the nearest public school also serving a regular school population. Their analysis included schools in 11 states. They used year-to-year test score changes. They found positive effects from charter schools serving general populations. For the most part, these were characterized as modest gains.

Witte (2003) is conducting an ongoing study of charter schools in Wisconsin. He notes several of the difficulties in conducting this sort of research. He points out, for example, that the types of measurements are limited to standardized tests scores and that many charter schools are designed to education at risk youth. Despite many caveats, Witte concludes that charter schools are better than traditional schools at insuring that students achieve minimal and basic levels of performance. He observes, given the fact that half of the charter schools in Wisconsin are for at-risk students, that this is a worthy accomplishment.

A final study conducted by researchers at the California State University at Los Angeles (Slovacek and others 2002) compared the academic achievement of children from low income families attending charter and non-charter schools in California. They examined average scores on the Academic Performance IndexCa measure used by the Stanford Achievement Test. They found that the mean scores for students in charter schools improved more (22%) than for students in non-charter schools. The difference was even more pronounced in schools with higher levels of poverty.

We are beginning to see evidence that charter schools meet their basic academic goals better than traditional public schools. Is there any evidence that charter schools can accomplish their special missions? The following is one case to consider.

### **Milwaukee Urban League Academy of Business and Economics**

The Milwaukee Urban League Academy of Business and Economics (MULABE) is a charter school in its third year of operation in the central city of Milwaukee, Wisconsin. The mission of the school is to provide a strong academic program with stress on reading, mathematics, science, and social studies. Its special mission is to prepare students who have extraordinary knowledge and skills in business, economics, and personal finance.

The school is chartered by the University of Wisconsin-Milwaukee. The Board of Directors was formed by the Milwaukee Urban League in 1998 and the school opened in fall 2001. MULABE has an appointed board of directors and a five-year renewable contract. It is administered by Edison Schools, Inc., a private, for-profit school management company. While exempted from several of the state's regulations, charter schools in Wisconsin:

- X may not charge tuition.
- X must be nonsectarian.
- X are required to use state standards and testing.
- X are required to hire licensed teachers.
- X may not discriminate on the basis of race, sex, religion, national origin, or disability.

Like many other charter schools, students at MULABE appear to be making academic progress. Students' academic performance is measured in several ways. Students take the Wisconsin Knowledge and Concepts Examination (WKCE) at grade 4. They complete the Wisconsin Reading Comprehension Test (WRCT) at grade 3. In addition, the students at all grades take Terra Nova tests in each of the basic academic subjects administered by Edison Schools.

Considering that MULABE is an inner-city school and a relatively new start-up school, the initial test results are positive. For example, on the Wisconsin Knowledge and Concepts Examination, a state test administered to all public and charter schools, student test scores increased by 4 percent in mathematics, 17 percent in reading, 25 percent in language, and 27 percent in social

studies. While much room for improvement remains, the school appears to be making good academic progress as measured by state test results.

### **Business and economics curriculum**

About one-third of the school curriculum is devoted to business and economics (B&E). The curriculum is managed by a full-time B&E Coordinator. The B&E curriculum is organized around the following standards.

### **Content standards for personal finance and business**

#### **Adopted from Jumpstart Coalition**

1. Income: Sources of income, career choices, education and income, taxes
2. Money Management: Choice, opportunity cost, inflation, insurance, investing, financial institutions
3. Spending and credit: Choice, credit, consumer protection laws
4. Saving and Investing: Risk, return, investing, regulators
5. Entrepreneurship: Types of business, risk and rewards of business, starting a business, managing a business, succeeding in business

## **Content standards for economics**

### **Adopted from the National Council on Economic Education**

1. Basic Economic Concepts: Economic wants, productive resources, scarcity and choices, opportunity cost
2. Economic Systems: Types of systems: market, command, traditional, specialization, voluntary exchange
3. Microeconomics: Demand, supply, markets, prices, competition
4. Macroeconomics: Inflation, money
5. Economic institutions: Banking, types of financial institutions

These standards are distributed across the grades and are further broken down into benchmarks and lesson plans for each quarter. In the early grades, the B&E curriculum includes learning with children's literature. In the upper grades, the B&E curriculum includes more emphasis on lessons that are often linked to the social studies curriculum. While the school draws on materials from many sources, materials published by the National Council on Economic Education are widely used, including *Master Curriculum Guides for grades K-2, 3-4, and 5-6* and *Financial Fitness for Life for Grades K-2, 3-5, and 6-8*.

MULABE also offers several special activities for students, parents, and teachers. There is a school store, café, and bank. Students take field trips and businesses and guest speakers often visit the school. Parents and teachers attend financial and economic education workshops. Moreover, the school has developed relationships with various community groups, including Ariel Mutual Funds, Northwestern Mutual Financial Network, Wisconsin Department of Financial Institutions, and the University of Wisconsin-Milwaukee Center for Economic Education.

### **Methodology**

In the second year of the operation of the school, a study was commissioned to measure the effectiveness of MULABE=s B&E curriculum. The focus was on measuring the change in student knowledge of basic economics and personal finance over the course of one academic year (from early in the fall of 2002 until late spring of 2003).

Three classes of MULABE sixth grade classes of students were tested. In addition, students from two other K-8 schools were also tested for comparison. One school was a charter school - - a sister school of MULABE also managed by Edison. The other was an urban public school. Neither the charter school nor the urban public school had a specialization on business and economics. The design of this evaluation is considered quasi-experimental because random assignment of students to MULABE and the two control group schools was impossible.

### **Instruments**

To measure student understanding of economics, the *Basic Economics Test* (BET) was chosen. This test was designed for grades 5-6, and has been nationally normed and standardized (Walstad & Robson, 1990). It is published by the National Council on Economic Education. The test is a 29 item multiple choice test.

A test of personal finance was developed based on selected test items in a national curriculum (National Council on Economic Education, 1997). These test items were combined to create a Test of Personal Finance measuring knowledge appropriate for sixth graders. It is a 30 item multiple choice test. This test was piloted with 27 sixth graders at an urban, public school. The students were asked to comment on which questions were confusing to them and then the questions and answers were discussed. This pilot process led to the rewording of several items for clarity.

### **Data Analysis**

All of the test data analyzed in this study were tested for normality using the Shapiro-Wilk test (Norusis, 2000). One of the

assumptions of parametric statistical tests is the normality of the data. If data prove to differ from the normal distribution, it is inappropriate to use these tests, but to rather use non-parametric tests. While the data for the pre- and post-tests of both the BET and the Test of Personal Finance were somewhat skewed to the left (indicating more students scoring below the mean), the data did not differ significantly from a normal distribution. This allowed the use of parametric statistics.

**Basic Economics Test**

Forty-three out of 60 students (72%) at MULABE took both the pre- and post-tests. Thirty-two out of 38 students (84%) at the urban public school took both the pre- and post-tests. Unfortunately, only 1 student out of 69 took both the pre- and post-test at the charter school. This prevents using the paired samples t-test to compare pre and post-scores. However, by including and labeling the group who took the pre-test in the fall and the group who took the post-test in the spring, an analysis using the independent samples t-test could be used to compare differences between these two groups.

The Basic Economics Test scores for the three schools, on both pre- and post-tests are shown in the following three tables.

Table 1 shows that the MULABE students improved on the Basic Economics test, on average, 3.27 points (out of 29 total) from pre- to post. The urban public school students, who did not have a curriculum emphasizing business and economics, improved, on average .91 points. While the charter school students who took the pre-test are not the same as the ones who took the post-test, the Aimprovement@ was on average 1.35 points.

Table 1: MULABE BET					
		Mean	N	Std. Deviation	Std. Error
Pair 1	BasicTest PRE	9.26	43	3.200	.488

BasicTest POST	12.53	43	3.487	.532
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Table 2: Urban Public School BET					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	BasicTest PRE	10.34	32	2.585	.457
	BasicTest POST	11.25	32	3.183	.563

Table 3: Charter School BET					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	BasicTest PRE	9.74	35	3.697	.625
	BasicTest POST	11.09	34	4.181	.717

The paired samples t-test used to determine if the 3.27 point increase for MULABE was statistically significant ( $t = 5.982$ ,  $p = .000$ ). The p value given indicates that the increase in scores from the pre-test to the post-test for the MULABE students had less than one chance in a thousand of having occurred purely by chance. The .91 increase for the urban school was not significant ( $t=1.653$ ,  $p=.108$ ). As mentioned earlier, it was inappropriate to use the paired samples t-test to determine if the 1.35 point A<sub>improvement</sub> at the charter school was statistically significant because these are two different groups of students, however similar in demographic and academic

characteristics. The independent samples t-test used indicated a non-statistically significant increase ( $t = 1.417$ ,  $p = .161$ ).

The effect size for the MULABE increase was .981. This implies an improvement of roughly one standard deviation from pre to post. Cohen (Kirk, 1995) considers this a *Large effect*.

### **Test of Personal Finance.**

On the Test of Personal Finance, the MULABE sixth grade students improved, on average, 3.25 points. The urban public school students improved .75 points. The t-value for the MULABE increase was 5.724 ( $p = .000$ ) and for the urban public school was .960 ( $p = .345$ ). This suggests that the increase at MULABE was statistically significant, whereas the increase at the urban public school was not. The *Improvement* at charter school was 1.39. An independent samples t-test indicates that this *Improvement* was also not significant ( $t = 1.603$ ,  $p = .114$ ). The effect size for the MULABE increase was 1.020. This implies an improvement of roughly one standard deviation from the pre-test to the post-test. Again, Cohen (Kirk, 1995) considers this a *Large effect*. While it seems obvious that the MULABE students outperformed the urban public school and the charter school students on both tests, two univariate analyses of variance were calculated with

**Table 4: MULABE TPF**

		<b>Mean</b>	<b>N</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
Pair 2	PersonFinan PRE	10.56	43	3.634	.554
	Person Finan POST	14.81	43	4.722	.720

the pre-test scores as covariate. This more statistically rigorous approach measures if the difference in the scores varied significantly between MULABE and the urban public school.

On the Basic Economics Test, the difference in post-test scores of MULABE sixth grade students, as compared to the urban public school, yielded an F value of 6.816,  $p = .011$ ; a significant difference. On the Personal Finance Test, the difference in post-test scores of MULABE students, as compared to the urban public school, yielded an F value of 20.384,  $p = .000$ ; a significant difference. This confirms, that on both tests, the test site (MULABE) outperformed the control group (urban public school). Because of the nature of the other charter school data, this same analysis could not be made. Instead, a simple one-way analysis of variance with Scheffe post-hoc analysis was performed using post-test data from each of the three schools. These analyses indicated that MULABE outperformed both the urban public school (mean difference = 4.81,  $p = .000$ ) and charter school (mean difference = 4.31,  $p = .000$ ) on the Test of Personal Finance.

## **Conclusions**

By testing MULABE students early in the fall and then late in the spring in the areas of curricular focus, one can gain a sense of the effectiveness of the business and economics speciality. The Basic Economics Test is a standard and well validated measure. While

MULABE students did not score remarkably high on the post-test (less than half the items correct) they did: 1) statistically significantly outscore students of similar demographics at similar schools which do not emphasize business and economics, and 2) they did improve over the year by almost a full standard deviation.

While the Test of Personal Finance used in this study does not have the national recognition of the Basic Economics Test, the items were carefully selected from a national curriculum, piloted, analyzed and used in other studies. Again MULABE students did not score remarkably high on the post-test, but they did: 1) statistically significantly outscore the control groups, and 2) they did improve over the year by over a full standard deviation.

We conclude that while there is much room for improvement, the results of this study suggest that the MULABE business and economics curriculum is helping students make significant learning gains in the focus areas of the school.

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