

ECONOMICS AND BUSINESS EDUCATION: A COMPARATIVE STUDY OF THE UKRAINE AND THE UNITED STATES

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ABSTRACT

Dr. Larry Dale was one of 14 educators chosen by the National Council on Economic Education (NCEE) and the U.S. Department of Education (USDE), to get a first-hand look at Ukraine's efforts to teach students how to build a democratic market economy. The group, returned from an eleven-day study tour on Ukrainian economic education in the late fall of 2002, in which they visited 22 schools in the cities of Kiev and Lviv. The purpose of this study was to examine the effectiveness of the Ukrainian approach to business and economic education as compared to the status of economic literacy in US High schools.

Our study examined seven different groups of students ranging from those with more than three hours of economics to those who had no formal training in both countries. These students were all given the Test of Economic Literacy, developed by the National Council on Economic Education and nationally normed in 1986, and translated into Ukraine in 1991. The mean scores were tested using a series of Chi Square tests of independence to determine if the difference between the overall performance score and the sub group scores were significant at the .01 level. The results tended to be significant for most of the factors. Then a regression analysis using the two-tailed test at the .01 level of significance, was run on the data.

Amazingly after only 12 years of independence from the Soviet Union the general Ukrainian student population was doing as well on a test of general economics as the American students who had never known any other system. This is because the null hypothesis could not be rejected indicating that there was no significant difference between the Ukraine and American groups overall. An examination of the subgroups was even more revealing. As would be expected, the group that performed the best on the test were American students taking the Advanced Placement tests in economics after completing a high school course in AP Economics that would count for college credit. There was no significant difference between this group and the Ukrainians who were

using the economics test as one of their Olympiad exams, a series of exams that are required for graduation from high school. There was no significant difference between the performances of these top groups on the test, since both of these students groups had strong incentive to be successful.

These top groups were followed closely by the college bound Lyceum students who also performed significantly better on the test than any of the other groups, except the top groups. There was however a significant difference between the top groups and the Lyceum group who had no formal training in economics, but not those with a minimal three hour course in economics and business. Since 73% of the College bound students had at least a three credit hour course in business and economics during their high school experience, they were almost even with those specializing in economics. The vocational oriented Gymnasium students were well behind the brighter groups, but performed significantly better than the Midsouth High Schools students, from Arkansas, Tennessee, Missouri and Mississippi, who had not taken any economics or business courses in High School. Also it should be noted that the data from the national norming test bank demonstrates that U.S. students did significantly better in 1986, when the tests were first administered, than the current student groups. This may however represent a regional difference, since the more recent data came from a specific region of the country, where as the 1986 data reflected the national experience. Overall it is sad to note that the Nation that perfected the market economy has students that perform only as well as a nation of students that have only had 13 years of experience with a market economy in transition. One explanation may be that the newness factor has a halo effect on the Ukrainian students enhancing their interest in market economics and thus their performance, similar to the effect that computer tutorials had on American students when they were exciting and new in the 1980's. An exit survey of 352 randomly selected students from the US and Ukraine indicates an abnormally high interest in the subject by Ukrainians as compared to American students.

This study clearly demonstrates two important findings. First the Ukraine educational system with all of its problems has done a miraculous job of improving both interest in economics and more informed students, particularly among the general population. This may relate to the greater discipline found in schools in the Ukraine as much as the perfected teaching methods, but it is still significant. A second important finding is that both countries have some need for improvement in business and infusing economic education into their Pre-college education curriculum if they are to reach the majority of students in either country, since most will not attend College or post-secondary education institutions.

INTRODUCTION

Dr. Larry Dale, Director of the Center for Economic Education is one of fourteen economic educators chosen by the National Council on Economic Education (NCEE) and the U.S. Department of Education (USDE), to get a first-hand look at Ukraine's efforts to teach students how to build a democratic market economy. The group, returned from an eleven-day study tour on Ukrainian economic education in 2002, sponsored by the US Department of Education and the National Council on Economic Education. The tour included 22 schools in the cities of Kiev and Lviv. Three of the schools were public schools, 15 were private Lyceums, 3 were private Gymnasiums and one was a special advanced business school.

The fourteen-member group studied education reforms currently in progress, economic education activities, curriculum standards and assessment, civic education programs, training and delivery systems. Participants also observed the ways in which Ukrainian teachers overcome limited resources and administrative constraints. They also met with representatives of the Ministry of Education, the Ukraine Council for Economic Education, as well as business leaders.

The *International Education Exchange Program* (IEEP) helps international partners, undergoing the transition to a democratic market economy, reform their educational systems through training, materials development and translation, conferences, organizational development, and study tours. The IEEP brings together U.S. economic and civic educators with their counterparts from central and Eastern Europe and the former Soviet states. Since 1995, the National Council on Economic Education *EconomicsInternational* program has been responsible for conducting the economic education component of the IEEP, which is funded by the U.S. Department of Education Office of Educational Research and Improvement, and conducted in cooperation with United States Department of State.

From the outset of transition in the early 1990s, the task of educational reform in Ukraine has been immense. Relative to the needs of a market economy, the Ukrainian educational system required substantial change. Courses never before offered during Soviet days had to be created and added to the curriculum. Further, all of this required developing a core of economics and social studies teachers who understood and could effectively teach market economic content, in a nation where no educators had any positive background in that field. Finally, the economic freedom and entrepreneurial spirit fundamental to a capitalist market economy required progress toward developing in school students an independence of thought and a greater skill in applying knowledge in new and creative ways. Strengthening this aspect of education

required an entirely new style of teaching that would accommodate active learning methods and greater student freedom of expression. These changes began in 1991.

In classrooms of Lviv and Kiev, teachers trained through the cooperative efforts of NCEE and the Ukrainian Council on Economic Education (UCEE) delivered activity-based lessons with skill and great enthusiasm. From the Ministry of Education to the committees developing economics standards for Ukraine, the influence of NCEE is clear – lessons are being designed with an underlying active-learning paradigm and standards are being developed with significant reliance on NCEE guidance and assistance.

It is evident from both discussions with educational administrators and observations of classroom economics lessons that the active learning paradigm has been accredited by a core group of educators in Ukraine. With the leadership of Vladimir Melnyk, President of the Ukrainian Council on Economic Education, and the assistance of his dedicated Center Directors, epitomized by Ihor Shimkiv, it is clear that in time the economic education within the Ukrainian school system will fully adapt to the needs of a market-based economy. The Ukraine has a distinct advantage over the less organized fifty state efforts in the US. In the Ukraine in order to teach any subject teachers must pass a test and then be retested every five years to be certified to teach that subject. The Ukraine has a three-tiered educational system. First there is the “inferior” state run schools, which at least two-thirds of the students avoid, then there are private licensed Lyceums for college bound students and the Gymnasium schools for vocational education. Both of the private systems receive some support from the state and then are certified and monitored by the state. The private schools seem similar to the charter school system active in US Education.

Teachers in Ukraine must overcome many obstacles, making our own problems seem trivial. With a command-economy educational background, a limited number of available market-economy textbooks (according to Irina Parkhomenko, a choice of only seven approved by the Ministry of Education), poorly-heated classrooms, few computers, a paltry supply of paper and teaching materials, and worn-slick blackboards are some of the many obstacles faced by teachers in the Ukraine. The teachers of Ukraine, who we had the distinct pleasure to observe, enthusiastically conducted market-oriented economics activities with their students. After completing a full day in the classroom, it is likely that most of these teachers, in need of supplementing their meager salaries of 250 to 500 Ukrainian Currency a month (about \$50 to \$100), either walked in the cold or rode a crowded old bus to a second job. Next morning, perhaps lucky enough to get a cold shower, they returned to school to guide their students once again – aiming to win the next Economics Olympiad. The

educational reform process in Ukraine is well underway, but with what results? Is there any evidence to suggest that the active learning approach is generating the desired improvement in intellectual freedom and innovative problem solving? Are students conquering the rigors of the economic discipline and gain survival skills in the world of business? It was the purpose of this study to examine the effectiveness of the Ukrainian effort when compared to that of the United States.

RESEARCH DESIGN

In this study I compared six independent treatment groups. The performance of these treatment groups were first tested using the Chi-square test of significance then correlated using the dependent variable of a final score on the High School Test of Economic Literacy developed by the National Council on Economic Education and tested in a variety of different sized schools across the United States with 4,235 students participating. Most of the students completed the test as an exit exam at the end of their senior year in school in both the United States and the Ukraine. Pretest were not administered in the Ukraine so that data is not available and was not included in either the US or Ukrainian portions of the study. The data from the American schools included: group 1-3 United States population; Group 1 [Y] national data accumulated in the process of norming the test in 1986 and available as a test bank from the National Council on Economic Education. Group 2 [x1] data from two Advanced Placement-Economics high schools [one in a medium sized town in Arkansas and one in Memphis, Tennessee]. These are schools that are teaching the AP course in advance Economics, this group included 293 subjects over a three-year period [2001-2003]. Group 3 [x2] a group of 326 students from a variety of randomly selected schools from all over the midsouth in Missouri, Tennessee, Mississippi and Arkansas.

The Ukraine groups included: Group 4 [x3] the exit exams from the population of 2,032 students in one large city school system run by the government in Kiev. Group 5 [x4] included results from the national Economic Olympiad, which include 1,793 of the brightest students who chose economics as one of their five areas in which they would be examined from all 22 states of the Ukraine. Group 6 [x5] 231 students from two Lyceums or private academic high schools. Group 7 [x6] included 337 students from three vocational schools, called gymnasiums. These students are generally not going to attend college, but go directly into the world of work. An analysis of all equation variables is expressed in the functional relationship;

$$y = a + x1 + x2 + x3 + x4 + x5 + x6 + x7 + x8 + x9$$

Table 1: Explanation of the Equation

Symbol	Independent Variable
y	Student's mean score on 1986 Data Bank
Characteristics	Dependent variables
X1	Group 2 USA Advanced Placement
X2	Group 3 Randomly selected MidSouth HS
X3	Group 4 Ukraine Kiev HS
X4	Group 5 Olympiad Results
X5	Group 6 Lyceum
X6	Group 7 Gymnasium

CONCLUSIONS

Our study examined seven different groups of students in the US and Ukraine. Three of these groups included 4,854 American High School students near the end of their senior year. Four of the groups included 7,098 Ukrainian students in their senior year. These students were all given the Test of Economic Literacy, developed by the National Council; on Economic Education and nationally normed in 1986, as an exit exam. This exam was translated into Ukraine in 1999 for use as the exit exam in economics. The mean scores were tested using the Chi Square test of significance and a regression analysis using the two-tailed test at the .01 level of significance. Amazingly after only 12 years of independence from the Soviet Union the general Ukrainian student population was doing as well on a test of general economics (mean score 22.92 for students with a minimum of three hours of economics and 17.23 for students with no economics) as the American students (mean score 23.33 for students with a minimum of three hours of economics and 18.37 for students with no economics, who had never known any other system) based on the combined mean score on the test. The chi-square test determined that these means were not statistically significant from each other. Even though there was a slight difference of 1.87 on the means score between the two groups it was not significant at the .01 level of significance.

An examination of the subgroups was even more revealing. First there was no significant difference between the means of the groups tested in 2001 and 2002 so that data was combined. As would be expected the two groups that performed the best on the test were American students taking the Advanced Placement tests in economics after

completing a high school course in AP Economics that would count for college credit. Their mean score was 25.89 [2001] and 26.03 {2001}, which were not significantly different from each other but were significant when compared to the other sub groups. Their mean score was 25.71 [2001] and 25.09 {2001}, which were not significantly different from each other but were significant when compared to the other sub groups. There was no significant difference between the AP American group and the Ukrainians who were using the economics test as one of their Olympiad exams. Ukrainian Students have three basic tests, which everyone must take in Ukraine language and culture, math and History. The students must select up to 5 exams from a broad range of subjects, as their specialties to form an exit text series from High School if they pass the test they will be certified as scholars in that area, one of these tests is the Test of Economic Literacy, which has been translated into Ukraine. There was no significant difference between the performance of these top groups on the test, since both of these students groups had strong incentive and the class background required to be successful. These students mean score was at the 91st percentile among students taking the exam.

Table 2: Raw Data								
	Male Female	Y Mean	X1 Mean	X2 Mean	X3 Mean	X4 Mean	X5 Mean	X6 Mean
2002	51.21% MALE	1986 N= 4,235 With/23.33 None/18.37	N=181 25.89	N=141 With/19.77 None/11.21	N=2,032 With/22.92 None/17.23	N= 899 25.71	N=331 With/20.71 None/15.27	N=437 With/18.92 None/12.21
2003	52.31% MALE		N=112 26.03 2-year Mean 25.94	N=185 With/19.38 None/11.88	N=1,877 With/23.01 None/15.88	N=894 25.09	N=329 With/19.92 None/14.73	N=299 With/18.22 None/13.73
Total number of test subjects in 1986 was 4,235: in 2001 was USA 322/Ukraine 3699: in 2002 was 297 Ukraine 3,399. Confirmed by f-test and t-test along with loglinear model.								

Table 3: Regression Statistics						
2002-2003 DATA	1986 MEAN DATA Y	X2	X3	X4	X5	X6
X1	X2=.0089*	X2=.0012*	X2= -.0009*	X2=.032	X2=.0004*	X2= -.006*
X2			X2=.0007*	X2= -.002*	X2= -.0032*	X2=.04
X3				X2= -.0013*	X2= -.0001*	X2= -.0011
X4					X2= -.0029*	X2= -.0038*
X5						X2=.0005*

These top groups were followed closely by the college bound Lyceum students who also performed significantly better on the test than any of the other groups, with a mean score of 20.71 [2001] and 19.92 [2002]. There was however a significant difference between the top groups and the Lyceum group who had no formal training in economics, with a mean score of 15.27 in 2001 and 14.73 in 2002. Since 73% of the College bound students had at least a three credit hour course in business and economics during their high school experience they were then performing well in economics relative to the specialized students. These groups performed at the 61 percentile among students taking the exam.

The vocational oriented Gymnasium students were well behind the brighter groups (mean score with economics 18.92 without 12.21 performing as a group at the 51 percentile and the 15th percentile respectively.) This group still performed significantly better than the Midsouth High Schools students, from Arkansas, Tennessee, Missouri and Mississippi (with a mean score with economics of 19.77 and without economics of 11.21 performing as a group at the 56 percentile and the 10th percentile respectively.) Clearly students who took economic, which was less than 20% of the total tested in the US, performed as well as their counterparts in the Ukraine. None of the Midsouth schools required economics for graduation. The national graduates, regardless of whether or not they had taken any economics or business courses in High School, had a mean equal to that of the Ukraine students who had no economics but both were statistically significant predictors of lack of success on the test. Also it should be noted that the data from the national forming test bank demonstrates that students did significantly better in 1986, when the tests were first administered, than the current student groups. This may however represent a regional difference, since the more recent data came from a specific region of the country, where as the 1986 data reflected the national experience. No more recent national data was available to the researcher. Nor was their any data to test if there was a regional difference back in 1986. However there was no significant difference between the regional AP group and the nationally AP group, on the test, indicating that bright students do equally well in both countries. I do not believe that difference reflects a regional difference, but that students are receiving less information about economics today than they were in 1986. Some additional schools from other parts of the country need to be included to discover if this difference is a regional difference or if today's students are less informed about business and economics. Overall it is sad to note that Nation that perfected the market economy has students that perform only as well as a nation of students that have only had 13 years of experience with a market economy in transition. One explanation may be that the newness factor has a halo effect on the

Ukrainian students enhancing their interest in market economics and thus their performance, similar to the effect that computer tutorials had on American students when they were exciting and new in the 1980's. An exit survey of 352 randomly selected from the US and Ukraine students did indicate an abnormally high interest in the subject by Ukrainians, 87%, as compared to American students, 23%. This study clearly demonstrates two important findings. First the Ukraine educational system with all of its problems has done a miraculous job of improving both interest in and more economically informed students, particularly among the elite group of learners. This may also relate to the greater discipline found in schools in the Ukraine as much as the perfected teaching methods, there was no way to test for that difference since it varied from school to school.

A second important finding is that both countries have some need for improvement in the process of teaching and learning business and economics into their curriculum in Pre college education if they are to reach the majority of students in either country, since most will not attend College or post secondary education. The United States, in particular, is at risk graduating with little or no interest or knowledge of basic market, as reported in the research paper "A Nation at Risk" conducted and published by the National Council on Economic Education in 2000. The Ukraine educational systems, with all of its problems, is improving business education thanks to the dedication of a few prominent educators in the government and the private sector, as well as an army of better trained educators. It should be noted that these training programs are due in large part to the efforts of the National Council on Economic Education through a massive infusion of funds, from government and private sources, into economic literacy programs in the Ukraine. Such an effort could produce even better results in the US.

A regression analysis of the groups pointed to the same differences noted from the Chi square test and both were confirmed by the t-test and f-test statistics. The Ukraine educational systems, with all of its problems, is improving business education thanks to the dedication of a few prominent educators in the government and the private sector. American students may eventually lose ground to these more motivated scholars in the Ukraine with potentially drastic results in the future. American needs to improve its educational system with respect to economic literacy if it is to remain competitive with the emerging democracies in the market system.

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