

ASSESSMENT IN BA110

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ABSTRACT

The goal of this assurance of learning activity is two-fold: to assess UOG students' knowledge of basic economics and to measure how much knowledge they gained over a semester while taking BA110 (Principles of Economics).

SURVEY QUIZ QUESTIONS

The National Council on Economic Education (NCEE) developed 20 standards that outlines the basic areas of knowledge for economics, a guidelines for course contents in High School Economics (see Table 1). In the years 1999 and again in 2005 Harris Interactive (a marketing research firm) was contracted by NCEE to administer this survey nationwide "to evaluate adult and student understanding of basic economics as outlined in the Voluntary National Content Standards in Economics, developed and published by NCEE" (Markow & Bagnaschi, 2005 April 25, pg.3). The exam consists of 24 questions total, 20 dedicated to economic competencies and 4 competencies focused on personal finance. The 2005 survey was conducted online. Responses came from 3512 adults and 2242 student in grades 9-12.

UOG SURVEY

The UOG survey was administered to students in BA110 (Principles of Economics) taught by Ruane at UOG in Fall 2007 and Spring 2008 during the first week of classes (the Pre-test) and during the final exam week (the Post-test). For Fall 2008, the Pre-test was administered to five sections of BA110, three sections taught by Ruane and two sections taught by Iverson. This report presents results from Ruane's three sections.

This survey yields two types of results. The first one is to look at the results of administering the survey at the beginning of the semester, hence, a Pre-test. This allows us to compare UOG BA 110 students' averages with the national average (based on the Harris survey) and those by Alfred University, administered on Spring 2007. To date, the Pre-test has been administered at UOG in one section of BA110 in Fall 2007 and in Spring 2008 and in five sections of BA110 in Fall 2008. The Alfred University survey had 35 respondents, representing students enrolled in the first college-level economics course (Principles of Microeconomics).

The second use of this survey is as a course assessment tool. In this context, the survey is given as a Pre-test and Post-test to the same students. The intention is to track individual student's score change and the group's average score change over the course of a semester. 18 students participated in both the Pre-test and the Post-test in Fall 2007, 23 students in Spring 2008, and 80 students in Ruane's classes in Fall 2008.

Table 1: Voluntary Content Standards in High School Economics

Standard 1: Productive resources are limited. Therefore, people cannot have all the goods and services they want; as a result, they must choose some things and give up others.

Standard 2: Effective decision making requires comparing the additional costs of alternatives with the additional benefits. Most choices involve doing a little more or a little less of something; few choices are all-or-nothing decisions.

Standard 3: Different methods can be used to allocate goods and services. People, acting individually or collectively through government, must choose which methods to use to allocate different kinds of goods and services.

Standard 4: People respond predictably to positive and negative incentives.

Standard 5: Voluntary exchange occurs only when all participating parties expect to gain. This is true for trade among individuals or organizations within a nation, and among individuals or organizations in different nations.

Standard 6: When individuals, regions, and nations specialize in what they can produce at the lowest cost and then trade with others, both production and consumption increase.

Standard 7: Markets exist when buyers and sellers interact. This interaction determines market prices and thereby allocates scarce goods and services.

Standard 8: Prices send signals and provide incentives to buyers and sellers. When supply or demand changes, market prices adjust, affecting incentives.

Standard 9: Competition among sellers lowers costs and prices, and encourages producers to produce more of what consumers are willing and able to buy. Competition among buyers increases prices and allocates goods and services to those people who are willing and able to pay the most for them.

Standard 10: Institutions evolve in market economies to help individuals and groups accomplish their goals. Banks, labor unions, corporations, legal systems, and not-for-profit organizations are examples of important institutions. A different kind of institution, clearly defined and enforced property rights, is essential to a market economy.

Standard 11: Money makes it easier to trade, borrow, save, invest, and compare the value of goods and services.

Standard 12: Interest rates, adjusted for inflation, rise and fall to balance the amount saved with the amount borrowed, thus affecting the allocation of scarce resources between present and future uses.

Standard 13: Income for most people is determined by the market value of the productive resources they sell. What workers earn depends, primarily, on the market value of what they produce and how productive they are.

Standard 14: Entrepreneurs are people who take the risks of organizing productive resources to make goods and services. Profit is an important incentive that leads entrepreneurs to accept the risks of business failure.

Standard 15: Investment in factories, machinery, new technology, and the health, education, and training of people can raise future standards of living.

Standard 16: There is an economic role for government to play in a market economy whenever the benefits of a government policy outweigh its costs. Governments often provide for national defense, address environmental concerns, define and protect property rights, and attempt to make markets more competitive. Most government policies also redistribute income.

Standard 17: Costs of government policies sometimes exceed benefits. This may occur because of incentives facing voters, government officials, and government employees, because of actions by special interest groups that can impose costs on the general public, or because social goals other than economic efficiency are being pursued.

Standard 18: A nation's overall levels of income, employment, and prices are determined by the interaction of spending and production decisions made by all households, firms, government agencies, and others in the economy.

Standard 19: Unemployment imposes costs on individuals and nations. Unexpected inflation imposes costs on many people and benefits some others because it arbitrarily redistributes purchasing power. By creating uncertainty about future prices, inflation can reduce the rate of growth of national living standards.

Standard 20: Federal government budgetary/fiscal policy and the Federal Reserve System's monetary policy influence the overall levels of employment, output, and prices.

RESULTS

Results are reported in a summary table (Tables 2 and 3) and by question (Table 4).

Table 2 shows that, in the Pre-test, BA110 students' averages ranged 14.6 (Fall 2007) and 15.6 (Fall 2008). One way is to compare these averages to the average from the Harris sample of respondents in the age category 18-34, since most BA110 students belonged to this age category. BA110 students' averages in all 3 semester fell below the average score of 16.8 for the Harris sample just described. The main reason for this outcome is that, except for a very few students, BA110 students have not had previous exposure to the study of Economics. Of the almost 140 BA110 students who responded to the Pre-test, only 2 took Economics in high school. In contrast, many of the 50 states have now required an Economics subject in the senior year in high school. Among those that do not have this requirement, all of them offer an Economics subject as an elective or as part of another subject (e.g., government or civics) and the majority of the senior students take this elective subject. For this reason, the lower averages among BA110 students are to be expected. Perhaps, these averages should be compared with the average of those students in the mainland US who have not taken Economics, in this case, 12 out of 24, which is surpassed by BA110 students. That BA110 students exceeded the mainland US average among those students who have not taken Economics may be because BA110 students tend to be older than the mainland US students to which they are being compared.

**Table 2: Summary of Pre-Test Results (% of total, unless otherwise indicated)
UOG vs. Alfred U and Nationwide Survey Results**

Grade	Raw scores (out of 24 questions)	UOG (BA110)			Harris Sample (2005)		
		Fall 2007	Spring 2008	Fall 2008	Age 18- 34	Students who have not taken Economics	Alfred University Spring 2007
A	22-24	0	0	3	12	3	12.50
B	20-21	7	0	8	13	5	28.13
C	17-19	29	43	29	25	14	25.00
D	15-16	14	14	22	14	12	15.63
F	14 and below	50	43	38	35	66	18.75
Average		14.6	14.7	15.6	16.80	12.00	18.0625
S.D.		3.45	2.89	3.44	n.a.	n.a.	3.2223
Respondents		28	28	87	1040	1114	32
A&B		7.00	0.00	11.00	25.00	8.00	40.63
C or less		93.00	100.00	89.00	74.00	92.00	59.38

Harris Sample taken from Markow & Bagnaschi, 2005, pg. 45, 48; UOG and Alfred University samples based on author's own sample

Table 3 compares BA110 students' average scores in both Pre-test and Post-test. In Fall 2007, the same students averaged 14.6 on the Pre-test, which then increased to 17.5 in the Post-test. In Spring 2008, the increase in the average was smaller as students averaged 14.7 on the Pre-test and 16.2 on the Post-test. Comparing with the average of the Harris sample for respondents in the age category of 18-34, i.e., 16.8, the shortfall has been eliminated for BA110 students in Fall 2007 and has been narrowed for BA110 students in Spring 2008. As regards the differences in Post-test averages between Fall 2007 and Spring 2008, it will be interesting to find out if the difference is statistically significant and, if so, to what extent there might be

seasonality between Fall and Spring semesters. Prior to Fall 2008, the goal was be to gather more data over a longer period of time.

The results from Fall 2008 show

**Table 3: Pre-Test vs. Post-Test Results (% of total, unless otherwise indicated)
UOG/BA110 Fall 2007, Spring 2008, Fall 2008**

Grade	Raw scores (out of 24 questions)	Fall 2007 (% total)		Spring 2008 (% total)		Fall 2008 (% total)	
		Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
A	22-24	0	5.56	0	0	3.75	11.25
B	20-21	5.56	33.33	0	8.70	8.75	23.75
C	17-19	27.78	22.22	39.13	47.82	27.5	33.75
D	15-16	16.67	22.22	17.39	17.39	22.5	20.00
F	14 and below	50	16.67	43.48	26.09	37.5	11.25
Average		14.6	17.5	14.8	16.2	15.7	18.0
S.D.		3.38	3.62	2.73	3.20	3.46	3.00
Respondents		18	18	23	23	80	80
z-stats			2.4843***		1.7390**		4.4922***
		High=20, Low=7	High=22, Low=10	High=18, Low=9	High=21, Low=9	High=22, Low=7	High=23, Low=9
A&B		5.56	38.89	0	8.70	12.50	35.00
C or less		94.44	61.11	100.00	91.30	87.50	65.00

Harris Sample taken from Markow & Bagnaschi, 2005, pg. 45, 48; UOG samples based on author's own sample

** , *** Post-test average score statistically significantly higher than Pre-test average score at 5%, 1% significance level.

Table 4 shows that the percent of respondents who answered correctly increased on 13 out of 24 questions in Fall 2007 and on 14 out of 24 questions in Spring 2008. For comparison, results from the Harris sample of adults and students and the Alfred students' sample have been provided in Table 5.

**Table 4: Percent of Respondents Who Answered Correctly
(scores in bold font indicate an increase between Pre-Test and Post-Test)**

Questions	UOG Sample BA110, Fall 2007 18 respondents		UOG Sample BA110, Spring 2008, 23 respondents		UOG Sample BA110, Fall 2008, 80 respondents	
	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
1. For most people, the largest portion of their personal income comes from a. interest from stocks and bonds they own b. rent paid to them from property they own c. wages and salaries from their jobs d. don't know	100%	100%	91%	96%	93%	96%
2. When a person rents an apartment, who benefits from the transaction? a. only the person renting the apartment b. only the landlord	56%	83%	87%	83%	80%	89%

c. both the person renting the apartment and the landlord d. don't know						
3. When deciding which of two items to purchase, one should always a. choose the item that costs less b. choose the item with the greatest benefits c. choose an item after comparing the costs and benefits of both items d. don't know	100%	94%	96%	96%	96%	94%
4. If the price of beef doubled and the price of poultry stayed the same, people would most likely buy a. the same amount of poultry and beef b. less poultry and more beef c. more poultry and less beef d. don't know	89%	94%	87%	96%	91%	98%
5. The manufacturers of "XYZ" winter sportswear have their manufacturing plans running night and day, but they are unable to produce enough sportswear to satisfy demand. If "XYZ" manufacturers cannot increase production and demand continues to increase, the price of "XYZ" sportswear will a. increase b. decrease c. stay the same d. don't know	78%	83%	65%	83%	85%	91%
6. In the U.S., who determines what goods and services should be produced? a. Producers and government b. Consumers and government c. Producers, consumers and government d. Don't know	50%	72%	87%	70%	74%	74%
7. Since the resources used in production of goods and services are limited, society must a. reduced their use of resources b. try to obtain additional resources c. make choices about how to use resources d. don't know	78%	94%	65%	70%	71%	81%
8. A large increase in the cost of producing jeans is most likely to result in a. lower jean prices and more jeans bought b. lower jean prices and fewer jeans bought c. higher jean prices and fewer jeans bought d. don't know	61%	89%	65%	70%	76%	78%
9. A person who starts a business to produce a new product in the marketplace is known as a. a manager b. an entrepreneur c. a bureaucrat d. don't know	89%	94%	87%	70%	91%	98%
10. Which of the following would be most likely to accelerate innovation in the computer industry? a. Placing a tax on all new inventions in the computer industry	89%	83%	87%	100%	85%	96%

b. Increasing government regulation of the computer industry c. Investing in more research and development in the computer industry d. Don't know						
11. If the interest rates charged by banks decreased, businesses are most likely to a. decrease the number of people they employ b. increase the price of the goods they produce c. increase their investment spending d. don't know	67%	67%	61%	78%	66%	85%
12. The stock market is an example of an institution within our economy that exists to help people achieve their goals. The existence of the stock market a. helps predict stock earnings b. results in an increase in the price of stocks c. bring people who want to buy stocks together with those who want to sell stocks d. don't know	67%	83%	65%	78%	75%	85%
13. Which of the following statements about the functions of money is correct? a. Money holds its value well in times of inflation b. Money makes it more difficult to save c. Money makes buying and selling goods and services easier d. Don't know	67%	94%	65%	83%	76%	89%
14. Which of the following are most likely to be helped by inflation? a. Banks that loans money at a fixed rate of interest b. People who borrowed money at a fixed rate of interest c. People living on fixed incomes d. Don't know	28%	39%	43%	57%	36%	77%
15. Assume that one U.S. dollar is equivalent to 100 Japanese yen. If the value of the dollar appreciates so that one dollar is equivalent to 150 Japanese yen, which of the following occurs? a. The price of all goods produced in Japan but sold in the U.S. will increase b. The Japanese people will import more goods made in the U.S. c. Americans traveling to Japan find their dollars buy more goods and services d. Don't know	61%	56%	61%	70%	75%	79%
16. If your city government sets a maximum amount landlords can charge in rent, what is the most likely result? a. There will be fewer apartments available than people want to rent b. There will be more apartments available than people want to rent c. The number of apartments available will be equal to the number of people that want to rent	33%	56%	48%	48%	46%	54%

d. Don't know						
17. Which of the following methods for reducing pollution would most economists support? a. Increase regulation on all industries that create pollution in their production process or all products that pollute b. Reduce pollution until the additional cost of the further reduction is greater than the additional benefit c. Eliminate all pollution since clean air and water are so important d. Don't know	33%	33%	13%	17%	30%	30%
18. If the U.S. stopped importing automobiles from Country X, who would be most likely to benefit? a. Automobile manufacturers in Country X b. Automobile manufacturers in the U.S. c. Consumers in the U.S. d. Don't know	67%	78%	78%	70%	78%	89%
19. If the Real Gross Domestic Product of the U.S. has increased, which of the following has also definitely increased? a. The amount of final goods and services produced b. The prices of final goods and services produced c. The amount of resources used to produce final goods and service d. Don't know	44%	39%	30%	57%	26%	73%
20. When the federal government's spending for a year are greater than its revenue for that year, the difference is known as a. a budget surplus b. a budget deficit c. the national debt d. don't know	44%	72%	65%	65%	59%	69%
21. On average, how much more do adults who are college graduates earn per year than adults who are high school graduates only? a. About 10% more b. About 50% more c. About 70% more d. Don't know	44%	50%	35%	35%	31%	42%
22. The cost of borrowing money is the a. monthly payment b. amount of down payment c. annual percentage rate d. don't know	67%	89%	65%	52%	76%	81%
23. Which of the following types of investments has the greatest risk of losing value due to inflation? a. Buying stocks in the stock market b. Keeping your savings as cash hidden in a mattress or in a piggy bank c. Investing in money market mutual funds d. Don't know	39%	61%	43%	35%	25%	36%

24. Some people prefer to buy mutual funds rather than stocks in a few individual companies because generally mutual funds	6%	44%	13%	17%	15%	12%
a. provide more diversification than individual stocks						
b. provide a higher rate of return than individual stocks						
c. guarantee a steadier income than individual stocks						
d. don't know						

Table 5: Percent of Respondents Who Answered Correctly in Harris and Alfred Samples

Quiz Questions	Harris Sample		Alfred University Sample, Spring 2007
	3512 Adults	2242 Students	35 respondents
1. For most people, the largest portion of their personal income comes from a. interest from stocks and bonds they own b. rent paid to them from property they own c. wages and salaries from their jobs d. don't know	94%	86%	97%
2. When a person rents an apartment, who benefits from the transaction? a. only the person renting the apartment b. only the landlord c. both the person renting the apartment and the landlord d. don't know	64%	55%	88%
3. When deciding which of two items to purchase, one should always a. choose the item that costs less b. choose the item with the greatest benefits c. choose an item after comparing the costs and benefits of both items d. don't know	93%	84%	100%
4. If the price of beef doubled and the price of poultry stayed the same, people would most likely buy a. the same amount of poultry and beef b. less poultry and more beef c. more poultry and less beef d. don't know	86%	82%	97%
5. The manufacturers of "XYZ" winter sportswear have their manufacturing plans running night and day, but they are unable to produce enough sportswear to satisfy demand. If "XYZ" manufacturers cannot increase production and demand continues to increase, the price of "XYZ" sportswear will a. increase b. decrease c. stay the same d. don't know	81%	69%	85%
6. In the U.S., who determines what goods and services should be produced? a. Producers and government b. Consumers and government c. Producers, consumers and government d. Don't know	73%	57%	88%

7. Since the resources used in production of goods and services are limited, society must a. reduced their use of resources b. try to obtain additional resources c. make choices about how to use resources d. don't know	65%	52%	94%
8. A large increase in the cost of producing jeans is most likely to result in a. lower jean prices and more jeans bought b. lower jean prices and fewer jeans bought c. higher jean prices and fewer jeans bought d. don't know	88%	77%	91%
9. A person who starts a business to produce a new product in the marketplace is known as a. a manager b. an entrepreneur c. a bureaucrat d. don't know	96%	80%	97%
10. Which of the following would be most likely to accelerate innovation in the computer industry? a. Placing a tax on all new inventions in the computer industry b. Increasing government regulation of the computer industry c. Investing in more research and development in the computer industry d. Don't know	84%	61%	94%
11. If the interest rates charged by banks decreased, businesses are most likely to a. decrease the number of people they employ b. increase the price of the goods they produce c. increase their investment spending d. don't know	65%	38%	76%
12. The stock market is an example of an institution within our economy that exists to help people achieve their goals. The existence of the stock market a. helps predict stock earnings b. results in an increase in the price of stocks c. bring people who want to buy stocks together with those who want to sell stocks d. don't know	74%	49%	85%
13. Which of the following statements about the functions of money is correct? a. Money holds its value well in times of inflation b. Money makes it more difficult to save c. Money makes buying and selling goods and services easier d. Don't know	83%	62%	94%
14. Which of the following are most likely to be helped by inflation? a. Banks that loans money at a fixed rate of interest b. People who borrowed money at a fixed rate of interest c. People living on fixed incomes d. Don't know	57%	27%	61%
15. Assume that one U.S. dollar is equivalent to 100 Japanese yen. If the value of the dollar appreciates so that one dollar is equivalent to 150 Japanese yen, which of the following occurs? a. The price of all goods produced in Japan but sold in the U.S. will increase b. The Japanese people will import more goods made in the U.S. c. Americans traveling to Japan find their dollars buy more goods and services d. Don't know	67%	53%	82%

16. If your city government sets a maximum amount landlords can charge in rent, what is the most likely result? a. There will be fewer apartments available than people want to rent b. There will be more apartments available than people want to rent c. The number of apartments available will be equal to the number of people that want to rent d. Don't know	65%	41%	55%
17. Which of the following methods for reducing pollution would most economists support? a. Increase regulation on all industries that create pollution in their production process or all products that pollute b. Reduce pollution until the additional cost of the further reduction is greater than the additional benefit c. Eliminate all pollution since clean air and water are so important d. Don't know	45%	27%	45%
18. If the U.S. stopped importing automobiles from Country X, who would be most likely to benefit? a. Automobile manufacturers in Country X b. Automobile manufacturers in the U.S. c. Consumers in the U.S. d. Don't know	89%	74%	94%
19. If the Real Gross Domestic Product of the U.S. has increased, which of the following has also definitely increased? a. The amount of final goods and services produced b. The prices of final goods and services produced c. The amount of resources used to produce final goods and service d. Don't know	42%	27%	36%
20. When the federal government's spending for a year are greater than its revenue for that year, the difference is known as a. a budget surplus b. a budget deficit c. the national debt d. don't know	73%	46%	73%
21. On average, how much more do adults who are college graduates earn per year than adults who are high school graduates only? a. About 10% more b. About 50% more c. About 70% more d. Don't know	53%	20%	33%
22. The cost of borrowing money is the a. monthly payment b. amount of down payment c. annual percentage rate d. don't know	89%	58%	79%
23. Which of the following types of investments has the greatest risk of losing value due to inflation? a. Buying stocks in the stock market b. Keeping your savings as cash hidden in a mattress or in a piggy bank c. Investing in money market mutual funds d. Don't know	52%	28%	45%
24. Some people prefer to buy mutual funds rather than stocks in a few individual companies because generally mutual funds a. provide more diversification than individual stocks b. provide a higher rate of return than individual stocks c. guarantee a steadier income than individual stocks d. don't know	44%	15%	18.18%

The survey results from Fall 2008 are an improvement over earlier ones, not only because the number of respondents were much higher (80 students in 3 sections of BA110 took both Pre-test and Post-test). They also provided demographic data, i.e., gender, age, ethnicity, as well as their academic program at UOG.

Of the 80 BA 110 students, the group can be described as follows:

Gender composition: 38 are female and 42 are male

Average age: 21.5375; youngest: 17; oldest: 45

Ethnic composition: 21 Chamorro, 34 Filipino, 9 Other Western Pacific, 7 Mixed, 3 Others

Academic program: 44 BA/BBA, 16 Others, 20 Undecided/Undeclared

Further comparisons of results from the Pre-test and the Post-test according to the above categories are presented in a series of Tables below.

Table 5: Pre-test and Post-test Results by Gender

	Male		Female	
	Pre	Post	Pre	Post
Mean	16.0952	18.7143	15.1842	17.1842
Median	16	19	15	17
SD	3.42736	2.61595	3.47855	3.21193
Max	22	23	20	22
Min	8	12	7	9
Number	42	42	38	38

The averages out of 24 points in the Harris sample along gender lines are 18.72 for men and 15.12 for women. In comparison, we see that our UOG male sample scored less than Harris' sample in the Pre-test but progressed toward the Harris average in the Post-test. In contrast, our UOG female sample started off with a higher average than the Harris' sample, which increased further in the Post-test. However, similar to the Harris' sample, the UOG sample shows that men scored higher than women in both Pre- and Post-tests.

Table 6: Pre-test and Post-test Results by Age

	Age <18		18-34		35-49	
	Pre	Post	Pre	Post	Pre	Post
Mean	15.0000	18.0000	15.6324	18.0000	17.5000	17.7500
Median	15	18	15.5	19	17	17.5
SD	3.2950	3.0237	3.5446	3.0713	1.9149	2.0616
Max	20	23	22	23	20	20
Min	9	14	7	9	16	16
Number	8	8	68	68	4	4

The averages (out of 24 questions) from comparable Harris sample groups are as follows: students in high school (age <18) = 12.72; age group 18-34 = 15.84; and age group 35-49 = 16.8. We see that our UOG sample aged less than 18 did better than the Harris sample in both Pre- and Post-tests. Our UOG sample in the age group 18-34 did slightly less in the Pre-test and significantly better during the Post-test. Our UOG sample in the age group 35-49 did better in both Pre- and Post-tests, except that the gain between tests was small.

Table 7: Pre-test and Post-test Results by Ethnicity

	Chamorro		Filipino		Other WesPac		Others		Mixed	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Mean	15.4762	17.7143	15.5588	17.6765	16.8889	18.8889	18.2500	19.0000	14.3636	18.1818
Median	15	18	15.5	19	19	20	20	19.5	15	17
SD	3.2034	3.1007	2.9766	3.0123	3.7896	3.1798	3.5000	2.4495	4.8636	3.1247
Max	21	22	22	22	22	23	20	21	22	22
Min	8	9	8	11	11	15	13	16	7	13
Number	21	21	34	34	9	9	4	4	11	11
Average age	22.1429		21.5588		23.4444		23.2500		18.5455	
Female	9		14		6		3		7	
% Female	42.8571		41.1765		66.6667		75.0000		63.6364	

In this category, our UOG sample and the Harris' sample do not compare well because Harris' sample was categorized in the following ethnic group: White whose average was 17.28 out of 24 points; Black whose average was 14.64; and Hispanic whose average was 15.36. Based on this, we will focus our comments on our largest sample groups: Chamorro and Filipino respondents from UOG. Table 7 shows that both Chamorro and Filipino group averages in the Pre-test were similar to that for Harris' Hispanic group. In the Post-test, averages by Chamorro and Filipino groups improved and exceeded the averages of all of Harris' ethnic groups, including White.

Table 8: Post-test Academic	BA/BBA		Others		Undecided/Undeclared		Pre-test and Results by Program
	Pre	Post	Pre	Post	Pre	Post	
Mean	15.6818	17.9773	16.0000	18.5625	15.3500	17.5500	
Median	16	19	17	19	15	17	
SD	2.8511	3.0915	4.3512	2.7318	4.0298	3.0517	
Max	20	23	22	22	22	23	
Min	8	9	8	12	7	12	
Number	44	44	16	16	20	20	
Average age	21.5455		24.2500		19.3500		
Female	24		7		7		
% Female	54.5455		43.7500		35.0000		

Table 8 is included in this report for information only. This is because the Harris sample has no comparable data. Table 8 shows the averages of our UOG group according to academic program categorized as Business Administration and Accounting (BA/BBA), other programs, and undecided/undeclared. It shows that each group's average improved between the Pre- and Post-tests, except that those by respondents from non-BA/BBA majors are higher than those by BA/BBA majors. Possible explanations might be because BA/BBA students are, on average, younger and proportionately more women. In earlier findings and in the Harris' sample, it was found that test scores tend to increase with age and are lower for women than men.

REFERENCES

Foundations for Teaching Economics (n.d.). Introduction to Standards. Retrieved January 9, 2007, from <http://fte.org/teachers/standards/>

National Council on Economic Education (1997). Voluntary Content Standards in Economics. Retrieved August 25, 2006, from <http://www.ncee.net>

National Council on Economic Education (2005a). Survey of the States: Economics and Personal Finance Education in Our Nation's Schools in 2004. Retrieved August 25, 2006, from <http://www.ncee.net>

Markow, Dana & Kelly Bagnaschi (2005, April 26). What American Teens and Adults Know About Economics. Harris Interactive, Inc. Retrieved August 25, 2006, from <http://www.ncee.net>

National Council on Economic Education (n.d.), Who we are. Retrieved August 25, 2006, from <http://www.ncee.net/about/>

Ruane, Maria Claret M. (2007). High School Economics: Is There a Gap Between What Students Are Being Taught and What They Should Be Taught. *Conference Proceedings of the International Conference on Business, Economics and Information Technology*, Tumon, Guam.

Ruane, Maria Claret M. & Amy B. Rummel (2007). Is There a Gap Between What Was Taught and What Students Should Know About Economics? *Conference Proceedings of the Allied Academies International Conference*, Jacksonville FL, April

Walstad, William B. & Ken Rebeck (2001). Assessing the Economic Understanding of U.S. High School Students. *American Economic Review*, 91(2), 452-457.