

Has Anything Changed about the Teachers and the Teaching of High School Economics in 20 years?

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ABSTRACT

This paper surveys high school economics instruction in the state of Indiana (U.S.A). Compared to results from previous such surveys (1996, 2003), current survey results indicate the following: 1) A larger proportion of the instructors are female, younger and have more experience in teaching economics. This change in demographic profile (if reflected nationally) has important implications for the gender composition of economics-related professions and the gender-gap in earnings. 2) While computer-based instruction and classroom experiments have become somewhat more common, the lecture method is still the dominant pedagogy. This learning environment is far removed from the one that “neomillennials” are drawn to with not so salutary implications for the development of economics fluency. 3) The dual pursuit of personal finance literacy and economics literacy may be blunting the effectiveness of the latter competency.

Keywords: *focused survey, economics literacy, “neomillennials”*

INTRODUCTION

Students entering high school in the state of Indiana prior to the Fall of 2007 fell under the General Diploma curriculum. Under this curriculum, students were required to take 4 credits of social studies courses including 2 U.S. History credits, 1 credit in U.S. Government, and 1 credit in “Any social studies course”. For students entering high school in the Fall of 2007 and later, the Indiana General Assembly has mandated that students complete the Core 40 curriculum as a requirement for graduation. Further, the Assembly mandated that from the Fall of 2011 all Indiana public Universities (four-year institutions) are to have the Core 40 diploma as a requirement for admission. Besides other differences, the Core 40 curriculum increases the social studies requirement to 6 credits of which one credit must be in the area of economics. This increased focus on economics in the high-school curriculum and for admission to a university forms the impetus for the current study. Specifically, this study seeks to examine how the increased focus has impacted the: 1) demographic characteristics of those engaged in high-school economics instruction in Indiana. 2) pedagogies employed in the teaching of economics, and 3) distribution of class-time among different economics topics (as outlined in the economics standards set forth by the Indiana Department of Education).¹

METHODOLOGY

¹ Note that this paper steers away from examining the impact of the increased economics focus on learning outcomes in non-economics/finance-related curricula for high school students in Indiana. This may be a worthwhile endeavor for future research as there is some evidence that economics mandates are associated with a decrease in general educational attainment by high school students (Belfield and Levin, 2004).

This paper seeks to address the concerns described above by developing and implementing a focused survey. Using a listing of qualified economics teachers within the state of Indiana – maintained at the Indiana Department of Education’s website, 437 (relevant) individuals along with their respective email-addresses were identified. Surveys about “Economics Instruction at the High School Level” were administered online through the University of Southern Indiana’s Office of Planning, Research, and Assessment. Potential respondents were contacted through their respective email-addresses and asked to take the Survey. After two weeks, a round of ‘reminder-emails’ was sent out. At the end of four weeks from the first round of emails, the survey instrument was taken offline and the data were tabulated. There were a total of 69 responses for a response rate of 15.8%.²

Findings and Discussion on Demographics

As part of the survey, demographic information about the teachers was collected. This data is summarized in Table 1 below.

Table 1: Summary Demographics

Variable	Range	Mean	Se
Gender; 1 = Female (n=68)	0-1	0.382	0.060
Age	25-66	44.2	1.2
Years Experience Teaching	0-42	17.5	1.2
Years Exp Teaching Econ	0-39	13.5	1.1
Highest Degree = Bachelors	0-1	0.290	0.055
Highest Degree = Masters	0-1	0.667	0.057
Highest Degree = Doctorate	0-1	0.014	0.014
Highest Degree = Other	0-1	0.029	0.020
Year Graduate with undergrad (n=20)	1986-2006	1998.7	1.3
Year Graduate with grad (n=45)	1970-2011	1995.9	1.8
Year Graduate with Highest Ed (n=2)	1979-2002	1990.5	11.5
Attended Workshop at regional center?	0-1	0.618	0.059
Teach Only Standard Econ Course	0-1	0.721	0.055
Teach Only AP Econ Course	0-1	0.044	0.025
Teach Both AP and Standard Econ Courses	0-1	0.235	0.052

Surveys similar to the current one were implemented in 1996 (Quddus and Valentine; 1998) and 2003 (Khayum, Valentine, and Friesner; 2006). Interesting comparisons emerge between the data from these earlier surveys and those from surveys in the current study. Quddus and Valentine (QV, hereafter) find that 21% of the surveyed respondents are female, and Khayum, Valentine and Friesner (KVF, hereafter) find that this proportion is 25%. Table 1 above reveals that 38% of the respondents are female. This suggests that over time the proportion of females teaching high school economics courses in the state of Indiana is growing. No such clear trend emerges with respect to the average age of the respondents. QV report an average age of 45, KVF, 46.6, and the current study, 44.2. Table 2 helps shed further light on this age-issue.

² Anecdotal evidence indicates that the list of teachers may include a few who are not currently teaching economics but have been licensed to teach economics.

Table 2: Frequency Distribution of Demographic Traits

Variable	Frequency	Cumulative Distribution
<i>Age Range</i>		
25-29	3	5%
30-39	20	35%
40-49	20	65%
50-59	18	92%
60-69	5	100%
<i>Teaching Experience - number of years</i>		
0-9	16	24%
10-19	25	62%
20-29	17	88%
30-39	7	99%
40-49	1	100%
<i>Econ Teaching Experience - number of years</i>		
0-9	28	42%
10-19	22	75%
20-29	12	93%
30-39	5	100%
<i>Highest Degree</i>		
Bachelors	20	29%
Masters	46	96%
Doctorate	1	97%
Other	2	100%

The above table reveals that 65.2% of the survey respondents are under the age of 50, and 40%, below the age of 40. In contrast, KVF find that only 22% of respondents are below the age of 40. Further, while KVF find that 39% of respondents have less than 20 years teaching experience, the current study finds this proportion to be 62%. In keeping with this phenomenon, while KVF find that 82% of the respondents hold a graduate degree (83% in QV), survey data from the current study reveals that this proportion is only 66.7%. Thus the combined evidence indicates that the age-profile of economics instructors is growing younger over time.

While the overall teaching experience is lower, economics teaching experience is higher among respondents in the current study. QV, in their 1996 survey data, find that respondents have an average of only 2 years of economics teaching experience. This proportion rises considerably to 12.9 years in the 2003 survey data of KVF and experiences a further increase to 13.5 years in the survey data from the current study.

The above results indicate that as older educators retire (through natural attrition), they are being replaced by educators who are younger, with a greater female proportion, and with greater economics teaching experience – with the latter phenomenon being perhaps linked to the greater societal emphasis on economics literacy.

FINDINGS AND DISCUSSION ON PEDAGOGY

High school students’ waking-hours are characterized by the use all kinds of electronic communication devices that, among other things, help integrate the Internet into their daily functioning – making for a diverse, hyper-stimulated environment. Are the modes of instruction reflecting or capturing the reality of such an environment? To address this question, the survey implemented in this study also asked a series of questions about how the instructor presents material to the students. The responses pertaining to these questions are summarized in the following table.

Table 3. Presentation Tools

	Audio/P od Casts	Web based instruction/YouT ube presentations	Guest Speakers	Lecture	Power Point slides	Team Teachi ng	TV progra ms	Oth er
Never	52%	15%	16%	3%	9%	71%	13%	32%
Little Use	31%	18%	36%	7%	13%	17%	25%	9%
Some of the Time	11%	57%	45%	36%	41%	11%	57%	43%
Most of the Time	3%	4%	1%	51%	33%	2%	4%	13%
All of the Time	2%	6%	1%	3%	4%	0%	0%	3%

In discussing the data in the above table, some comparisons to older Indiana teacher surveys are again interesting. As expected, since 1993, the only other time that data was collected on presentation tools, the use of computers and the other internet resources has increased dramatically. In particular, in the 1996 survey, QV note that 80% of responders stated that they never used audio as a classroom presentation tool. In the current survey, this has decreased to about half of the responders at 52%. Even so, comparing the previous study with this one, it still seems that audio is not the most important tool in the class room. Interestingly, TV programs have not become more important in the high school classroom. One would expect that since the recession of 2008 and the increasing attention that economics gets within the scope of national television programming that TV programs would have become a more valuable tool in teaching economics. Nonetheless, the use of TV programs has not increased but that usage has distinctly decreased. 71% percent of the respondents in the current survey state that they never use TV programs compared to 23% stating the same in QV. It is likely that there has been a reallocation of time away from the use of TV programs and towards the use of Internet resources and other digital media.

In the current survey, 87% of teachers say that they use lecture either some or most of the time. In the 1996 survey of QV, 95% of the respondents indicated that lecture was used some or most of the time. Since teaching is a profession which requires an undergraduate degree, it is reasonable that teachers in a high school setting will mimic the ways in which they were taught. On a national scale, Watts & Becker (2008) have surveyed college economists about teaching methods in universities with surveys being completed every five years since 1995. They show that, although there is some movement away from using lecture as the main presentation tool, academic economists still use somewhere between 69-83% of their time in the classroom lecturing.

While Lecture still seems to be the dominant mode of presenting educational material, what else is going on in the classroom? That is, what type of diversity do students encounter with regard to the vehicles for learning the material, and how has this changed with time? Table 4 below helps address this issue.

Table 4: Classroom Activities

	Classroom Experiments	Compute r Labs	Games and Simulations	Group Projects	References to Sports, Drama, etc.?	Other Activities
Never	23%	11%	4%	6%	6%	47%
Little Use	34%	17%	22%	19%	11%	11%
Some of the Time	36%	61%	59%	60%	56%	35%
Most of the Time	6%	8%	13%	12%	20%	7%
All of the Time	0%	3%	1%	3%	8%	0%

In both the current data and QV, group projects and, games and simulations seem to be the most favored classroom activities, with 73% stating that they use games and simulations at least some of the time (compared to 80% in QV) and 85% stating that they use group projects at least some of the time (compared to 76% in QV). One other interesting note is that classroom experiments seem to have diminished in use with 42% in the current survey

stating that they use it at least some of the time compared to 51% stating the same in the data collected in QV. One would expect that as a younger demographic of economics instructors begin teaching at the high school level, this pedagogy would become more prevalent, not less so. Nonetheless, data from national surveys of economics instruction in colleges and universities show that classroom experiments are not common pedagogy in college economics courses and this may contribute to the lack of familiarity with using experiments as a learning tool (Watts and Becker 2008).³

While there is some increase in the presence of Internet and digital resources, the educational environment that high school students encounter neither has been nor currently is characterized by much diversity with regard to the modes of learning.

Given that Lecture is the primary mode of instruction, the use of a textbook is likely to have an important impact on learning. The survey implemented in the current study also asked instructors to identify which texts, if any, they were using in the class room. The list of ‘approved’ texts was compiled by drawing on information from the website of the Indiana Department of Education.⁴ Respondents were then asked to identify the textbook they respectively employed from this list. Options for ‘no text’ and ‘other text’ were also included in the survey.⁵ Responses on the Textbook question are summarized in Table 5 below.

Table 5: Textbook Selection

Title	Publisher	Proportion Using
<i>Essentials of Economics</i>	Bedford, Freeman & Worth	1.5%
<i>Contemporary Economics</i>	Cengage	0%
<i>Economics, New Ways of Thinking</i>	EMC Publishing	2.9%
<i>Economics: Principles and Practices</i>	Glencoe/McGraw-Hill	29.4%
<i>Economics: Today and Tomorrow</i>	Glencoe/McGraw-Hill)	8.8%
<i>Economics: Concepts and Choices</i>	Holt McDougal	10.3%
<i>Economics</i>	Holt McDougal	2.9%
<i>Economics: Principles in Action</i>	Prentice Hall	30.9%
<i>Contemporary's Economics</i>	Wright Group/McGraw-Hill	0%
Other		16.2%
None		4.4%

As expected, the results in Table 5 show that only 4.4% of respondents said that there was no textbook used in the course. Of the available texts, two account for more than 60% of all text book usage by respondents. These are Prentice Hall’s *Economics: Principles in Action* and Glencoe/McGraw-Hill’s *Economics: Principles and Practices*. It is not clear why these particular textbooks were popular choices. Future surveys could perhaps drill down further into this finding by inquiring about the process regarding the selection of the textbook – especially, exploring the linkage with learning outcomes.⁶

³ Care must be taken when discussing classroom activities such as experiments and, games and simulations because it is difficult to ascertain what the survey respondent considers to be a game versus a classroom experiment. In future surveys, this issue should be clarified. However, the current survey is conducted using these descriptions to facilitate the comparison to older surveys which use these same categories of activities.

⁴ Specifically the information on approved texts comes from http://dew4.doe.in.gov/WF/TEXTBOOK/r07/2008_dpita07.cgi which was accessed through the textbook portion of the Indiana Department of Education’s website here: <http://www.doe.in.gov/opd/textbook/>.

⁵ The state of Indiana, although it does textbook approvals at the state level, gives individual schools much leeway about choosing a text. This is illustrated in an open letter to educators penned by the current director, Dr. Tony Bennett. The letter is available on the Indiana Department of Education’s website here: <http://www.doe.in.gov/opd/textbook/docs/TextbookFlexibility020609f.pdf>

⁶ Note that previous surveys did not collect data on textbook choices and use.

FINDINGS AND DISCUSSION ON CLASSROOM CONTENT

One of the mandates of Indiana’s Department of Education is determining content-coverage for school-courses. For economics, the Department has identified 8 topics that must be covered. Do all topics receive ‘equal treatment’ in terms of the time spent covering them? Addressing this question carries implications for identifying the domains of strength in the economics literacy of high school graduates.

The survey in the current study asked each respondent to estimate the number of class periods that he/she spends on each prescribed topic. The percentage of total time spent on each topic was then computed (for each respondent) in the following fashion. First, the sum of all periods spent on all topics was taken and then multiplied by 0.75 (1.5) if the respondent stated that he/she used standard periods (block periods). This gives us an estimate of the total number of hours spent on teaching economics content. Second, the number of periods spent on each topic is multiplied by the appropriate factor (1.5 or 0.75) and then divided by the total. Table 4 summarizes the distribution across topics.

Table 4. Percent of time spent on Economics Content by Topic

ECONOMICS CONTENT - as % of total time in economics	Proportion	Std. Err.
Scarcity and Economic Reasoning	0.119	0.006
Supply and Demand	0.195	0.010
Market Structures	0.121	0.007
The Role of Government	0.114	0.005
National Economic Performance	0.106	0.006
Money and the Role of Financial Institutions	0.128	0.007
Economic Stabilization	0.095	0.006
Trade	0.080	0.006

Not surprisingly, the bulk of the time spent covering economics content is on the study of the supply and demand model (as it forms the basis for understanding price movements across all types of industries – both goods and services). The rest of the time spent on economics instruction seems to be more or less evenly distributed among the remaining 7 topics with Trade receiving the smallest average proportion of time spent – the latter phenomenon can perhaps be attributed to the fact that international trade is a relatively small fraction (around 20%) of overall economic activity (GDP) in the U.S.

Effective July 1, 2009, the Indiana Department of Education implemented Indiana Code 20-30-5-19, as added by Public Law 154-2009 which provides direction for Personal Financial Responsibility instruction. This law mandates that each School Corporation, Charter School, and accredited nonpublic school include in its curriculum for all students in grades 6 through 12, instruction concerning personal financial responsibility. Furthermore, the law states that these schools may meet the requirement by: (1) integrating relevant content in its overall curriculum or, (2) conducting a seminar that is designed to foster overall personal financial responsibility in a manner appropriate for each grade level as a separate subject or as units incorporated into appropriate subjects. The guidelines further state that all students in grades 6 – 12 will participate in financial literacy education via an instructional unit at least once by the end of the eighth grade and more than once by the end of the twelfth grade.

Personal finance is arguably closely related to economics even though they are deemed to have two different sets of objectives as determined by the Indiana Department of Education. As a result, one may maintain that schools may seek to cover personal finance topics in their economics courses. To test this conjecture, the current survey included the explicit question of whether personal finance topics were covered in the economics course. 84% of the respondents stated that they covered at least one personal finance topic in their economics course (providing substantial evidence in support of the conjecture). The survey also asked how class periods were distributed across the different personal finance topics. Table 7 below documents the distribution of time across economics and personal finance content.

Table 7. Personal Finance vs. Economics Instruction

	Mean	SE
Total Time (estimated hours)	75.3	4.659
Total Time on Economics (estimated hours)	52.4	2.798
Total Time on Personal Finance (estimated hours)	22.9	3.809
Proportion on Economics	0.742	0.025
Proportion on Personal Finance	0.258	0.025

Caution should be used in suggesting that economics and personal finance are entirely disconnected subjects. Even so, the results in Table 7 suggest that approximately 25% of the total economics class time was allocated towards covering personal finance topics. This is an important finding as it has bearing on the quality of economics literacy of high school graduates and their preparedness for College-level economics courses.

CONCLUSION

This paper sets out to examine how the teachers and the teaching of economics at the high school level have undergone change following a legislative measure that elevates the subject's relative importance in the curriculum in the State of Indiana. This examination is undertaken by implementing a focused survey of high school teachers in Indiana and comparing the results with those of previous such surveys. The principal findings are as follows:

1) An important demographic change is uncovered; a higher proportion of the survey-respondents are younger, female, and have greater experience in the teaching of economics compared to previous, similar surveys (1996, 2003). Following Correll (2001), this may encourage more female students to consider an economics-related career path as the culturally-induced perception-bias of economics being a 'male subject' is challenged and, in many cases, dismantled. If this demographic effect were to occur on a national scale, then it may help contribute to a further narrowing of the gender-gap in earnings by blurring the gender-stratifications that underlie the occupationally-linked earnings-ladder.

2) Lecture continues to be the predominant mode of instruction accompanied by little diversity in modes of learning. As Dede (2007) points out, this learning environment is at complete odds with the "learning strengths, styles, and preferences neomillennial students acquire from their use of immersive collaborative media, such as multiplayer online games." This 'alien' learning environment bodes ill for not just the economics fluency of high school students but their command over other disciplines as well.

3) Another legislatively induced focus on personal finance literacy may be crowding out the pursuit of effective economics literacy skills, highlighting the pitfalls of implementing seemingly uncoordinated, piecemeal legislative directives.

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