

# Teaching College Economics in the High Schools: The Role of Concurrent Enrollment Programs

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*Abstract:* The authors examine concurrent enrollment programs (CEP) as an effective means of teaching college economics in the high school setting. We describe the establishment of the National Alliance of Concurrent Enrollment Partnerships (NACEP) to set national standards for CEP. We also investigate the performance of high school students taking the Syracuse University one-semester micro/macro principles of economics course through its CEP, Project Advance, on the Test of Economic Literacy. CEP students average nearly one percentage point higher than the AP/Honors Economics group, and score considerably better in fundamentals and international economics. By cognitive levels, CEP students score over 4 percentage points in the knowledge area, and exhibit better performance on application questions.

Key Words: concurrent enrollment programs, advanced placement, economic literacy  
JEL Codes: A21, A22

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## **Teaching College Economics in the High Schools: The Role of Concurrent Enrollment Programs**

Concurrent enrollment programs (CEP) stand as a valuable alternative to advanced placement (AP) and international baccalaureate (IB) for the teaching of college economics to high school students. CEP, also known as dual enrollment programs (Gehring 2001), are college classes taken by high school students, typically in their high school. Upon completion, students can apply to transfer their credits to the college or university of their choice. Institutions of higher education use a student's grade at the end of the course to determine whether the student receives college recognition in the form of credit, placement, or exemption. This characteristic distinguishes CEP from AP and IB, in which recognition for college-level achievement is determined by performance on a standardized test.

We think the CEP model represents an excellent vehicle for extending the reach of college economics courses to a broader population of college-bound high school students. To support this point, we first discuss advantages of CEP relative to AP and IB in teaching college-level economics and describe efforts of the National Alliance of Concurrent Enrollment Partnerships (NACEP) to establish national standards for the integrity and quality of CEP. We then provide evidence that students taking a CEP course at Syracuse University<sup>1</sup> score at least as well as those in AP or honors economics on the *Test for Economic Literacy* (TEL) (Walstad and Rebeck 2001a; 2001b).

### **THE CEP MODEL**

Several notable characteristics distinguish the CEP from the AP and IB models. CEP target the general population of college-bound students, not just the academic elite (Gehring 2001). This broader targeting is done by basing eligibility for college recognition from a CEP course upon the overall course grade, which reflects a continuous assessment of performance throughout the semester. Besides being more consistent with fundamental educational principles than the standardized test criterion used by AP and IB, basing recognition upon the course grade diminishes the risk of a false negative -- the bad-day effect -- and thus enables more students to obtain college recognition. This characteristic extends the potential reach of CEP in the college-bound population.

The higher probability of obtaining college recognition is supported by a study conducted at Syracuse University that compared AP and CEP students over a range of subjects (Edmonds, Mercurio, and Bonesteel 1998). The study found that 54 percent of the students taking the AP exams scored 3 or above (out of 5). This number overstates the percentage of students in AP courses who receive recognition, because many AP students don't take the exam and many colleges and universities have raised the bar from a minimum score of 3 to 4. In contrast, 91 percent of the students taking the CEP courses received college recognition.

By tailoring the college course to the actual schedule of individual high schools, CEP also address some perverse structural issues associated with the scheduling of AP exams in early May. Students who complete either the AP micro or macro course in the fall semester must wait for over three months to take the AP exam. And in New York, students taking an AP economics course in the spring semester must sit for the AP exam nearly six weeks before their course is completed, because the testing date accommodates schools in regions of the U.S. that finish the school year much earlier.

Success of the CEP model hinges on giving students a good chance of receiving college-credit for a course taken in high school from their chosen institution of higher education. In the case of AP and IB, this job is relatively easy. Colleges and universities award college credit if students scores on the AP or IB exam meet their predetermined thresholds. With the CEP model, the job is more difficult because there is notable heterogeneity in the quality of CEP (Bailey, Hughes, and Karp 2003). CEP, therefore, must establish a clear screen for quality that allow colleges and universities to assess worthiness of their course offerings. Such a screen must be effective in distinguishing quality. It must also be efficient – it can't require that every institution of higher education continuously assess the quality of every CEP.

To address this challenge, a number of leading CEP institutions have formed the National Alliance of Concurrent Enrollment Partnerships (NACEP).<sup>2</sup> NACEP is establishing a nationally recognized screen for colleges and universities by accrediting CEP that meet explicit quality standards. These standards include requiring that courses offered at high schools be “on the books”: regularly taught at the participating institutions of higher education, involving college and university faculty to ensure content coverage and teaching quality, arranging for college and university faculty to make site visits to the

high schools, having ongoing assessment of the CEP courses, and providing continued professional development for the teachers. NACEP accreditation can serve as the screen for institutions of higher education to award college recognition in a routine and efficient manner.

A future step in the evolution of NACEP may entail having subdivisions for individual subjects. This could place greater focus upon the teaching of economics in high schools. The economics subgroup might implement requirements specific to the subject matter, such as a minimum number of economics courses for the teachers.<sup>3</sup>

### **THE ECONOMICS ACHIEVEMENT OF CEP STUDENTS**

We administered the TEL to CEP students near the end of the fall 2002 semester to compare the achievement of CEP students relative to students taking AP or honors economics. The tested sample consisted of 254 CEP students, with 111 taking form A and 143 taking Form B. Selection of whether the school was given Form A or Form B was done by random assignment. The CEP classes all consisted of the one-semester course in principles of micro and macroeconomics. The required textbook in these courses was a previous version of Evensky (2005). This text is also used in some sections of the course taught on the Syracuse University campus.

Our presentation of the test results follows Walstad and Rebeck (2001a). For reporting purposes, they treated form A and B of the TEL as one exam. For each question, they recorded the percentage of students in the group who chose the correct answer. For questions that appear on both forms, they computed the weighted average of the percentages of correct responses on each form. From there, they computed the conventional mean of the percentages of the 69 unique questions, using the percentage correct on an individual question as the unit of observation. We follow the same reporting procedure for the CEP sample, but omitted question 14 on form B.<sup>4</sup>

We report the mean percentage correct from the CEP sample in Table 1. The table includes averages for students taking an AP or honors economics course in high schools based on data from the TEL (Walstad and Rebeck tables 12-13), recomputed with question 14 on form B removed. The average scores show that overall the CEP group

performed slightly better (0.7 of a percentage point) than AP or honors students taking economics.

The next four rows in Table 1 show means for sets of questions in each of the four major content areas – fundamentals, microeconomics, macroeconomics, and international economics. These categories follow Walstad and Rebeck (2001b) in their Table 1. Like the AP/honors economics group, CEP students score highest in fundamentals and lowest in international. For fundamental concepts the CEP group averages 1.5 percentage points higher than AP/honors economics, and over 80 percent in all. CEP students also average 1.7 percentage points higher than AP/honors economics in international. The CEP group averages 0.6 percentage points below AP/honors economics in microeconomics, and 0.2 percentage points higher in macroeconomics.

The last three rows of results in Table 1 report averages classified by cognitive level as defined and reported in the TEL. The cognitive levels consist of knowledge or recognition and recall, defined as the ability to remember facts in a form close to the way they were first presented; comprehension or grasping the meaning and intent of information, defined as the ability to tell or translate in own words; and application or the use of information, defined as the ability to apply learning to new situations and circumstances. The CEP group performs over 4 percentage points better than AP/honors economics in the knowledge area. For the remaining two categories, averages between the two groups differ by an absolute magnitude of 0.3 percentage points. The CEP group scores higher than AP or honors economics students in application and lower in comprehension.

The results by subject area based on the content specifications for the TEL are shown in Table 2. The subject areas results reinforce the near-equal overall performance of the CEP and AP/honors economics students. The CEP performs better in 12 categories, versus 9 for AP/honors economics. Findings in the fundamentals subject area point to better performance for the CEP in five out of the six categories. In microeconomics, AP/honors economics scores higher in four of the six. The two groups are equally split in macroeconomics, at three categories apiece. In the international subject area, the CEP group performs better in two of the three categories.

## **CONCLUSION**

These results provide initial evidence that a well-designed and well-maintained CEP in economics serves as an effective alternative to AP and IB. CEP students perform at least equal to those with an AP or honors course in economics. The findings draw particularly favorable attention to the coverage of fundamentals and international economics within the CEP course. A substantially longer and more informative version of this study is available at Dutkowsky, Evensky, and Edmonds (2003).

## NOTES

<sup>1</sup>The CEP for Syracuse University (SU) is called Project Advance. Gehring (2001) reports that Project Advance is the largest program of its kind in the nation. In the 2003-2004 school year, Project Advance offered SU courses to approximately 5,800 students in 128 high schools in a five state area. SU began offering principles level economics courses through Project Advance in 1988. In the 2002-2003 academic year, the program in economics consisted of 26 high schools throughout New York, serving nearly 500 students. Further details can be found at the Project Advance website <http://supa.syr.edu>.

<sup>2</sup>The website is <http://www.nacep.org>.

<sup>3</sup>The SU Economics through Project Advance course requires that teachers complete masters-level courses in micro and macroeconomics, or an equivalent requirement. They must also attend a weeklong training session sponsored by Project Advance on teaching the economics course. This criterion falls short of Walstad's (2001) recommendation of six economics courses, as well as the required minimum of accrediting bodies of some colleges and universities of 18 semester hours of graduate credit in the teaching discipline. We view our criterion as calling for economics training that requires sufficient mastery of theory to teach effectively at the principles' level. This stance is supported by the successful experience of Project Advance students in college economics courses over the years, as well as the empirical results later in this study.

<sup>4</sup>The question asks which asset makes up the major portion of the basic money supply (M1) in the U.S., with deposits in checking accounts listed as the answer (Walstad and Rebeck 2001b). However because of sweep programs, checkable deposits have become smaller than currency held by the public (Dutkowsky and Cynamon 2003). As a result, we decided to drop the question.

**TABLE 1. Percentage Correct on the TEL For U.S. High School Students**

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Course/Item	CEP	AP/Honors Economics
<i>All Items</i> (68)	75.6 (13.5)	74.9 (10.3)
<i>By Subject Area</i>		
Fundamentals (25)	80.4 (13.0)	78.9 (10.0)
Microeconomics (15)	74.0 (12.1)	74.6 (8.8)
Macroeconomics (17)	73.1 (14.0)	72.9 (10.3)
International (11)	70.7 (13.8)	69.0 (10.8)
<i>By Cognitive Level</i>		
Knowledge (11)	81.4 (7.5)	77.0 (7.6)
Comprehension (21)	77.1 (13.4)	77.4 (10.6)
Application (36)	73.0 (14.5)	72.7 (10.7)

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Notes: The number of questions appears in parentheses next to the classification. Numbers in parentheses next to the average percentage correct are the corresponding standard deviations. Percentages for AP/honors economics are calculated from Walstad and Rebeck (2001b), Tables 12 and 13.



**TABLE 2. Percentage Correct on the TEL For U.S. High School Students:  
Disaggregated by Subject Area**

Subject Area	CEP	AP/Honors Economics
<i>Fundamentals</i>		
Scarcity (6)	83.8 (9.6)	83.5 (8.1)
Opportunity costs/tradeoffs (4)	76.3 (16.9)	74.6 (12.2)
Productivity (3)	82.3 (14.0)	78.7 (11.8)
Economic systems (4)	78.3 (18.2)	80.5 (12.8)
Economic institutions and incentives (5)	83.1 (10.2)	78.1 (9.2)
Exchange, money, and interdependence (3)	75.7 (18.0)	74.6 (11.0)
<i>Microeconomics</i>		
Markets and prices (1)	75.6 (0.0)	76.0 (0.0)
Supply and demand (6)	79.7 (11.0)	79.1 (9.0)
Competition and market structure (2)	84.9 (0.8)	78.3 (1.1)
Income distribution (2)	63.9 (14.2)	69.7 (1.9)
Market failures (3)	66.4 (10.7)	67.7 (12.3)
Role of government (1)	59.4 (0.0)	70.4 (0.0)
<i>Macroeconomics</i>		
Gross domestic product (1)	72.1 (0.0)	70.4 (0.0)
Aggregate supply and demand (4)	79.7 (3.9)	74.5 (9.9)
Unemployment (2)	79.9 (13.6)	81.1 (10.2)
Inflation and deflation (4)	73.9 (10.2)	75.2 (4.5)
Monetary policy (3)	49.0 (11.8)	56.5 (7.5)
Fiscal policy (3)	83.0 (3.4)	79.5 (1.0)
<i>International</i>		
Comparative advantage/ barriers to trade (5)	73.5 (13.1)	74.7 (5.8)
Balance of payments and exchange rates (4)	66.6 (15.9)	60.7 (9.9)
International growth and stability (2)	72.0 (18.9)	71.3 (17.1)

See Notes to Table 1.

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