

# Teaching College Economics in a High School Setting: Lessons Learned and Implementation Strategies



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## Abstract

Interest in exposing high school seniors to college level economics has risen in recent years. Under one delivery option, a dual-enrollment program, students are concurrently enrolled in college and high school, and receive credit at both institutions for the same course. These programs benefit high schools by increasing the academic rigor in the senior year, and may also aid colleges' external relations and recruitment. Colleges and universities considering such a program must recognize important administrative and student body differences between the university and high school settings. This paper summarizes the experiences of Southern Illinois University, where a dual-enrollment program was implemented in the mid 1990s, and uses this case to illustrate key differences between the two classroom environments. Suggested strategies for coping with these differences are described.

## Introduction

Interest in exposing high school seniors to college-level courses has grown in recent years. Studies by the American Youth Policy Forum (2000) and The National Commission on the High School Senior Year (2001) have concluded that senior year is a lost opportunity for many students. Since the bulk of graduation requirements are met for most students by the end of their junior year, senior year often is dominated by courses with little academic rigor. A related problem is that many students, then, arrive at college as freshmen unprepared for the academic

challenge ahead, as demonstrated by the high number (28%) of college students that require remedial work (United States Department of Education, 2003).

Dual-enrollment programs (formerly referred to as High School-College cooperative programs) are potentially advantageous to the high school students who participate in the programs, as well as the colleges and universities that sponsor the programs. For the students, the programs have the potential to increase the academic rigor in the senior year, and ease the transition to college by exposing students to college-level expectations while still in high school (Bailey, Hughes & Karp, 2002). For the post-secondary schools, they can aid recruitment and provide an important link to the local community.

Introductory economics courses that satisfy typical university General Education requirements are good candidates for dual enrollment; however, the high school audience presents special challenges for the teaching methods most frequently utilized in teaching these courses on college campuses. This paper examines many of these challenges, and suggests strategies that address many of the difficulties that arise when implementing a dual-enrollment program. The remainder of this paper is organized as follows. Section II describes the concept of dual enrollment programs, including the potential advantages that they offer for students, universities and high schools. Section III provides a case history of the dual-enrollment program offered by Southern Illinois University Edwardsville with Edwardsville High School. Section IV describes relevant administrative differences between the college and high school settings and strategies to address these differences. Section V describes relevant differences between the university and high school student bodies, implications for the classroom and strategies to address these differences. Section VI summarizes the students' perceptions of the course.

## Dual-enrollment Programs

In dual-enrollment programs, students are concurrently enrolled in college and high school, and receive credit at both institutions for the same course. These courses differ from Advanced Placement (AP) courses in that the student is awarded college credit for completing the course (including exams, assignments, etc.), as opposed to receiving credit based solely on a passing score on a standardized exam at the end of the semester. Dual options range from simply allowing high school students to enroll in college courses on a local campus, to offering introductory college courses taught by college faculty on the high school campus. Differences across programs include the location of the course, faculty, enumeration, student mix, and student selectivity.

Students, high schools and universities all stand to reap benefits from dual-enrollment programs. Students, who often do not pay college tuition for the courses (Andrews and Barnett, 2002), accelerate their progress towards completing a college degree, and gain first-hand knowledge of the college learning experience. In addition to helping them establish college-level academic expectations, dual enrollment can help students make the psychological transition to college life (Bailey, Hughes & Karp, 2002); they are better able to visualize themselves as college material and gain confidence (Andrews and Barnett, 2002). High schools reap the benefits of increasing the width and breadth of their curricular offerings, especially for advanced students. High school curriculum may also be improved as high-school faculty and administrators become more aware of the demands placed on students at the college level. Universities can reap valuable recruitment and public relations benefits. A partnership with the local high schools to offer dual-enrollment courses may make the college or university more visible and accessible to graduating students, while also raising the college or university's profile in the local community.

Universities must weigh these potential benefits against the administrative and other costs involved in participating in dual enrollment programs. The costs escalate along with the level of university commitment – the cost of adding a high-school student to a lecture hall on a college campus is negligible, while the cost of a course tailored for, and limited to, a high-school student body is much higher.

There is little in the economics literature to help university administrators embark on a cost-benefit analysis for participating in dual enrollment programs, or to guide university faculty in teaching these courses. The literature on teaching economics in high schools focuses almost exclusively on two issues: (1) Does learning take place in high-school economics courses? (See, for example, Walstad, 1992). (2) Do high-school students retain what they learn in economics courses after they enter college? (See, for example, Lopus, 1997). This existing research is not germane to the issue of dual-enrollment programs. If there is concern over whether learning takes place in traditional high-school economics classes, it seems reasonable to question whether high-school students are capable of mastering the content of college-level economics courses. On the other hand, if student ability is key to performance in college economics classes, are *gifted* high-school students perhaps more capable of mastering college level economic concepts than less-talented college students? A research finding by Melican, Debebe, and Morgan (1997) that talented high school students who took A P exams in economics outperformed college students enrolled in Principles courses suggests that college-level economics may have a role in Honors high school curriculum. At this point in time, however, the economics literature gives little guidance on how this might be accomplished.

In order to further the discussion regarding the role of college-level courses in high schools' Honors curricula, this paper discusses one university's experience offering dual-enrollment Principles of Economics courses at a local high school. The purpose of this paper is to identify some of the distinctive characteristics of high-school learning environments that need to be taken into account when transferring college economic courses to a high school setting.

Dual-enrollment Principles of Economics courses, taught by a tenure-track University faculty member, and limited to Honors students, were offered by Southern Illinois University Edwardsville (SIUE) to Edwardsville High School (EHS) students in order to improve recruitment and relationships with the local community. While initially it seemed like a simple arrangement, the start-up costs were higher than originally anticipated. Teaching college courses in a high school setting – even to gifted students – represents a sizeable departure from teaching the same course to college freshmen or sophomores. Although the same book, exams, and many of the same assignments were used by the same instructor, there were many differences between the same courses taught just miles apart on different campuses. We describe these differences, and discuss the teaching strategies that were adopted over time in response. Also discussed are students' perceptions of the course compared with other courses in the high school Honors curriculum, and a comparison of student learning outcomes with those of college freshmen in the same course.

## The Program<sup>1</sup>

SIUE is a medium-sized state university located in the St. Louis metropolitan area. It currently serves approximately 13,000 students, about 1,200 of whom are undergraduate majors in the School of Business. The mean ACT score of incoming freshmen in 2003 was 21.9. The ACT is a standardized test taken by high school seniors and used by colleges throughout the United States as a predictor of college performance. It is a standard college admission criterion. Although SIUE draws students from around the world, the majority of the incoming student body originates from the local area. In 2003, for example, 86% of the students were from in-state, and more than half of those students were from the two adjoining counties.<sup>2</sup> Thus, there will be fewer and smaller socioeconomic and demographic differences between the SIUE and EHS student bodies than might exist in other dual enrollment programs.<sup>3</sup>

The University courses offered at the high school were Principles of Macroeconomics (ECON 111) and Principles of Microeconomics (ECON 112). This six-credit sequence (32 weeks of three hours per week instruction) was offered on a

year-long, five-day-a-week, schedule. The course was taught four of the five days by a tenure-track University faculty member; however, a high school teacher had to be present at all times.<sup>4</sup> The purpose of the initiative was threefold:

1. Strengthen the ties between the local high school and the University's School of Business.
2. Provide a boost in community relations for the University and the School of Business.
3. Increase the awareness of the quality of faculty and programs offered by the University to help recruit new high-school graduates.

From the high school's perspective, it was able to strengthen the business curriculum by increasing the number and quality of economics courses they were able to offer at very little cost. It also provided an opportunity to extend the curriculum for Honors students, and to give college-bound students a chance to earn college credits.

The courses were incorporated into the high school's Honors curriculum. Enrollment in the course was restricted to students that were in the top third of their class and had, at minimum, a 3.5 GPA (on a 5-point scale)<sup>5</sup>. Students enrolled in these courses would receive dual credit – they would receive three semester hours, per course, at SIUE and also receive three-semester hours, per course, weighted credit at EHS. Eighty percent of the EHS students subsequently enrolled in colleges other than SIUE; thus, the expectation of most students when they signed up for the SIUE economics course was to transfer it for credit to other institutions. Since the courses were University courses, no special articulation agreements were necessary – their successful completion of the course and their grade would be recorded on a University transcript that could be reviewed for transfer credit at other institutions. Students did not pay any tuition for the courses – the most typical arrangement in Illinois for dual enrollment programs (Andrews and Barnett, 2002).

## Administrative Issues with Implications for Course Design and Procedures

Under the agreement between the Edwardsville Board of Education and SIUE, the grading and discipline policies of the Edwardsville School District took precedence in the case of any conflicts with standard SIUE policies. The University was responsible for providing textbooks, an instructor, and handling all registration and administrative issues related to college enrollment. The District was responsible for providing an instructor, classroom and supplies. The reason for the team teaching

was that, despite the faculty member's Ph.D. education, a high school teacher must be in the classroom at all times because the college instructor is not certified to teach in the Illinois high school system.<sup>6</sup>

Administrative issues included differences in schedules, grading procedures, and disciplinary procedures. The issue of calendar differences was substantial. The high-school calendar is two-semester, with each semester comprised of two ten-week quarters. Classes meet for 50 minutes every day, for a total of 250 minutes a week. Students receive quarterly grades, which are then averaged, along with a final, to calculate a semester grade. In contrast, the University's semester is fifteen weeks long, with 150 minutes of contact time per week. These differences required some adjustments. The two-quarter system per semester required adjustments in grading and assignment policies to meet the ten-week reporting requirement, and the earlier end date of the University semester required that the high-school students received incompletes, which were then changed after their semester came to a close. The different school schedules created some additional inconvenience for the instructor. Not only was he required to leave campus four days a week to teach for short increments, but SIUE and EHS had different start/end dates, Christmas vacations, and Spring Breaks. As a result, the instructor's non-teaching days during the school year were reduced by approximately half. Thus, a relatively high level of commitment is required from faculty simultaneously teaching off and on campus. This commitment must be taken into account when staffing the course.

The difference in schedules did present one opportunity, however. As a result of the twenty-week, five-day-a-week schedule, there were twenty more contact hours per semester. This allowed the instructor to cover more material and allowed more time for active learning exercises and class discussion in the high school setting, as opposed to the university setting. As discussed in a later section, active learning emerged as an integral part of the teaching strategy that was developed to adapt college teaching to this high school audience. The additional class time facilitated the use of this strategy.

The student evaluation process was a second important administrative issue. As previously stated, the agreement recognized the high school's authority with regard to general grading policies. This required the college instructor to surrender some autonomy in the student evaluation process, and this required some adaptations. For example, the instructor had to adopt a different make-up policy than he used in his college class. On the college campus, students in his courses were not given the opportunity to make up exams or assignments that were missed due to unexcused absences. The high-school policy mandated that students

that miss class due to unexcused absences must be allowed to make up work for at least 50% credit. Also, the high school's grading policy required that the final exam could carry no more than a 20% weight in the semester grade. In the college class, the instructor typically assigns a 35% weight to the final. In order to compensate, more frequent exams were given in the EHS class.

A final administrative issue that affected the way the course was taught relates to discipline. On the college campus, instructors typically can use their discretion with regard to standard disciplinary procedures. For example, disruptive students can be ejected from class or, in extreme cases, be strongly encouraged to drop the course or to take it with a different instructor. This type of reaction to discipline problems was not an option at the high school. Since the relative immaturity of the high school students resulted in substantially greater discipline problems than the instructor encountered on the college campus, this loss of authority with regard to dealing with these types of issues was problematic.

As detailed in the following section, discipline procedures are especially important given the characteristics of high school student bodies. High school students are often moody, restless, and erratic. There are intense social pressures that often influence students' classroom performance, behavior and their motivation. High school students are required to take less responsibility for their learning than college students – their schedules are dictated, and they are closely monitored by teachers. They also, on average, spend less than one hour a week outside of school on homework (Kellough & Kellough, 1999).

In response to the relative immaturity of secondary school students, classroom management is a critical issue when teaching at the high school level. Secondary education textbooks stress the importance of classroom discipline and control (see, for example, Moore, 1999). Infractions that are rare in college classrooms – including defiance of authority, serious class disruptions (continuous chatter, throwing things, calling out), and even violence – are not unusual in high school settings.<sup>7</sup> Teachers are strongly encouraged to develop policies regarding routine behaviors like entering the classroom, sharpening pencils, handing back assignments, and devise extensive daily lesson plans – responsibilities that few university professors would associate with their jobs. Related to this point, is the multi-dimensional role that high school teachers often play as they are called upon to fulfill a more pastoral and/or extracurricular role than are their counterparts in universities. Thus, university professors who teach in a high school setting will see a host of differences between high school and university students, schedules, expectations, and classroom procedures that need to be taken into account in course development.

## Student Body Differences with Implications for Course Design and Procedures

Two groups of students, from the same geographic region, all of them either in college or college-bound, enrolled in the same course, taught in the same town by the same professor. How many differences could there be? As it turns out, there were substantial differences. Some of these differences provided challenges, others opportunities, but all required making adjustments to how this course was taught off campus.

(1) *They take the course for different reasons.* When asked why they registered for ECON 111, the high school students cited, on average, seven different reasons (See Table 2). As expected, most students took the course, in part, because they saw it, in some form, as preparation for college – to find out more about college courses (80%), it was a cheap way to get college credit (65%), and to get a head start in college (65%). More than half, however, cited additional reasons – they heard good things about the course from other students (80%), because it's a weighted course (75%), it sounded like fun (70%), their friends were taking the course (70%), and interest in economics (75%). In contrast, advice from parents and guidance counselors carried relatively little weight.

University students overwhelmingly noted that they registered for the course because it was required for their major or as a General Education requirement (80%) – reasons that were not directly relevant to the high school students.<sup>8</sup> Advice from counselors carried about the same weight (24%) as it did for the high school students, while advice from parents was irrelevant (0%). The more social reasons that were emphasized by the high schools students carried little or no weight with this student group: the course sounds like fun (0%), I heard good things about the course (2%), and my friends were taking this course (11%).

What are the implications for the more complex motivation for the high school students taking the course? First, their expectations are multi-dimensional, and probably higher than that of the college students. The overwhelming majority of the college students are attending this course because they have to – passing the course with an acceptable grade meets this goal. The high school students, on the other hand, expected to learn about more than just economics – they wanted to learn about college. This is, in fact, one of the key motivators of offering dual enrollment programs: to expose high school students to college level course content and expectations. Even though ECON 111 is taken early in the typical college student's career, the high school students needed more socialization to college-level expectations than their counterparts on the SIUE campus. Thus, one of



the instructor's goals in these types of teaching assignments should be to ease the students' transition from high school to a university setting. Second, the social motivation of the high school group cannot be ignored. The students expect to enjoy the course, partly because they have heard good things about it, and partly because their friends are in the course. The importance of having their friends in the class presents some discipline problems that are discussed below.

(2) *The high school students, in this instance, have more academic ability.* Because of the Honors designation of the ECON 111 and 112 courses in the high school curriculum, the students in the high class are academically gifted. All of the students are in the top third of their class, with the average class rank of 44 out of 480 (top 9%). Other indicators of their superior academic skills include average ACT composite scores of 29.3 (96th percentile), average ACT math score of 31.5 (99th percentile), and an average high school Grade Point Average of 3.98. In comparison, the SIUE students show a greater distribution of academic ability than the high school students, and a lower average ability. SIUE students' average ACT composite was 23, and their college GPA was 2.9. The high school students took more math courses, and, since performance in mathematics courses is a key determinant of student performance in economics courses (Hafer and Hafer, forthcoming), Honors high school students have the potential to outperform college freshmen on campus – a pattern that was borne out in this case (95–100% B and above grades in HS class vs. 60–63% B and above in university sections with the same instructor

(3) *The high school class was more homogeneous.* As indicated by the descriptive statistics reported in Table 1, the high school students were a homogeneous group. There was little variation in age (all were born in 1980), race (100% Caucasian), intellectual ability, and educational background. The students were also similar in the way they spent their time: 90% were involved in extracurricular activities and 80% of the students had part-time employment. Students, on average, spent 12.2 hours a week at work, 7.3 hours on extracurricular activities, and 3.7 hours a week on out-of-class school work. Ninety percent of the students envisioned professional careers for themselves (engineering, law, medicine, teaching).

In contrast, the college group was more diverse. The average age was 25, with a minimum age of 18 and a maximum of 54. Thus, students in the college classroom were more mature than would be indicated simply by observing their class standing (high school senior vs. college freshmen). One-third of the college students were African-American, 11% were married, and 16% had children. A similar portion of the students work (84%), but on average they work more hours than the high school students – 23.9 with a standard deviation of 14.5 hours. There is a larger variance in academic ability in the college class as measured by college GPA

**Table 1:** Summary of SIUE and EHS Sections

<b>Variable</b>	<b>S.I.U.E.</b>	<b>EHS</b>
Mean A.C.T. Composite	23.1	29.25
Mean A.C.T. Math	27.25	31.5
Mean Age	25	18
Percent Male	51%	75%
Mean H.S. Rank	Top 33%	Top 10%
Percent Married	11%	0%
Percent with Children	16%	0%
Mean Hours Spent on Extra-Curricular Activity	4.8	7.3
Percent Working	84%	80%
Mean Weekly Hours Working	23.91	12.24
Mean Hours per week spent on School	5.4	3.7
Percentage African-American	33%	0%
Mean number of Math Courses taken	3.9	4.7
Mean Grade Point Average in Math Courses	2.9	3.3
Percent knowing other students in the course	29%	100%
Number of Cases	45	20

**TABLE 2:** Reasons Students Took Econ 111/Econ 112

<b>Reason</b>	<b>EHS Students</b>	<b>SIUE Students</b>
It's required for General Education or my major	*	80%
Advice from Advisor/Counselor	25%	24.4%
To help me get a job	*	13.3%
To help me get into graduate school	*	6.7%
Advice from parents	20%	0%
I heard good things about the course	80%	2.2%
My friends were taking the course	70%	11.1%
Interest in economics	75%	17.8%
Get a head start on college	65%	*
To help me get into college	40%	*
To find out what a college course was like	80%	*
To raise my GPA	45%	2.2%
Inexpensive college credit	65%	*
Because it is a weighted course	75%	*
Sounded like fun	70%	0%

\* Option not present on Questionnaire

(ranging from 1.9–4.0, with an average of 2.9) and ACT scores (range of 16–34, with an average of 23.1). The college students spent less time in extracurricular activities (4.8 vs. 7.3 hours per week) and more time on homework (5.4 vs 3.7 hours per week) than the high school students.

The uniformly-high intellectual ability of the high school creates some real opportunities for the instructor. Since most teachers feel compelled to ‘teach to the average’, the higher mean intellect means that the instructor could move at a faster pace, and could cover some advanced concepts (for example, deriving a demand curve using indifference curve analysis) that were not routinely covered in the college Principles class. Furthermore, it was a luxury to not have to teach to multiple ‘audiences’ at the same time. The superior writing, computer and research skills of the EHS students, combined with their intellect, allowed for more challenging assignments than were normally given by this instructor in this class on the university campus. Thus, the instructor could teach at a higher level in the high school class than he could in the college class – a conclusion that seems, at first blush, to be counter-intuitive. Furthermore, as data on student perceptions will show, even though the high school class covered more content and had more difficult assignments, there were opportunities to make the course even more challenging than the course taught on the college campus.

*(4) There was more sociability/familiarity with other students in the high school class.* One of the most significant differences between the student bodies with implications for teaching strategies is the presence of a strong, established social structure in the high school setting. ECON 111 is treated as part of the Honors curriculum available to a relatively small group of students who register for courses as a cohort. All of the high school students knew every other student in the class before taking the course – on average they had six friends in the course. In contrast, 71% of the university students knew no one in the class, and only 11% reported having a friend in the class.

This entrenched social structure, combined with the students’ young ages, inevitably led to discipline challenges. As is not atypical of high school students, learning did not always appear to be the students’ top priority in the classroom. In contrast, since the college students, by and large, only attend class to learn the material (i.e., there was no social motivation), could choose not to attend class, and knew few, if any, other students in the class, the classroom environment was much more controlled and professional. In comparison, the high-school class was more disorderly and, as a result, the classroom style and techniques that were successful for the instructor in a college setting proved to be inadequate in the high school environment. Furthermore, lecture formats, the most widely used form of

instruction in college economics courses (Becker and Watts, 2001), are not widely used in high schools. Thus, to be effective with this relatively immature student group, that was largely unfamiliar with the lecture format, the instructor needed to do two things: keep the students under control and keep them interested. These goals were often at odds; as active learning was adopted in the classroom to engage the students' interest, the need for discipline actually increased.

Classmate familiarity generated at least one classroom benefit – almost all of the students felt comfortable with classroom discussion. This class made greater use of class discussions than most other classes in their curriculum, a practice that was made easier to implement by students' willingness to speak in front of a non-threatening, familiar group (see Table 3). Class discussions took up approximately 20% of class time, with topics ranging from current events to economic history. Furthermore, since the most prominent form of instruction in college classes is discussion, rather than the extensive lecturing that is typical of high school economics courses, developing student skills in this area is germane to their subsequent college performance.

Actively involving students in the learning process through exercises, discussions, and other 'hands on' activities emerged as a key teaching strategy at the high school. In addition to active learning's benefits of improved student retention and enabling higher-level learning, surveys indicate that students find this approach to learning more interesting. Given the shorter attention span of this younger group, and their expectations that the class would be interesting and fun as well as informative, active learning was an appropriate pedagogy for teaching college-level content in a high school setting. Examples of active learning exercises included a stock market game, an in-class exercise where students designed marketing campaigns for different types of markets, and role-playing Congressional policy debates.

Active learning typically involves group work in class. This is where the social factor has the potential to disrupt the learning process. In a college setting, where the student body is more mature and not as connected socially, there are few distractions and student groups stay on task reasonably well. In contrast, high school students, left to their own devices, will quickly turn a group setting into an opportunity for social discourse. Thus, the group process needs careful supervision. Avoiding self-selected groups, which is guaranteed to cluster friends together, is also a strategy to minimize distractions within groups. Finally, the instructor may find – as ours did – that a more formal and assertive teaching style is appropriate for this younger group of students. This is one area where college instructors should elicit advice from high school teachers who need to rise to this challenge every day.

**TABLE 3:** Perceived Differences Between ECON 111/112 at EHS and Other Courses Taken by EHS Students During Senior Year

<b>Difficulty of:</b>	<b>Much More Difficult</b>	<b>Somewhat more Difficult</b>	<b>Equally Difficult</b>	<b>Somewhat less Difficult</b>	<b>Much Less Difficult</b>
Material covered in class	10%	55%	20%	15%	0%
Assignments	15%	50%	35%	0%	0%
Exams	20%	45%	35%	0%	0%
<b>Developed Your:</b>	<b>Much More</b>	<b>Somewhat More</b>	<b>The Same</b>	<b>Somewhat Less</b>	<b>Much Less</b>
Critical Thinking/Analytical	15%	35%	45%	5%	0%
Writing Skills	0%	5%	55%	45%	0%
Presentation Skills	25%	55%	20%	0%	0%
Research Skills	5%	40%	55%	0%	0%
<b>How Much I:</b>	<b>Much More</b>	<b>Somewhat More</b>	<b>The Same</b>	<b>Somewhat Less</b>	<b>Much Less</b>
Learned in this Class	15%	45%	35%	5%	0%
Enjoyed Coming to Class	35%	60%	5%	0%	0%
<b>Instructor's:</b>	<b>Much More</b>	<b>Somewhat More</b>	<b>The Same</b>	<b>Somewhat Less</b>	<b>Much Less</b>
Knowledge	85%	5%	10%	0%	0%
Education	90%	10%	0%	0%	0%
Professional Experience	60%	30%	25%	0%	0%
Teaching Ability	45%	30%	25%	0%	0%
<b>Class Time Devoted To:</b>	<b>Much More</b>	<b>Somewhat More</b>	<b>The Same</b>	<b>Somewhat Less</b>	<b>Much Less</b>
Lectures	35%	55%	10%	0%	0%
Class Discussions	15%	50%	25%	5%	5%
In-Class Exercises	5%	30%	30%	30%	5%
Presentations	15%	60%	25%	0%	0%

## Students' Perceptions Regarding the Course

How different were the college-level economics courses taught at the high school from the other courses in the Honors curriculum? Our *a priori* assumptions are that the college courses would be very different from the high school courses with regard to content, rigor, and pedagogy. Is this true? Answering this question will help other faculty in adapting courses for high school settings. Since few college faculty members have high school teaching experience, they do not have first-hand knowledge of what goes on in a high school classroom. If the differences *are* great, faculty will need to be much more explicit about communicating their goals, teaching philosophy, standards and expectations to students, as well as classroom procedures. If students know what to expect, they can adjust their behavior and work habits accordingly. Faculty need to know what the main departures are between their class and other courses in the students' curriculum in order to ease the high school students' transition to college-level courses.

Students in the high school class were asked to rate the college economics courses on different dimensions compared with other classes taken during their senior year. The results of these questions are presented in detail in Table 3. The majority of students that took ECON 111 and ECON 112 felt the course was substantially different in a number of aspects. (Only 5% of students *disagreed* with the statement "ECON 111/112 was different from other courses I took this year.")

First, they perceived differences in how class time was utilized. Eighty percent agreed with the statement that class time was used differently in the economics courses than in their other courses. Over 90% felt that there were more lectures, 65% felt there was more in-class discussion, and 75% indicated there were more student presentations than in their other courses. This is consistent with other surveys of freshmen who identified the lecture systems as the most noticeable difference in the high school and college learning environments. Students reported that one activity – in-class exercises – received a comparable amount of time (30%) or less time (35%) than in their other courses. Thus, although the instructor used more in-class exercises in the high school version of the class than in the college classroom, apparently even greater use of these exercises is made in some other courses. Since one of the primary goals of the dual enrollment courses is to expose students to college level courses, it is not inappropriate that there are some significant differences in the teaching methods between this and other courses in their curriculum.

Second, the students felt that the economics courses did a better job of developing some of their skills than their other courses. In particular, they thought that the courses developed their research skills (45%) and presentation skills (80%) more so

than did their other courses. On the other hand, 45% thought the course did less to develop their writing skills than their other courses (55% said their skills were developed about the same). These results are probably similar to what would be found when asking college students to compare economics Principles courses with other courses in their general education curriculum – most Principles courses do not focus on writing. The high-school data does seem to suggest there is an opportunity for increasing the writing component of the economics course taught there, if this is consistent with the instructor's teaching goals. On the other hand, students' writing skills appear to receive a fair amount of attention elsewhere in their Honors curriculum, which was borne out in the high grades most students received on their paper assignments in ECON 111 and 112.

Third, as would be expected, the students perceived a difference in the level of difficulty associated with the course: 65% thought the material, exams and assignments were more difficult. (None of the students thought that the exams or assignments were less difficult.) Forty-eight percent felt there were higher standards in these courses (37% saw no difference in standards), 53% thought the courses were harder, and 47% thought it was harder to get a good grade. Again, these perceptions are appropriate given the added rigor of a college course.

This perception of added difficulty was *not* reflected in the amount of time spent out of class on schoolwork; all of the students said that they spent one hour a week or less on these courses, which was comparable to what they spent on other courses. On a separate question, only 25% of the students said that they put more effort in the economics courses than in their other courses (50% put forth the same effort).<sup>9</sup> Given the perception of added difficulty, it is not surprising that 60% thought that they learned more in this course than in their other Honors courses. What is surprising is that 95% of the students said that they enjoyed coming to this class more than their other classes. This suggests that students were not frustrated with the added level of difficulty. It also suggests that the instructor was able to make the material understandable and make the course interesting to the students.

A fourth difference was that the students perceived the instructor to be more knowledgeable than their high school teachers (90%), have more education (100%), more professional experience (90%), and better teaching ability (75%). None of the students ranked the SIUE professor lower than their high school teachers on any of these dimensions. Given these perceptions, it was not surprising that 90% of the students ranked the instructor higher overall than their high school teachers, the same percentage that said they would like to take another course from this instructor.

One of the students' goals in taking the course was to learn more about college courses – they expected these courses to be different from their other courses on this respect – and survey data indicates that this goal was met. Ninety percent of the students agreed with the statement that they felt that they were in a college course, 63% felt that they knew more about college as a result of taking the courses, and 75% thought the courses did a better job of preparing them for college courses than their other classes. Finally, 57% of the students felt the course increased their confidence in their ability to handle college.

In closing, the high school students perceived significant differences between the college-level economics courses and the other courses in their Honors curriculum with regard to course content, course design, rigor and standards, and the instructor's qualifications. Their overall evaluation of the course strongly indicates that these differences were viewed positively – 65% of the students indicated that the course was better than their other courses (no one thought it was worse), 95% thought it was a good experience, and 100% would recommend it to a friend.

## Concluding Remarks

In this paper we have argued that moving a typical freshmen level course into a high school setting involves considerably more than simply changing locations. We have identified differences in administrative procedures and the student bodies that needed to be taken into account when transferring college-level courses to a high school setting. Administratively, school district policies required changes in grading policies, disciplinary actions, and scheduling. The college course was modified to fit the high-school schedule (not the other way around), which required the college instructor – who was also teaching courses at the university campus – to teach on two different schedules, with non-overlapping holidays, etc.

With regard to differences in the classroom environment, we identified four key differences in the college and high school student bodies that had implications for course design and teaching strategies: student motivation for taking the courses, academic ability, diversity in the classroom, and social ties among students. These differences created the opportunity to cover more challenging content in the high school courses, teach at a faster pace, incorporate more challenging assignments, and more readily involve students in classroom discussion. It also created the need for incorporating socialization to college as a secondary goal in the course, to actively involve students in the learning process, and to adopt stricter supervision of classroom exercises than was necessary in the college setting.

As identified earlier, the goals of this program were to strengthen the ties between the University and the high school, increase the awareness of the University's



faculty and programs and to foster a feeling of goodwill between the University and the local high school. Were all three goals achieved? Clearly the lines of communication between the high school and the University were improved, as the team teaching created lasting personal and professional relationships between the faculties. While the percentage of students from the dual-enrollment courses that enrolled at the University was less than 20 percent, the number of local high school students overall enrolling at SIUE since the program has continually increased.

The selection of faculty for this type of assignment needs to take these challenges into account. Flexibility, the ability to design and lead active learning exercises, and having a classroom presence that commands some authority would seem to be requisite traits for faculty to successfully transfer their college courses to a high school setting.

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## Notes

- <sup>1</sup> The program described ran during the 1996-97 and 1997-98 academic years.
- <sup>2</sup> Additional information about SIUE can be found in the *SIUE Fact Book*, available at <http://www.siu.edu/IRS/factbook.html>.
- <sup>3</sup> Edwardsville High School is an Illinois Class AA school with an enrollment of approximately 2,200 students. Additional information about EHS can be found at <http://www.ecusd7.org/ehs/>.
- <sup>4</sup> In the U.S. nomenclature course refers to a single class as opposed to a series of classes.
- <sup>5</sup> The Edwardsville High School does not have a true five-five point grading scale. Under Edwardsville District Seven policies a student's grade in a "weighted" course is adjusted upwards by a full letter for purposes of grade point calculations. A student receiving an "A" in the course (equal to four points on a four point scale) would receive five points for the purposes of grade point calculations. Thus a student who received all A's in non-weighted courses would have a GPA of 4.0. To exceed 4.0 a student must take weighted courses. Therefore, a student that took only weighted classes (which is impossible) could theoretically receive a grade point average of 5.0 if he or she received As in all courses. The valedictorian of the class of 1998, had a grade point average of 4.7.
- <sup>6</sup> The current requirements in the state of Illinois to teach at the high school level require recertification every four years. Even if the college faculty member had previously taught high school, unless it had been done in the preceding four years, the state would require a currently certified teacher in the classroom at all times. This requirement does vary from state to state.
- <sup>7</sup> For example, according to the 2003 United States Center for Disease Control Youth Risk Behavior Survey, 12.8% of high school students reported involvement in a physical altercation during the 2003 school year.
- <sup>8</sup> ECON 111 and 112 would most likely fulfill General Education requirements at most four-year universities. Most of the high school students, however, were not yet aware of the specific requirements they would need to fulfill in college.
- <sup>9</sup> This may suggest that there is an opportunity for making the courses even more challenging – certainly the expectation that students would spend more than one hour a week preparing for a college-level course. seems reasonable.

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