CEEP Center for Evaluation & Education Policy

Education Policy Brief

Enriching the High School Curriculum Through Postsecondary Credit-Based Transition Programs

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The future prosperity of the United States relies strongly upon the success of its higher education system. With an increasingly technological and competitive world economy, more jobs require the advanced skills and knowledge that higher education provides. Yet despite the significant efforts toward improving elementary and secondary education in the U.S.—the pipeline to higher education—our country's international lead in college attainment rates is slipping. Although the number of students entering college is increasing, a great number of these students do not earn a college degree, particularly those belonging to groups that are traditionally under-represented.[1]

The societal and personal benefits for continuing onto college and receiving a bachelor's degree are clear, as formal education has an important impact on U.S. economic growth and prosperity. For example, increased education results in higher levels of workforce productivity, thereby increasing the wealth of the U.S. and its citizens.[2] Higher levels of educational attainment also result in increased worker earnings. According to the U.S. Census Bureau, individuals with only a high school or general equivalent diploma who work full time and year round earn an average of $34,931, while those with a bachelor's degree earn an average of $61,368.[3] To increase the number of well-trained and better-paid American workers, high schools across the nation are being pushed to implement reform initiatives. One type of initiative is to increase the availability of and access to credit-based postsecondary transition programs.

In this Education Policy Brief, the Center for Evaluation & Education Policy at Indiana University describes various types of credit-based transition programs, examines the benefits of dual credit enrollment, and explores how dual credit and other postsecondary credit-based transition programs enrich the high school experience for students in Indiana and across the U.S.

IMPORTANCE OF POSTSECONDARY CREDIT-BASED TRANSITION PROGRAMS

One way to better prepare students for the challenges they will face after completing high school is through the use of postsecondary credit-based transition programs. Although three-quarters of all high school graduates now enter either a four-year institution of higher education or a community college within two years of high school graduation, hundreds of thousands drop out without having earned a degree or certificate because they are underprepared when they arrive.[4] Of all students who enter two- and four-year colleges and universities, over 60 percent leave their first institution before completing a degree, and approximately 73 percent of students leave higher education altogether.[5] This is a growing concern because in 2000, 66 percent of high school graduates between the ages of 25 and 29 had completed some college, but only 33 percent held a bachelor's degree.[6]

High School Achievement, Transition, and Postsecondary Degree Attainment

According to the United States Department of Education's (USDOE) Graduation Rate Survey (GRS), 83 percent of all freshmen (more than one million students) annually enroll as first-time, full-time students in our nation's colleges and universities with the goal of earning a bachelor's degree.[7] However, many of these students will never complete a college degree. In addition to an insufficient K-12 educational background, personal factors such as financial concerns, family circum-

stances, and low motivation affect the ability of some students to complete a degree. Likewise, policies which affect decisions regarding educational resources could compromise a student's ability to obtain a degree.[8] Of the students who do receive a bachelor's degree, about 4 in 10 will graduate in four years, and less than 6 in 10 will finish within six years with a degree from their original institution.[9] This equates to over one-half million collegians every year, largely consisting of low-income and minority students, who may not acquire the credentials, skills, and knowledge they had hoped to attain.[10]

Success in postsecondary education is strongly correlated with both rigorous academic preparation in high school and a clear understanding of the expectations for college-level academic work. Hence, improving the rigor and relevance of high school coursework has risen to the top of the education reform agenda to better prepare students for postsecondary education and the workforce. The availability of challenging coursework also helps to minimize the effects of "senior slump" for high school seniors, meets the curricular needs of high-ability students, and ensures that students receive adequate preparation for college. By exposing high school students to the requirements of college-level work while gaining high school and college credit simultaneously, postsecondary credit-based transition programs such as dual credit and Advanced Placement (AP) courses increase the intensity and rigor of the high school curriculum, thereby challenging students and resulting in higher levels of college success.[11] This positive impact helps ease students' transition to college because they are better prepared for the demands of postsecondary education, while decreasing the need for college remediation. Dual credit programs can also promote the goals of P-16 education systems by addressing the disconnect between K-12 and postsecondary education. According to the National Commission on the High School Senior Year, there are several reasons why this disconnect occurs, and such findings include:[12]

- Students taking non-college-preparatory courses will graduate from high school only to be trapped in low-paying jobs with unpromising futures.
- The lack of communication among the elementary, middle, and secondary schools causes differing opinions regarding their educational goals and purposes. Likewise, there is a lack of collaboration between K-12 education, post-secondary education, and employers.
- High school seniors are often not provided the opportunity to be linked with students in postsecondary studies or work.
- Students receive little guidance regarding the opportunities and requirements for future study or work.

However, students who enter college with a strong high school academic background (e.g., those who received mostly A's, took two or more AP tests, or had high SAT scores) have higher completion rates; 55 to 61 percent of all first-time, full-time students with a strong background graduated within four years and about 80 percent of all beginners graduated within six years.[13]

Advantages for Students, High Schools, and Colleges

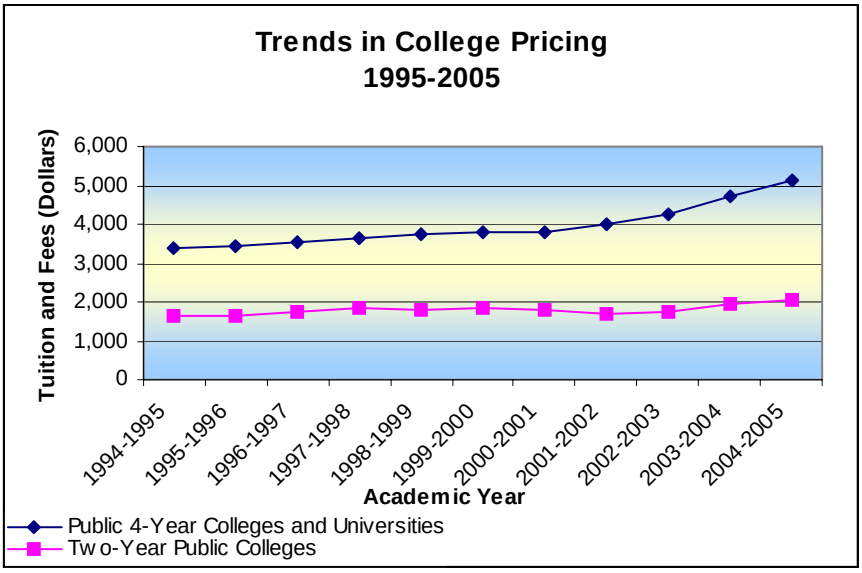
Many small-scale studies over the past several years suggest that students who take advantage of postsecondary options in high school earn higher grades in college, require less remediation, and have higher rates of persistence.[14] However, further research needs to be conducted to determine more conclusively the impact of these programs on students' transition into and progress through postsecondary education. Successful "dual credit" or "dual enrollment" programs share several characteristics, including an emphasis on collaboration and a strong sense of connectedness among both institutions and individuals, an unwavering focus on the needs and interests of students, and adequate and equitable funding.[15]

Saving Time and Money

College costs have become an increasing cause for concern among college aspirants. In the 1970s, college tuition costs were relatively stable. However, in the early 1980s, college tuition and fees dramatically increased, resulting in continuously rising costs. Tuition and fees continue to increase today, making it more difficult for many students to afford college. Over the 10-year period ending in 2004-05, average annual tuition and fees rose by 51 percent ($1,725) at public four-year colleges and universities, 26 percent ($426) at two-year public colleges (see Figure 1), and 36 percent ($5,321) at private colleges.[16]

Credit-based transition programs can help offset the increasing costs of college education by providing students with the opportunity to accumulate a significant number of college credits prior to graduating from high school, thus shortening the time it takes to earn a college degree. This can reduce the overall cost of a postsecondary education, especially since the high costs are associated with curriculum duplication between the last two years of high school and the first two years of college.[17]

FIGURE 1



TYPES OF CREDIT-BASED TRANSITION PROGRAMS

Credit-based transition programs include singleton programs, comprehensive programs, and enhanced comprehensive programs. These initiatives have traditionally targeted only high-achieving students. Today, a broader range of students can participate in and benefit from these programs.[18]

Singleton Programs

Singleton programs include dual credit programs as well as the Advanced Placement program. These programs allow high school students to take college-level courses that enrich the high school curriculum, exposing the student to college-level academics and giving them a "head start" in postsecondary education. Students may also earn both high school and college credit. Although the courses are generally offered on-site in high schools, students may also take regular college courses on college campuses. Singleton programs enable students to learn the behaviors and attitudes necessary for college success as they go through the program.[19]

Dual Credit/Enrollment Programs

Dual credit, or dual enrollment, courses are courses taken in high school that are equivalent to those taken at a postsecondary institution in that they require high school students to complete the same coursework as their college-aged, on-campus counterparts. Grades earned in these courses are not only recorded on students' high school transcripts, but also on college transcripts from the sponsoring postsecondary institutions. Because these courses can be offered on the college campus or at the high school, they are taught by either college instructors or specially certified high school teachers.[20]

Although these courses are traditionally geared toward high-achieving high school students, they are now beginning to target all students, even those who are not generally seen as college-bound. This gives all high school students the opportunity to take college-level courses, earn college credit, and be exposed to the college community.[21]

Advanced Placement Courses

The Advanced Placement (AP) program offers high school students 35 courses across 20 subject areas that align with advanced high school curricula taught by trained AP teachers in their own high schools. The College Board supports the program by partnering with colleges and universities to train secondary school teachers to construct and implement the AP course curricula. Students are not required to replace their entire high school curriculum exclusively with AP course, but are given the opportunity to take one or more college-level courses. At the end of each course, students may take a standardized exam, and based on the students' performance on the exam,[22] postsecondary institutions determine if college credit is awarded. Many colleges give preference for admission to students who have taken AP courses because of the strong link between high AP exam performance and future college performance.

Success in postsecondary education is strongly correlated with both rigorous academic preparation in high school and a clear understanding of the expectations for college-level academic work.

Generally speaking, students who earn a score of 3 or above on an AP test (scores range from 1 to 5) may be eligible to receive Advanced Placement credit, college credit, or course exemption, but rules and restrictions vary depending on each individual institution. Advanced Placement allows the student to enroll in an advanced course without having to take the introductory coursework. College credit allows a specific course to count toward the student's postsecondary degree, and course exemption excuses the student from taking a particular college course that is otherwise required.[23]

Although the number of AP courses offered across the nation is growing, minority students and students from lower socioeconomic backgrounds have limited access to AP courses compared to their peers.[24] One possible reason for this underrepresentation is that these students tend to be tracked out of college-preparatory coursework. According to the report, *Is the Achievement Gap in Indiana Narrowing?* (2005),[25] minority students in Indiana are less likely than their majority peers to complete the Core 40 and the Core 40 with Academic Honors Diplomas and are subsequently tracked out of AP courses.[26] Likewise, the underrepresentation of minority students in AP courses results from the fact that they are less likely to have taken the necessary course sequencing, are placed with teachers who are not sufficiently skilled in instructional differentiation, and/or lack a peer support group in these advanced classes.[27] The out-of-pocket costs of the AP exams may also play a role.

Although sound research on academic outcomes associated with AP participation is limited due to methodological concerns, the available evidence suggests that: (1) students and teachers appreciate the increased level of intellectual challenge in AP courses relative to other high school courses; (2) AP students may be more likely to persist in and graduate from college than students without AP participation; and (3) AP students may achieve greater success in college than non-AP students. But again, this body of research is marked by methodological problems and does not yet provide convincing evidence that AP participation is the cause of positive educational outcomes in high school and college.[28]

Comprehensive Programs

Comprehensive programs include the International Baccalaureate and Tech Prep programs. Programs such as these incorporate a more focus-driven sequential curriculum into students' junior and senior years of high school. Here, students experience demanding coursework that spans several semesters, much like those of college students. Besides the additional academic rigor and enrichment, students learn how to appropriately manage time between their academic work and other activities. These programs may be located on high school or college campuses, and are taught either by high school or college instructors. High school students can earn credit through an end-of-course or program examination, or through completion of coursework.[29]

International Baccalaureate Programs

The International Baccalaureate Organization (IBO), a non-profit educational organization headquartered in Geneva, Switzerland, was established in 1968 "to develop inquiring, knowledgeable, and caring young people who help to create a better and more peaceful world through intercultural understanding and respect."[30] Students in high school participate in the International Baccalaureate (IB) Diploma Program, which consists of a comprehensive two-year international curriculum encompassing critical thinking, intercultural understanding, and exposure to a variety of points of view. Students are required to take most of their IB courses, which are taught by specially trained high school teachers, during their junior and senior years of high school. The curriculum includes the six academic subject areas of language A1 (the comprehensive study of the school's primary language), a second language, individuals and societies, experimental sciences, mathematics and computer science, and the arts. Students also take courses in the theory of knowledge, which encourages them to appreciate other cultural perspectives, as well as courses in creativity, action, and service, which encourage students to share their energy and special talents with others. In addition, students write an extended essay of 4,000-5,000 words on a topic of special interest to them. Through assessment of student work and external examinations held each May, a senior examining team reviews each student's level of performance against a published set of criteria to determine if the student is qualified to receive the IB diploma.[31] However, each individual college and university sets its own policies regarding the granting of college credit upon successful completion of the IB exams.[32]

The data from the research on IB-related outcomes is similar to that for AP participation; students appear to appreciate the challenge provided in their IB experiences and may persist and perform better in college than non-IB students, but the research literature is weak and not yet convincing with regard to the benefits of IB participation.[33]

Tech Prep

Tech Prep began in the early 1980s as a high school improvement strategy. Today, it is a national program focused on improving students' academic knowledge and technical skills. In Tech Prep, students are provided with an education that includes both academic and technical knowledge and skills required for continued education and workforce readiness. This program combines the last two years of secondary school with the first two years of postsecondary education as a way to help students gain the academic knowledge, technical skills, and college credit necessary to obtain an associate's degree or certificate in a specific career field. Students participating in this program will integrate their classroom instruction with worksite learning (where appropriate and available), gain technical preparation, and build competence and skills necessary to succeed in their career field. This should ultimately enable the students to acquire high-wage, high-skill jobs or advanced postsecondary training.[34]

About 47 percent (approximately 7,400) of the nation's high schools offer one or more Tech Prep programs in concert with almost all community and technical colleges in the nation. Likewise, several four-year colleges and universities, private businesses, and employer and union organizations also take part in this program.[35]

Enhanced Comprehensive Programs

Enhanced comprehensive programs include Middle College High Schools. These programs combine all the components of a comprehensive program while also providing additional support services, such as counseling and mentoring for students. Students are not only prepared for college socially, behaviorally, and academically, they are also allowed to participate in a wide range of activities. Because of this, these programs encompass much of the students' high school experience. These programs primarily focus on students classified as middle- to low-achieving, yet who have the potential to complete college-level work. Although most of these programs are located on college campuses, a few are also located on high school campuses. The overall goal of these programs is to support students as they make the transition from high school to college.[36]

Middle College High Schools

Middle College High Schools (also referred to as Early College High Schools) are located on or near postsecondary institutions and are focused on providing at-risk high school students the opportunity to be academically and socially prepared for college. By enabling students to achieve two years of college credit (either an Associate of Arts degree or enough credits to enter a four-year baccalaureate program as a college junior) while they are simultaneously earning a high school diploma, they are removing the major barriers to postsecondary access and success that may be present. These may include the physical transition between high school and college as well as the demands from the application processes for admissions and financial aid.[37]

For some students, the typical high school environment is not engaging and its purpose unclear. Therefore, these students may have few incentives to do well, especially if college seems out of reach and too expensive. Participating in a Middle College High School could prove beneficial for these students. Here, higher education is more accessible and affordable, and helps bridge the gap between high school and college. Students receive instruction in a personal environment where rigorous work and performance is demanded and supported, thereby eliminating wasted time during the junior and senior years of high school. Because high school students are participating in a college curriculum, they receive the necessary guidance and support from adults during their first two years of college. Consequently, these students are better prepared overall for entry into highly-skilled careers.[38]

NATIONAL EFFORTS SUPPORTING DUAL CREDIT PROGRAMS

According to a federal study, the strongest predictor of completion of a bachelor's degree is the intensity and quality of a student's high school curriculum. These findings have resulted in the implementation of significant reform efforts toward raising academic standards in high schools.[39] All 50 states support dual credit programs, and 18 states have mandated programs that allow students to earn high school and college credits simultaneously by taking courses at their schools, on college campuses, or online.[40] Likewise, 71% of U.S. public high schools offer dual credit courses.[41]

According to the USDOE, an estimated 2 million students participate in dual credit and dual enrollment programs each year. The Bill and Melinda Gates Foundation, along with several other philanthropic organizations, supported a $120 million initiative aimed at quadrupling the number of early college high schools from about 50 to nearly 200.[42] In

addition, President Bush has proposed a $125 million grant program to help states increase access to dual enrollment classes for at-risk students, in recognition of the importance of such programs.[43]

Dual Credit Programs Across the United States

While all 50 states report that they support dual credit or dual enrollment programs, enrollment policies differ from state to state. For example, individual states have their own policies regarding student participation eligibility.[44] Furthermore, some programs may require students to take courses from their high school during the school day, whereas other programs may require students to take courses directly from the postsecondary institution, either in lieu of their regular school day, or in addition to it. Therefore, it is important to keep these differences in mind when comparing such programs across the U.S.

One way to better prepare students for the challenges they will face after completing high school is through the use of postsecondary credit-based transition programs.

There are a variety of different dual credit programs offered nationwide. Indiana University's *Advance College Project* (for more information, refer to page 6) and Syracuse University's *Project Advance* are two nationally recognized, exemplary programs which serve as models for other dual credit programs offered in other states. In addition, three other programs in Minnesota, Washington, and Wisconsin are examples that illustrate the breadth of how dual credit programs are implemented in other states.

Project Advance (Syracuse University, New York)

Syracuse University's *Project Advance* (SUPA) began in 1972 and has been replicated as a model program by other institutions, such as Indiana University, University of North Carolina-Greensboro, University of Pittsburgh, University of Wisconsin-Oshkosh, and University of Minnesota. Approximately 4,000 students in 120 selected high schools from New York, New Jersey, Maine, Michigan, and Massachusetts annually enroll in courses offered through SUPA. These courses are taught by over 400 certified adjunct Syracuse University instructors.[45]

Students who have participated in SUPA have reported on their experiences in gaining recognition for the courses they have taken through SUPA after matriculating to one or more of more than 600 colleges and universities nationwide. Approximately 91 percent of all SUPA graduates have reported successful transfer of credit hours, fulfillment of general education or major program requirements, placement in more advanced courses, or some combination of these.[46] Likewise, approximately 93 percent of SUPA graduates reported receiving an average grade of B or above during the four years of their undergraduate experience.

Get Ready, Get Credit (Minnesota)

Minnesota's *Get Ready, Get Credit* program, sponsored by Governor Tim Pawlenty, addresses the need to increase high school rigor and college preparedness. This two-step program allows students to get a head start on college by earning postsecondary credit while still attending high school:[47]

- *Get Ready*: Students undergo state-funded testing as a way to determine their strengths and weaknesses and to determine college readiness prior to their junior or senior year. These tests include the ACT Explore test for students in grade 8, and the ACT Plan test for students in grade 10.
- *Get Credit*: Students who complete a college-level course in high school through programs such as AP or IB are encouraged to take a College Level Examination Program (CLEP) test, funded by the state, as a way to receive immediate college credit. CLEP offers tests in the subject areas of composition and literature, mathematics, science, history and social studies, foreign language, and business.

The University of Minnesota, along with 2,900 other colleges across the country, participates in the CLEP program. The CLEP exams cover material that is usually taught in the first two years of college, and students are subsequently granted the equivalent amount of credit if they earn satisfactory scores on the CLEP exam and successfully complete the corresponding course. With this in place, high school juniors and seniors will continue to have a productive educational experience while also reducing future college costs.[48]

Running Start (Washington)

The Washington *Running Start* program permits grade 11 and 12 students to take courses at various colleges and universities while they are in high school. Some of the colleges where the students can opt to take college courses include: Washington's 34 community and technical colleges, Washington State University, Eastern Washington University, Central Washington University, and the Evergreen State College.

The *Running Start* program has no state-mandated performance requirements in high school that would limit any student from participating in this program; the choice of participation is up to students and their parents. After taking standardized placement exams, students enroll for college courses that they attend in a class with adult students. In 2003-04, serving about 10 percent of the state's juniors and seniors, *Running Start* student enrollment totaled 15,610, equal to 9,533 full-time students, and increased approximately six percent over the previous year, when 14,682 students participated.[49] The Washington community highly favors this program. In a 2002 statewide community perception analysis conduced by Market Research Services, 73 percent of adults support *Running Start*, an increase from 68 percent four years earlier.[50] Overall, the *Running Start* program aims to help students achieve high academic standards at a lower overall cost to their families and the state.

Youth Options (Wisconsin)

Started in 1998 and currently serving 300 Wisconsin students,[51] *Youth Options* is a dual credit program for junior and senior high school students. Those who meet the program's requirements may take postsecondary courses from various educational institutions in Wisconsin, including the University of Wisconsin.[52] Though students may take up to 18 college credits over a two-year period, districts may choose to increase the number of credits each student is allowed to take over this time period.[53]

This program is unique because students do not pay for approved college courses. Courses that are not offered by the high school must be approved by the school board to determine if they meet qualifying standards for high school credit. If the board chooses to approve a course, the student will be able to receive high school and college credit upon its completion.[54] The school

board provides funding for course-related books, fees, equipment, and materials that will remain the property of the school. Students must pay for transportation, dropped or failed courses, and attendance at colleges or institutions outside the approved locations.[55]

DUAL CREDIT PROGRAMS AT INDIANA'S PUBLIC COLLEGES AND UNIVERSITIES

In Indiana, one way high school students can earn college credits prior to entering a four-year baccalaureate program is through participation in one of the programs offered by six of the seven two- and four-year public colleges and universities in Indiana.[56] Students from participating high schools in Indiana, Ohio, and Michigan can take part in Indiana University's *Advance College Project* (ACP) that includes 30 courses in 14 subject areas. Modeling Syracuse University's *Project Advance* and serving as a model for other dual credit programs nationwide, Indiana University's ACP's approach to dual enrollment has been successful for 25 years because of its strong academic requirements, while also meeting the rigorous academic standards for the National Alliance of Concurrent Enrollment Partnerships (NACEP) accreditation. The success of the ACP program is evident by high retention rates and high GPAs for students who completed the ACP program compared to other Indiana University students. The ACP is perceived by many to be one of the top five programs in the country.[57]

In addition to Indiana University's *Advance College Project*, five other postsecondary institutions in Indiana also offer dual credit programs. Ivy Tech Community College's dual enrollment program enables students statewide to earn both high school and college credits; up to 15 credit hours can be applied toward an Ivy Tech degree program. *Project EXCEL*, the first dual credit program offered in Indiana, began at Vincennes University. Since 1975, it has provided high school students throughout the state with the opportunity to enroll in college courses as a part of their regular high school curriculum. The *College Transition* program at Ball State University provides a dual credit program for students completing high school in east central Indiana. Likewise, Indiana State University's *College Challenge* program partners with approximately 15 west central Indiana high schools, and the University of Southern Indiana offers the *College Achievement* program for students in participating southwest Indiana high schools. All of these programs enable qualified juniors and seniors to earn college credit by taking approved courses offered at their high school during the regular school day. Although students are taught by regular high school faculty, these teachers have also been approved and often are specially trained by a partner college. Benefits of these programs include:

- Earning both high school and college credit, thereby possibly graduating from college earlier.
- Enrolling in courses offered at the student's high school during the regular school day.
- Transferring earned credits to other colleges and universities.
- Participating in an enriched and challenging curriculum that reduces the duplication of content between the last years of high school and the first years of college.
- Providing continual intellectual challenge through an engaged curriculum during the last years of high school.
- Exploring potential majors while still in high school.
- Experiencing college-level expectations through the equivalency and comparability of college-level courses.
- Developing the college skills, abilities, and confidence needed to be successful.
- Facilitating a smooth transition between high school and college.
- Saving money by paying less per credit compared to the regular college student.

Indiana Code 20-30-11 focuses on the postsecondary enrollment program. According to IC 20-30-11-10.5 (as added by P.L.218-2005, SEC 74), students can receive dual credit for specific classes they successfully complete. The Indiana Commission for Higher Education (ICHE) is currently addressing consistency, rigor, and issues concerning access to dual credit courses. The *Policy on Dual Credit Courses Taught in High Schools by High School Faculty (Policy)* is being developed by ICHE in collaboration with the Indiana Department of Education (IDOE). Subsequently, the State Board of Education will likely adopt rules that formalize the *Policy* and address the application of dual credit courses to fulfill the requirements of Core 40 and Core 40 with Academic Honors Diplomas.[58] This activity should occur during 2006.

Although Indiana does not directly allocate funds for dual enrollment, postsecondary institutions are allowed to count students enrolled in their courses for dual credit as part of their total enrollment data to the state. From this, the state will allocate funds to the postsecondary institution according to an enrollment formula, in which the institution has sole control over how funds are to be distributed and allocated among their departments and divisions. The ICHE has also been discussing issues of funding concerning dual credit courses. Specifically, its draft policy on funding is intended to limit costs to students and ensure economically disadvantaged students have equal access to dual credit courses. The ICHE has yet to establish the final language in the *Policy* addressing these financial issues.[59]

PROGRAM TRENDS ACROSS THE U.S. AND INDIANA

Advanced Placement Participation Across the U.S.

Throughout the 2004-05 school year, over one million students from 15,380 schools worldwide participated in the AP program.[60] Of those schools, 14,573 were located in the 50 states and the District of Columbia and of those, 11,498 were public schools and 3,075 were non-public schools. Females were more likely to take the AP exam than males, 56.5 percent and 43.5 percent, respectively. Though most participants were in grades 11 and 12 (38 percent and 44 percent, respectively), the proportion of lower-grade examinees has been increasing. Twelfth-graders were more likely to take multiple exams, thereby accounting for 52 percent of all exams taken. However, this percentage has been decreasing due to an increase in the number of examinees in other grade levels.[61]

Advanced Placement Participation in Indiana

School corporations in Indiana are required by state law to provide AP courses in mathematics, science, and English language and literature for qualified high school students. Additionally, the law authorizes the subsidizing of AP exam costs by the state of Indiana for the Biology, Chemistry, Physics, Calculus, Environmental Science, and Statistics tests (the AP English Language and Composition exam is not covered by the reimbursement program).[62] Because the intent of the state funding of AP exam fees is to encourage students to enroll in challenging courses, students are eligible for the exam funding only if they have taken the corresponding College Board AP course. Exam funding is not provided for

retakes of AP tests. The federal fee payment program for AP participation by low-income students was not available in 2005.

For the past several years, the number of Indiana high school students participating in the AP program has increased. Since 1997, the number of students taking AP exams has practically doubled, from 8,965 to 17,898 in 2005, a 99.6 percent increase (see Figure 2). Nationally, the number of students taking AP exams increased from 566,720 to 1,197,439, or a 111 percent increase, over the same period of time. A total of 28,821 exams in 35 different courses were attempted by Indiana high school students in 2005, up from 13,132 exams taken in 1997. In contrast, a total of 2,065,045 exams were taken nationally in 2005.[63]

On the other hand, the percentage of exams receiving a score of 3 or above declined in Indiana from 2001 to 2005 (see Figure 3).[64] However, it is important to keep in mind that only a portion of all students who take AP courses actually take the AP exam, likely contributing to lower pass rates. Of the exams completed by students in 2005, a total of 54.4 percent nationally and 50.9 percent in Indiana received a passing score of 3 or above. Finally, of all exams taken in Indiana, 24.3 percent received a score of 3, and a total of 26.6 percent received a score of 4 or 5.

FIGURE 2

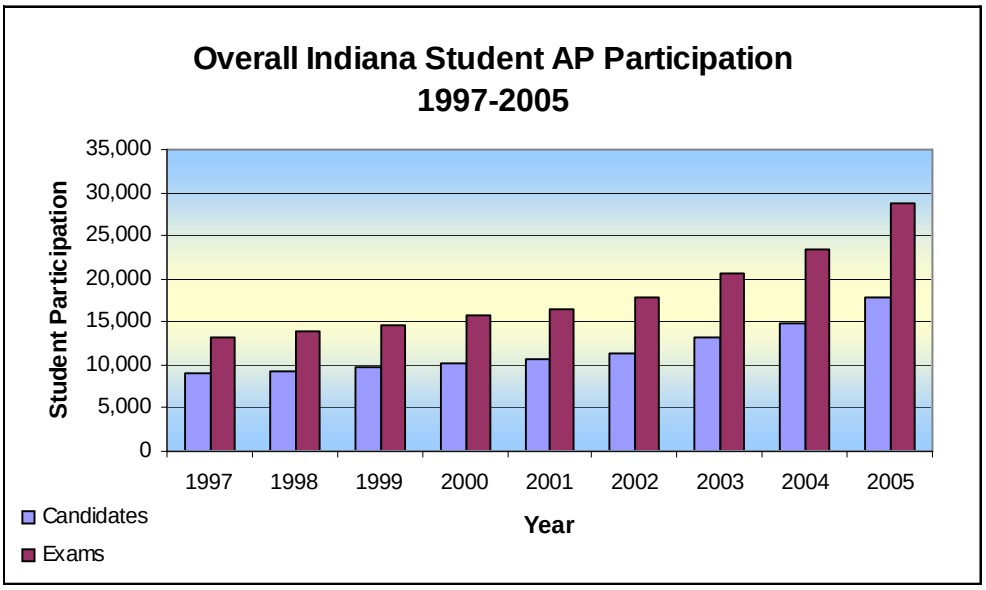
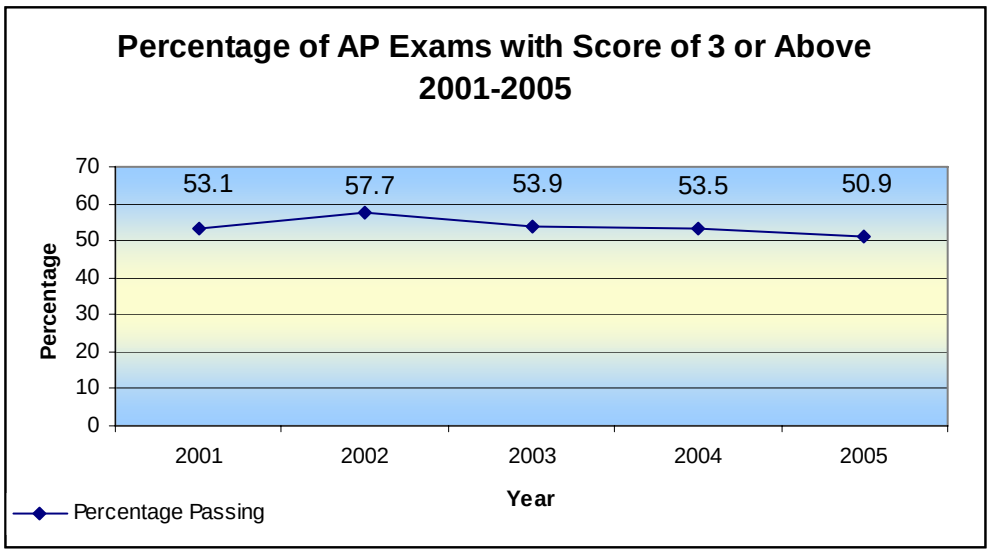


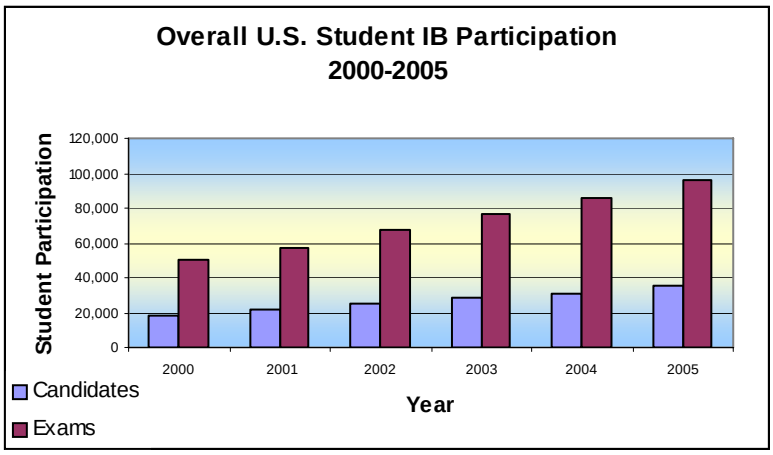
FIGURE 3



International Baccalaureate Programs Across the U.S.

Throughout the 2003-04 school year, over 56,000 students from over 1,200 schools in 117 countries participated in the IB program. Of these, 470 schools in North America participated in the program, with 382 schools located in the U.S. Since 2000, the number of students participating in the IB program as well as the number of exams have been increasing. In 2005, a total of 35,366 U.S. students took 95,474 exams. During this year, there were 11,268 diploma candidates, to whom 8,422 diplomas were awarded (see Figure 4).[65]

FIGURE 4



International Baccalaureate Diploma Programs in Indiana

A total of seven high schools in Indiana participate in the IB Diploma Program. Of these seven schools, six are public and one is private.[66] Students enrolled in IB courses have the option of receiving either an IB diploma or an IB certificate. In order to receive a diploma, students are required to follow a two-year course of study, be assessed in all six subject areas, and pass the minimum requirements of the standards set forth by the IBO. Students who choose not to obtain an IB diploma, but who still wish to take individual IB courses, are awarded an IB certificate. The certificate indicates which courses were taken and what marks were earned. Besides offering IB-only courses, Indiana schools also offer IB/AP joint courses, which enable students to receive both IB and AP credit at the same time.

Tech Prep Programs Across the U.S.

Each Tech Prep consortium receiving Perkins funding from the Carl D. Perkins Vocational and Technical Education Act of 1998 must develop a performance-level plan for the development and implementation of their state's Tech Prep program. Seven essential elements that must be included are: an articulation agreement, appropriate curriculum design, curriculum development, in-service teacher training, counselor training, equal access for special populations, and preparatory services; performance measures can be determined from these core indicators.[67]

There has been an increase in student enrollment in Tech Prep since it began in the early 1980's. In eight identified Tech Prep consortia[68] throughout the U.S., success was measured through the utilization of strategies that enhanced implementation of activities involving more teachers, greater emphasis on guidance, more integrated instruction, and heightened recruitment.[69]

Approximately 80 percent of students enrolled in one of the eight identified Tech Prep consortia completed the program and transferred into a two-year postsecondary institution. Fifty to 94 percent of these students were placed into college-level math, compared to the 44 to 85 percent of students who were not Tech Prep participants. Results for reading and writing showed similar trends for college placement for both groups. After enrollment in a Tech Prep program, 22 to 80 percent of Tech Prep participants chose to enroll in a college in their vocational area. However, most students did not complete their college degree (an associates degree) or certificate. Of the students who decided to obtain employment rather than continuing their education, Tech Prep students held full-time jobs at a higher rate (approximately one-third to one-half of all students) compared to individuals who did not participate in the Tech Prep program. Likewise, Tech Prep participants tended to report higher hourly wages compared to non-participants.[70]

Tech Prep Programs in Indiana

An Indiana state mandate required schools to implement a Tech Prep program in the early 1990's. However, only one dollar was allocated for the development of such programs, thus causing schools to hold back on implementing a Tech Prep program. In addition, a formal definition for "Tech Prep" in Indiana was never developed. This ultimately resulted in Tech Prep becoming more of a teaching methodology than a program.[71] Likewise, the state's focus has shifted to supporting the development of career academics and career majors within high schools.[72]

RECOMMENDATIONS

1. *Increase high school student participation in rigorous coursework*. Success in college depends on high school preparation. The well-documented relationship between high school preparation and college success indicates the need to increase the quality of courses taken by each student. All students should have the option to take high-level courses that can better prepare them for the rigors of college or the workforce. Students need to be encouraged to take such courses as a way to promote achievement and success in order to prevent disadvantaged and underrepresented minority students from being tracked out of the college-preparatory curriculum. At the same time, research suggests that AP and IB programs, although often the de facto high school curriculum for advanced students, are not a panacea for a lack of challenge in American high schools. Because the coursework is generally available only in the last two years of high school, the programs are not universally accessible to or affordable for all students, and the existence of programs guarantees neither challenging instruction nor college placement and credit.[73]
2. *Increase access to AP and dual credit courses for minority groups and students from lower socioeconomic backgrounds.* Policymakers and educators must address the need for increased access to and participation of economically disadvantaged and minority students in AP and dual credit courses. Recent research suggests that minority students are positively influenced by AP courses. This is especially true when they are provided peer support by allowing cohorts of minority students to take the AP courses together.[74]
3. *Increase AP research.* Additional research regarding how many students earn credit as a result of their AP coursework and successful test completion can help determine the effectiveness of AP courses as an option for receiving postsecondary credit while enrolled in high school. It is estimated that less than 25% of all students who take AP courses actually receive postsecondary credit. However, solid research and data collection are still necessary.[75]
4. *Increase the level of IB participation in high schools across Indiana.* The IDOE should provide information and resources to encourage high schools to consider local implementation of the IB Diploma Program. The IB Diploma Program can provide students additional options and opportunities to further engage them in a challenging and meaningful high school curriculum.
5. *Promote expansion of dual credit programs in the state.* Dual credit programs are growing nationwide, thereby increasing high school students' options for earning college credits. This growth should be encouraged and access to these programs by all qualified students should be facilitated by state policy. Additionally, school counselors and academic advisors should increase their efforts to inform parents and students about these curricular opportunities.
6. *Consider other programs and funding strategies.* Policymakers should also look at successful dual credit programs offered in other states that provide funding support to encourage high levels of student participation. By examining successful programs in other states, Indiana can identify different funding strategies that can be used to increase access to and participation in dual credit programs.
7. *Undertake additional research and evaluation on all dual credit programs.* Research on outcomes associated with dual credit participation is surprisingly scarce. Any efforts to encourage or increase student access to these programs should be fully evaluated to measure program outcomes and to guide the administration of the programs to ensure success.
8. *Revisit the role of the Tech Prep curriculum in preparing students for the workplace or postsecondary education.* Educators and policymakers should consider whether the Tech Prep curriculum in Indiana fits with the new Core 40 curricular mandates, and clarify or reinforce its purpose in the burgeoning high school curriculum. If it continues to meet the instructional needs of high school students, enhanced professional development activities and training should be provided. Otherwise, the Tech Prep requirements should be repealed as statutory requirements.

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RESOURCES

AP Central
CollegeBoard
Available at: http://apcentral.collegeboard.com

Early College High School Initiative
Early College High School Initiative
Available at: http://www.earlycolleges.org

International Baccalaureate Organization (IBO)
Available at: http://www.ibo.org

Middle College National Consortium
Available at: http://www.laguardia.edu/mcnc

National Alliance of Concurrent Enrollment Partnerships (NACEP)
Available at: http://www.nacep.org

National Inventory of Academic Pathways
Academic Pathways to Access and Student Success
Available at: http://www.apass.uiuc.edu

National Tech Prep Network (NTPN)
National Tech Prep Network (NTPN)
Available at: http://www.cord.org/ntpn

Redesigning High Schools: Effective High School Reform: Research and Policy That Works
National Conference of State Legislators
Available at: http://www.ncsl.org

State Dual Enrollment Policies: Addressing Access and Quality
Community College Research Center
Available at: http://ccrc.tc.columbia.edu

Update to State Dual Enrollment Policies: Addressing Access and Quality
U.S. Department of Education: Office of Vocational and Adult Education
Available at: http://www.ed.gov/about/offices/list/ovae/pi/cclo/cbtrans/statedualenrollment.pdf

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