

Participation of Students with Disabilities in College Ready Programs

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Abstract

Benefits of graduating with a college degree include higher earnings, lower unemployment rates, improved health, and increased job satisfaction. A number of college-ready programs are offered to help prepare students for postsecondary education and careers (e.g., advanced placement, International Baccalaureate, dual enrollment, Tech Prep); however, little is known about the inclusion of students with disabilities in these programs. This study evaluated 15 college-ready programs to determine if they served students with disabilities, what program evaluation data indicated for students in these programs, and if program evaluation data were disaggregated for students with disabilities, what were the outcomes. Results indicated 12 of the programs resulted in successful preparation for postsecondary education; however, of the 15

programs reviewed, only two disaggregated data for students with disabilities. Implications for practice and directions for future research are discussed.

Introduction

College-ready programs are designed to help facilitate students' transition to college by preparing them to undertake college-level work upon entry. Given the poor post school outcomes of students with disabilities, unemployment or underemployment, lower pay, and job dissatisfaction is greater than that of their peers without disabilities (Sanford et al., 2011), it is important to examine their participation in college-ready programs. Many students with disabilities do not complete high school, leaving them less prepared for, and less likely to, obtain a job (Levinson & Palmer, 2005) and be equipped with the knowledge and skills to pursue continued education. According to the National Center for Education Statistics (2015), 46.6% of students age 20-24 years old without a high school diploma were reported to be working in 2014 as opposed to 63.7% of students who completed high school.

Given these outcomes, it seems clear that all students, including students with disabilities, need access to a rigorous program that prepare them to be college-ready. Benefits of graduating with a postsecondary degree include increased earnings (Carnevale & Desrochers, 2003), improved health (Mirowsky & Ross, 2010), and increased job satisfaction (Wolniak & Pascarella, 2005). In addition, data from the U.S. Department of Labor (2015) indicate an individual employed with a bachelor's degree is projected to have an annual income 1.5 times greater than that of a high school graduate's (i.e., \$57,252 vs. \$34,736), while an associate's degree increases earnings by approximately 15% (i.e., \$41,184 vs. \$34,736).

Recently, Sanford et al. (2011) found young adults in the general population were more likely to have been enrolled in four years colleges (37%) than were young adults with disabilities (15%). However, they found young adults with disabilities were more likely to have been enrolled in two years or community colleges (37%) or vocational school (28%) than were young adults in general education (21% and 17%). This interest in students with disabilities attending postsecondary education is also reflected in their individual education programs. For example, Cameto, Levine, and Wagner (2004) found postsecondary education was a primary post-school goal on transition components of the IEP for four out of five secondary students with disabilities. Based on these findings, it is imperative all students, including students with disabilities, have the opportunity to participate in rigorous programs that prepare them to be college-ready. Conley (2012) has defined college readiness as a student's preparation for college and career and who can qualify for and succeed in entry-level, credit-bearing college courses leading to a baccalaureate or certificate or career pathway-oriented training programs without the need for remedial or developmental coursework. As the number of students with disabilities who aspire to attend postsecondary education increases, there is a corresponding need for need for rigorous high school programs to prepare those students for postsecondary education. The Education Commission of the States (ECS) Blueprint for College Readiness Report indicates that 25 states require all districts to offer advanced placement (AP), International Baccalaureate (IB), dual enrollment or other rigorous courses of study (Glancy et al., 2014).

As a result, it is important to determine if students with disabilities are participating in college ready programs, as well as their success in these programs. While college-ready programs such as AP courses and dual high school and college enrollment programs already exist, little is known about the inclusion and outcomes of students with disabilities in these programs. Therefore, the purpose of this study was to identify and review nationally available college-ready programs to determine (a) the extent to which students with disabilities participate, (b) the extent the programs are successful, and (c) the extent evaluation data are disaggregated for students with disabilities.

Method

We were interested in the preparation of students with disabilities for postsecondary education specifically examining nationally available college-ready programs. Based on these identified programs we wanted to see if students with disabilities were participating in these programs and to what extent were they successful. In order to investigate this further the following procedures followed.

Literature Search Procedure

This study used Conley's (2012) definition of "college-ready" programs as those whose focus is to provide high school students with knowledge and skills needed to succeed in entry-level, credit-bearing college courses without the need for remediation. To ensure a thorough search of the research literature on college-ready programs authors (a) conducted an electronic search, (b) hand searched selected peer reviewed journals to identify most current studies, and (c) reviewed reference lists of related articles. Disability was defined as:

...individuals with disabilities are defined as persons with a physical or mental impairment which substantially limits one or more major life activities. Major life activities include caring for one's self, walking, seeing, hearing, speaking, breathing, working, performing manual tasks, and learning.

<http://www.hhs.gov/sites/default/files/knowyourrights504adafactsheet.pdf>

Electronic searches were conducted using EBSCO HOST, Educational Research Complete, ERIC, Masterfile Premier, and PsychINFO. When searching electronic databases, the following are examples of full and truncated keyword search terms used: high school and college-ready, disabilities and high school programs, dual enrollment, advancement via individual determination, AVID and disability, advance placement and disability, 2 + 2 tech prep and disability. The authors searched for articles that included college-ready programs. Next, authors previewed titles and abstracts to identify potential articles. Finally, websites (e.g., Google, Bing, Yahoo) were searched for programs that prepared students for college.

To be included, programs had to meet the following criteria (a) a specifically stated purpose to prepare students for two or four-year college, (b) implemented nationally or available nationwide, and (c) availability of more than one published report in a peer reviewed journal or government sponsored document. Programs were excluded that were focused only on high school graduation or dropout prevention (e.g., Talent Development High Schools; Martinez & Klopott, 2005), not available nationally (e.g., Project "Graduation Really Achieves Dreams");

Martinez & Klopott, 2005), or no longer existed (e.g., EXCEerator). As a result, 15 programs were identified that met inclusion criteria. Once identified, searches were conducted to find the most recent program evaluation data to determine outcomes for all students, and then, if data were disaggregated for students with disabilities, what findings indicated.

Interobserver agreement (IOA)

During the first search, two authors determined if a study met the criteria for inclusion using a consensus model; disagreements were reconciled. Then, interrater reliability data were collected on eight of the 15 programs (53.3%). To calculate reliability, the number of agreements was divided by number of agreements plus disagreements and multiplied by 100. Reliability was 100%.

Results

Each of the 15 college-ready programs identified is described below. Descriptions are followed by summaries of the most recent research findings for each program, as well as disaggregated data for students with disabilities if available.

Advanced Placement

Advanced Placement (AP) programs are designed to offer high school students the opportunity to complete college-level work while still in high school (Barry et al., 2012). Passing scores on national exams may result in college credit upon enrollment in a college or university. While each AP class has its own eligibility requirements, a grade of A- or B+ in the high school honors version of the class is typically a prerequisite.

Sample research findings. Morgan and Klaric (2007) and Murphy and Dodd (2009) found students who took AP courses earned higher grades in introductory and subsequent college-level course work compared to students not enrolled in AP courses. Additionally, students who took AP courses, particularly those earning course credit or scoring a 3 or higher, attended more selective institutions, had higher college-level GPAs, and higher freshman-year retention rates (Murphy & Dodd, 2009). Finally, students taking two or three AP Exams were more likely to attend a four-year institution (Chajewski, Mattern, & Shaw, 2011). This finding was consistent across race/ethnicity and income groups (Dougherty, Mellor, & Jian, 2006). While program evaluation data were available (Barry et al., 2012), data were disaggregated by socio economic status (Dougherty et al., 2006) and ethnicity (Morgan, & Klaric, 2007). Data were not disaggregated by disability.

Advancement Via Individual Determination

The Advancement Via Individual Determination (AVID) program is designed to increase college participation rates of minority and underprivileged populations (What is AVID, 2014). Students who are potential underachievers are supported, mentored, and coached to encourage high school completion. The AVID program is an academic elective class in middle and high schools that meets year-round. In order for students to participate in AVID, parents must sign a contract agreeing to support their child's participation in the program.

AVID impacts 800,000 students in 44 states (AVID.org, 2014). Within AVID classrooms students are provided: (a) special note and test-taking strategies and organization techniques (Hubbard & Mehan, 1999); (b) “social scaffolding” (i.e., providing a supportive developmental environment including cultivation of critical thinking skills; Oswald, 2002); and (c) help in completing college and scholarship applications and visits to college campuses (Swanson, Mehan, & Hubbard, 1993).

Sample research findings

AVID program evaluation data indicate three out of four AVID graduates, who applied, were accepted into 4-year colleges or universities nationally (Data and Results, 2014). Additionally, AVID students met four-year college entrance requirements at a rate at least two times higher than the national rate.

Each state participating in the AVID program provides data on the number of students enrolled, grade level, gender, ethnicity, and free or reduced price lunch. However, data are not disaggregated for students with disabilities (Data and Results, 2014).

Career Academies

The overarching goal of Career Academies is to prepare students in low-income, urban areas to successfully transition to postsecondary education and employment. Organized as small learning communities (i.e., 30-60 student per grade), Career Academies combine academic and career and technical curricula around a career theme (e.g., health sciences, business and finance, law, and engineering; mdrc.org). Partnerships with local employers are established to provide students with career awareness and work-based learning opportunities. An estimated 2,500 Career Academies operate either as a single program or as programs within a larger high school. Students apply to participate in a particular Academy in 9th or 10th grade and accepted applicants are taught by the same team of teachers for the duration of their high school career (Kemple & Willner, 2008).

Sample research findings

Kemple and Willner (2008) reported findings from a post-high school follow-up survey data collected approximately eight years post high school graduation. Findings indicated students in the Career Academy group, when compared to the control group earned 11% more per year. However, the effect was seen primarily in men; women’s earnings were not statistically significant. Although high school completion rates were higher than national averages for Career Academy students, the increase was not statistically significant. Finally, data indicated Career Academies did not impact postsecondary education matriculation and completion rates. Data were not disaggregated for students with disabilities.

Dual Enrollment

Dual enrollment programs are designed to enable high school students to enroll in college courses and earn college credit while still in high school. Dual enrollment programs are based on five main principles: (a) education is a continuum in which the basics must be learned before proceeding; (b) courses offered through the programs supplement high school curriculum; (c) programs should be physically accessible to students; (d) financial support should be provided

when necessary; and (e) the school-college partnership should be enhanced with academic support such as academic advising and pre-college counseling, financial aid planning, assessment, and study skills workshops (Robertson, Chapman, & Gaskin, 2001). Widely accepted eligibility criteria for participating in dual enrollment programs include (a) passing the state's high school proficiency exam for that course, (b) attaining a minimum high school GPA (varies based on the school), and (c) recommendation from school personnel.

Sample research findings

Michalowski (2007) found participation in dual enrollment programs was positively correlated with high school graduation, college enrollment, credit accrual, persistence, and pursuing a bachelor's degree. Participants in career and technical education (CTE) focused dual enrollment programs were also more likely to enter college and earn higher grades than students who did not participate in the program (Karp et al. 2007). Finally, while Hart, Mele-McCarthy, Psternack, Zimbrich, and Parker (2004) examined 25 dual enrollment programs that included students with learning, cognitive, and intellectual disabilities, data were not disaggregated for these students with disabilities.

Early College High Schools

Early College High Schools are designed to increase the number of students who graduate from high school prepared for postsecondary education. This program targets students who are underrepresented in college (Jobs for the Future, 2015). Schools are designed so low-income youth, first-generation college goers, English language learners (ELLs), students of color, and other individuals who are underrepresented in higher education are able to earn a high school diploma and an associate's degree or up to two years of credit toward a bachelor's degree concurrently while receiving free tuition (AIR & SRI International, 2008). Early College High Schools are most frequently located on college campuses.

Sample research findings

Berger et al. (2013) found 86% of students who participated in Early College High Schools graduated from high school and 80% enrolled in college. Once enrolled in college, 21% of students earned a college degree (Berger et al., 2013). More recently, Webb and Gerwin (2014) found 90% of Early College High School student participants graduated from high school, 94% earned college credit while in high school, 71% enrolled in college the semester following graduation, and 30% earned a college degree (Webb & Gerwin, 2014). While Early College High Schools programs have been evaluated and students with disabilities have been included in analysis, data have not been disaggregated specifically for students with disabilities.

Gaining Early Awareness and Readiness for Undergraduate Programs The purpose of Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) is to increase the number of low-income, minority, and disadvantaged first-generation students prepared for postsecondary education. GEAR UP typically begins in middle schools, allowing students and families to access resources needed prior to high school coursework selection. GEAR UP provides early college awareness and support activities that may include (a) tutoring, (b) mentoring, and (c) financial education and college scholarships (National Council for Community and Education Partnerships, 2014).

Sample research findings

Over one million students in 47 states, District of Columbia, and three territories have been served in these programs (Gibson & Jefferson, 2006). Research indicated GEAR UP program participants were more likely to be prepared for college, know their options, have growth-fostering relationships, and higher self-concept (Gibson & Jefferson, 2006). A 4-year study of GEAR UP participants indicated students were more knowledgeable of postsecondary options and had higher aspirations for postsecondary education (Finch & Cowley, 2003). While outcome data were reported by race and socioeconomic status, data were not disaggregated for students with disabilities.

High School/High Tech

First established in 1983 by local business leaders in Los Angeles who sought to reach out to students with disabilities to engage them in technological and science-based careers, and later (1995) supported by NASA funding to California, Florida, Georgia, Maryland, and Ohio, High School/High Tech (HS/HT) has been designed to prepare students with disabilities for postsecondary education. The program focuses on maintaining high expectations, exposes youth to possible STEM careers, works to develop leadership, and encourages involvement of family and caring adults. The program runs year-round and conducts activities either in school, after school, on weekends, and during the summer. Additionally, HS/HT offers college and career planning information and guidance.

Sample research findings

Karakus, Elinson, Frey, and Collins (2008) found that during the 2006-2007 academic year, 39.4% of HS/HT participants graduated high school, 44.9% did not graduate, and they were unable to determine completion status for 15.8% of the participants. Student data were disaggregated based on primary disability and co-morbid health problems or disabilities; however, outcome data were not disaggregated.

Data collected from The Able Trust (2015) on post-school outcomes of students participating in the HS/HT Program are encouraging. The program served 1,282 students with disabilities in 40 Florida counties in the 2014-2015 school year. The Florida HS/HT Program participants experienced a graduation rate of greater than 99% of all participating seniors. Additionally, 72% of Florida HS/HT graduates received a standard diploma compared to 60% of their peers with disabilities. Finally, 62% of Florida HS/HT graduates enrolled in postsecondary education compared to 28% of non-HS/HT graduates with disabilities.

High Schools That Work

High Schools That Work (HSTW) programs are designed to “improve the communication, mathematics, science, technical, and problem-solving skills of career-bound youth,” and to “close, by one-third, the gap in reading, mathematics, and science achievement between career-bound students and college-preparatory students nationally” (Bottoms & Mikos, 1995, p. 3). The goal of HSTW programs is to end all low-level courses for all students, including those with disabilities (Southern Regional Education Board, 2003).

To date more than 1,200 HSTW sites in 30 states and the District of Columbia have used

the HSTW framework (Young, Cline, King, Jackson, & Timberlake, 2011). Successful programs set high standards for students and help them reach those standards, increase students' access to more challenging course work, create a strong partnership between school and home, and make learning meaningful through challenging and engaging classroom assignments.

Sample research findings

According to Martinez and Klopott (2005), despite early student gains in HSTW schools, the minority achievement gap between African American and White students persisted. Although enrolling in college preparatory classes at the same rate as White students, African American students were meeting HSTW achievement goals at nearly half the rate of White students over a 10 year span. Miller and Mittleman (2012) conducted a rigorous comparative interrupted time series strategy of 18 HSTW schools in North Carolina between 2000 and 2006 to determine the degree to which HSTW increased students' progression through the mathematics and science pipelines. According to the authors,

...we are unable to find clear evidence that HSTW implementation increased students' success in the college preparatory pipeline. Instead, we find no effect on the average student's course taking and tested mastery, and some evidence of an increased gap in course taking patterns between advantaged and disadvantaged students (p. 1125).

While data were disaggregated by race/ethnicity, they were not disaggregated by disability.

Institute for Student Achievement

The Institute for Student Achievement (ISA) is a nonprofit organization that partners with schools and districts to prepare historically underserved (i.e., African American and Latino) students to be college and career ready. Schools are transformed into small learning communities designed to sustain "intellectually rigorous, caring, and personalized learning environments" (Fancsali et al., 2012, p. 1). Three implementation strategies overarch ISA's seven research-based principles. First, College Prep Teaching & Learning includes: college preparatory instructional program, extended school day and school year, and continuous professional development. Second, Building Relationships and Personalization includes: Distributed Counseling™, dedicated team of teachers and counselors, and parent involvement. Third, Continuous Improvement includes: continuous organizational improvement by monitoring progress and refining aspects of the program. Currently, ISA works with 80 partner schools serving 20,000 students in school districts in Georgia, Louisiana, Maryland, Michigan, New Jersey, and New York (Fancsali et al., 2012).

Sample research findings

Data from the ISA Outcome Evaluation Final Report (2010) using matched sample groups, indicated ISA's partnerships with two New York City schools yielded improved postsecondary outcomes for students. Ninety percent of seniors reported plans to attend either a two- or four-year college after graduation; 61% enrolled in four-year colleges (compared with 44% of African American and Latino students nationwide). Furthermore, 80% of ISA students attended college full-time during the first year and 94% of those students attending a four-year school returned for a third semester (Fancsali & Bat-Chava, 2010).

The ISA Outcome Study Report (2012) looked at student achievement records from New York City and Atlanta. College enrollment data for ISA students exceeded national enrollment rates. For example, of all students enrolling in college, 28% of students in 2007 ISA cohort enrolled in two-year college and 72% enrolled in four-year college as opposed to the national average of 43% and 57% respectively. Finally, college persistence rates for ISA students exceeded the national average; 89% of the 2007 ISA cohort persisted from fall of their first year to fall of their second year compared to the national average of 77% persistence (Fanscali et al., 2012). Data for both studies indicated program participation by students with disabilities (i.e., 11% [2010 report] and 13.1% [2012 report]); however, data were not disaggregated by disability.

International Baccalaureate Diploma Program

The International Baccalaureate (IB) Diploma Program (DP) is an academically challenging education program for students aged 16 to 19. It is a rigorous high school curriculum that includes foreign language study, literature, science, math, and social studies. The curriculum is typically taught over two years and upon completion students earn an IB diploma (IB Global Research Department, 2013). Additionally, students may receive college credit if their subject test scores meet the institution's criteria. Each IB school has its own entrance/eligibility requirements for admission; however, only students enrolled in an IB World School may participate in an IB Program.

Sample research findings

The IB Diploma Program has been thoroughly researched; a Bergeron (2015) found that students who participated in the IB DP enrolled in postsecondary education at a rate of 78% compared to the national average of 69%. Retention rates indicated that 96% of IB DP students remained in college compared to the national rate of 77%. Finally, the 6-year graduation rate for IB DP students was 83% while the national average was 56%. Available data from the Office of Civil Rights (2015) indicated in the 2009 – 2010 school year, 3,295 students served under IDEA were enrolled in the IB DP, findings were not disaggregated for students with disabilities.

Junior Reserve Officer Training Corps (JROTC)

The Junior Reserve Officer Training Corps (JROTC) is a high school program funded by local school districts and the Department of Defense (Pema & Mehay, 2010) that focuses on character education, student achievement, wellness, discipline, and leadership. Students can enter the JROTC program at any point in their high school career and upon graduation, there is no obligation to enlist.

JROTC provides educational opportunities to help cadets develop lifelong skills such as leadership and decision-making. The curriculum aligns with Common Core State Standards and includes courses in leadership, civics, geography and global awareness, health and wellness, language arts, life skills, and U.S. history. Curricular goals are reinforced through service-learning projects and co-curricular activities after school and on weekends. One of the anticipated outcomes for participation in JROTC is success in post-secondary options.

Sample research findings

Pema and Mehay (2009) used data from the High School and Beyond (HSB) and the National Educational Longitudinal Survey (NELS) to gain information on courses completed and academic achievement. Data study indicated JROTC students have lower postsecondary enrollment rates than their equally matched peers who did not participate in JROTC programs.

Next, Pema and Mehay (2010) found program effects were contingent upon length of participation. Students who spent more time in the program experienced better outcomes than those who spent less time in the program. Findings indicated participants, regardless of time of enrollment, improved test scores; however, only students who enrolled early in JROTC had improved graduation rates. Consistent with the Pema and Mehay (2009), postsecondary enrollment was lower for JROTC cadets. While data from both studies were disaggregated by demographic information, they were not disaggregated for students with disabilities.

Project Lead the Way

Project Lead the Way (PLTW) provides innovative Science, Technology, Engineering, and Mathematics (STEM) education in middle and high schools across the country. Professionals from local industries supplement real-world aspects of the curriculum through mentorships and workplace experiences (PLTW, 2014). The curriculum promotes critical thinking and problem solving skills. To be eligible, schools must apply to become a PLTW school (Shannon & Dalat Ward, 2012; Tai, 2012).

Sample research findings

Van Overschelde (2013) evaluated data using matched samples from PLTW schools in Texas. Data indicated PLTW students enrolled in Texas institutes of higher education (IHE) at a higher rate (i.e., $M = 62.1\%$ compared to $M = 58.4\%$ non-PLTW students). Additionally, although enrollment based on gender was significant for non-PLTW students, this effect was not seen in PLTW student enrollment. Data were not disaggregated for students with disabilities.

Talent Search

Part of the US DOE's TRIO programs, Talent Search utilizes a combination of services to help low-income students, ages 11– 27, become first-generation college students. Resources such as tutoring, test taking and study skills assistance, academic advising, career development, college visits, and assistance with financial aid applications are provided to help students improve academic achievement, complete high school, and increase access to financial aid. Inclusion criteria include completing the fifth grade, low-income background, and/or potential first generation college goer.

Sample research findings

Constantine, Seftor, Martin, Silva, and Myers (2006) evaluated the impact of the Talent Search on secondary and postsecondary outcomes in Florida, Indiana, and Texas as measured by first-time financial aid application. Data indicated the enrollment of Talent Search participants in postsecondary education was 14% (Florida), 6% (Indiana), and 18% (Texas) higher than nonparticipants (i.e., the comparison group). Although participant data were disaggregated by

disability status (e.g., learning disabled, emotionally or physically disabled), outcome data were not.

Annual Performance Report data from the US DOE (2013) evaluated reported data from institutions who received project funding. The 2010-2011 cohort achieved a postsecondary education enrollment rate of 80.1%. In the 2011-2012 cohort, 79.8% of students went on to enroll in postsecondary education. More recently, 2012-13 in the school year, 80.6% of participating students enrolled in postsecondary education. Although data were reported on disability status, findings for students with disabilities were not reported.

Tech Prep

Tech Prep, funded by the US DOE, is a planned sequence of study in a technical field beginning as early as the ninth grade. Students take two years of postsecondary occupational education or an apprenticeship program following secondary instruction; culminating with an associate's degree or certificate. Tech Prep offers high school or community college curriculum in professional or technical fields. One goal is to reduce duplication between high school and college so students have a seamless transition between systems. Students have the opportunity to earn college credit for approved high school courses, and may earn credits toward a degree at a community college or four-year college or university (US DOE, 2009). Eligibility criteria for students include (a) being a high school junior or senior, (b) completing an eligible career and technical course at the high school level with a grade A or B and satisfy specific course competencies, and (c) filling out a Tech Prep admissions form from the local community college (US DOE, 2009).

Sample research findings

Brown-Lerner and Brand (2006) compared Tech Prep with non-Tech Prep career and technical education students and general education students. Results indicated Tech Prep students had higher attendance rates, lower dropout rates, and higher graduation rates with more Tech Prep students also completing the college preparatory curriculum. When data were disaggregated by subgroups based upon ethnicity and special population categorization, defined by the researchers as "at-risk, economically disadvantaged, bilingual/ESL, special education, and all other students" these same findings held true (Brown-Lerner & Brand, 2006).

Upward Bound and Upward Bound Math-Science

The purpose of Upward Bound programs, part of the US DOE's TRIO programs, is to engender the necessary skills and motivation for success in postsecondary settings for youth from low-income backgrounds. Upward Bound programs require two-thirds of participants be low-income (150% of the poverty line) and potential first-generation college goers. The remaining participants must be either low-income or first-generation college goers. Students usually enter Upward Bound programs early in their high school career, participate in activities during the school year, and typically attend a six-week academic program during the summer which focuses on projects to acquire prerequisite academic skills necessary to attend and complete college. Projects may include preparation for college entrance examinations, college campus tours, and learning about the financial aid application process.

Sample research findings

Findings from Upward Bound programs have been mixed. First, Pell Institute (2009) found participants in Upward Bound were “50% more likely to attain a bachelor’s degree (21.1% vs. 14.1%), 19% more likely to attain any postsecondary degree or credential (49.3% vs. 41.5%)” (p. 4). Conversely, Mathematica Policy Research (2009) indicated no effect on overall enrollment into postsecondary education for students attending Upward Bound programs (Seftor, Mamun, & Schirm, 2009). Finally, the Institute for Research on Poverty (Harris, Nathan, & Marksteiner, 2014) reported:

It is now clear why the conclusions from the UB experiment about average treatment effects have been so controversial. The original study drew its main conclusions from its pre-specified design even though the implementation of that design apparently yielded biased estimates of the population average treatment effects...It would therefore seem that the conclusions of both the original report and responses by critics are both too strong (p. 38).

None of the studies included disaggregated data based on disability.

Discussion

The purpose of this study was to identify and review nationally available college-ready programs to determine (a) what program evaluation data indicated for students in these programs, and (b) if program evaluation data were disaggregated for students with disabilities, what data indicated for these students. Of the 15 programs identified and reviewed, only 12 demonstrated consistently positive outcomes in preparing students for postsecondary education. Four programs (i.e., High Schools That Work, Junior Reserve Officer Training Corps, Tech Prep, Upward Bound and Upward Bound Math-Science) had mixed effects in preparing students to be college-ready.

Of the 15 college-ready programs, all indicated they served students with disabilities. However, only two programs (i.e., High School/High Tech, Tech Prep) provided disaggregated data for students with disabilities. First, High School/High Tech programs are geared specifically towards preparing students with disabilities for postsecondary education – particularly in STEM fields. Although HS/HT programs serve students with disabilities, data are not consistently disaggregated by disability category. For example, McQuillen et al. (2001) reported a range of 83.3% - 56.5% of participating students attended postsecondary education; however, the disability categories served were not reported. However, data reported by Florida HS/HT (2015) indicate that 8% of enrolled students were identified with autism spectrum disorder, 17% cognitive impairment, 2% deaf/blind, 3% emotional disturbance, 1% hearing impairment, 1% multiple disabilities, 13% other health impairment, 5% orthopedic impairment, 39% specific learning disability, 5% speech or language impairment, 1% traumatic brain injury, and 3% visual impairment/blindness.

For Tech Prep programs, Brown-Lerner and Brand (2006) found students with disabilities had higher attendance rates, lower dropout rates, and high graduation rates when they participated in this program. However, outcome data were not specifically disaggregated by disability type.

Eleven of the 15 programs were at one time, or are currently, federally funded (AP, AVID, Career Academies, Dual Enrollment, GEAR UP, HS/HT, IB, JROTC, Talent Search, Tech Prep, and Upward Bound/Upward Bound Math and Science). Of the 11 programs, only two provided data that were disaggregated by disability. This oversight will soon be remedied since beginning with the 2015-2016 school year, the Office of Civil Rights required data disaggregated by race, sex, disability-IDEA, and limited English proficiency (LEP) and reported on the number of students enrolled in (a) at least one dual enrollment/dual credit program, (b) the IB Diploma Program, (c) at least one AP course, (d) number of students who passed one or more AP exam, and (e) number of students who did not pass any AP exams for one or more AP courses in which they are enrolled. These data will provide administrators and policymakers with information to determine the impact of these college-ready programs on all students participating in these programs.

Of the 15 programs evaluated, the overarching theme was increased college-readiness or increased enrollment in postsecondary educational institutions. Five programs (i.e., Dual Enrollment, Early College High School, High School/High Tech, Institute for Student Achievement, and International Baccalaureate Diploma Program) were associated with increased graduation rates. Both AP and Dual Enrollment indicated students achieved higher grade point averages in postsecondary education as a result of the program.

Limitations and Suggestions for Future Research

One limitation of this study was the inclusion of strictly nationally available programs or programs that had more than one published report available in either a peer reviewed journal or government sponsored document. While these criteria excluded some programs available only in specific geographical locations, these could be included in future reviews of college-ready programs. Doing so might encourage more widespread adoption of programs with positive outcome data for all students, including students with disabilities.

Second, by focusing on national programs that explicitly stated a goal of preparing students to be college-ready, the present study may have limited the number of programs identified. Future studies are needed to look at programs that claim to prepare students to be college “and career” – ready, since not all students choose college as the next step after high school. Future researchers might consider starting with the College and Career Readiness and Success Center’s Interactive Site Map (<http://www.ccrscenter.org/ccrs-landscape/state-profile>) which includes each state’s definition of college and career ready, metrics, and programs and structures.

Finally, while most programs did disaggregate data based on gender and ethnicity, future research on college-ready programs must disaggregate data for students with disabilities to determine the impact the program has on all students. Researchers should examine specific characteristics of programs to determine the most effective strategies for students with disabilities. Longitudinal studies would add to the evaluation of the long-term outcomes of these programs to determine if the strategies and skills taught generalize into postsecondary educational settings.

Implications for Practice

Data reported in this study indicate college-ready programs can successfully prepare high school students to graduate ready to succeed in postsecondary education. However, little is known about the impact of these programs on students with disabilities since only two disaggregated data for students with disabilities. As a result, high schools and school systems must be responsible for collecting, analyzing, and reporting these data for college-ready programs located in their schools. Without data disaggregated for all students, administrators cannot be certain programs are preparing all students to be college-ready.

Next, by looking across the major characteristics of programs reviewed, it appears successful college-ready programs implement a number of strategies. These strategies include the ability to earn college credit while in high school, smaller class sizes, a focus on academic content, teacher academic support skills (e.g., note-taking, test-taking, critical thinking), and involving families, and community/business partnerships (e.g., mentorships, internships). These strategies can be incorporated into any existing middle school or high school program.

Conclusion

It is imperative all students have access to college-ready programs so they are prepared to participate in postsecondary education. Data indicate most nationally-available college-ready programs do successfully prepare high school students to graduate ready for postsecondary education. However, little is known if these outcomes extend to students with disabilities since only two programs disaggregated data for students with disabilities. It is now time to evaluate these possibilities for students with disabilities.

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