

Bulletin

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College Readiness Indicators

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Insufficient numbers of students are demonstrating that they are ready for postsecondary education. For example, in 2012 ACT found that only 25% of assessed students met all four of the exam's college readiness benchmark scores; 28% met none.¹ Additionally, a substantial number of students require some developmental education before they can enter credit-bearing college courses.² Unfortunately, reports of this nature are not uncommon.

We need to address this problem in our education system to best prepare students for not only postsecondary education but also the demands of the 21st century global economy. Education initiatives, such as the creation of the rigorous Common Core State Standards (CCSS has already been adopted by 45 states; Washington, D.C.; and four territories) and Race to the Top funding opportunities, have put a spotlight on college readiness.

To increase the college readiness of students, however, we need to be aware of the actions and achievements of students that predict eventual success. The purpose of this bulletin is to outline current student-level indicators at the high school and middle school levels that predict college success. In this bulletin, indicators are divided into three categories: assessment scores (e.g., SAT® exam scores), transcript attributes (e.g., course rigor), and additional indicators (e.g., attendance) that impact achievement. Knowledge of these indicators can be helpful to administrators, educators, and students working to determine whether students are progressing toward succeeding in their postsecondary aspirations.

¹ ACT, 2012

² Bettinger & Long, 2005

Postsecondary Success

The simplest way of observing success in college is degree completion, but it is challenging to empirically link middle school and high school indicators to an outcome so far in the future. As a result, researchers have identified earlier college actions and accomplishments that predict degree completion. They include enrolling in postsecondary education immediately after completing high school, obtaining a strong first-year grade point average (FYGPA) and cumulative GPA, earning passing course grades, placing directly into credit-bearing courses (rather than remedial classes), transferring from a two-year institution to a four-year institution, accumulating credits, and staying continuously enrolled in college.³

Assessment Score Readiness Indicators

The College Board and ACT have the most prominent assessments used in the field. Each organization has published college ready benchmark scores and validation studies to demonstrate the relationship between test performance and college success outcomes; these factors have put the scores on college admission tests among the most standardized ways of measuring the college readiness of students at the present time.

The SAT and ACT® have received much attention as assessments of college readiness. Most colleges and universities ask applicants to submit scores from one of these two exams during the admission process, as these tests are specifically designed to assess the skills and knowledge needed for students to be successful in postsecondary education.

Meeting the College Board's benchmark score on the SAT has been linked to four-year college enrollment, higher FYGPAs, and stronger

³ Adelman, 1999, 2006; Allen, Robbins, Casillas, & Oh, 2008; Bettinger & Long, 2005; Carey, 2004; Green & Radwin, 2012; Horn, Cataldi, & Sikora, 2005; Pascarella & Terenzini, 2005; Radunzel & Noble, 2012b; Russell, 2008

retention rates.⁴ Students meeting ACT's college ready benchmarks on each section of the ACT are more likely to earn grades of B or higher in their first-year courses, achieve a FYGPA of 3.0 or higher, continue into their second year, and complete their degree than students who do not meet those college ready benchmarks.⁵

Given the widespread use and weight attached to the SAT and ACT exams, the College Board and ACT organizations have also created exams that are typically administered to students in late middle school and early high school. Student performance on these exams can be linked with probable future scores on college admission tests.

The College Board's College and Career Readiness Pathway includes the SAT, PSAT/NMSQT®, and ReadStep™ exams, administered in grades 12-11, 11-10, and 9-8, respectively. All three exams assess writing, reading, and math skills. Students who meet college readiness benchmark scores on ReadStep have a 50% chance of meeting the 10th grade benchmark on the PSAT/NMSQT,⁶ and students who meet benchmark scores on the PSAT/NMSQT have a 65% chance of being college ready.⁷

ACT's College and Career Readiness System also contains three main exams: ACT (for 11th–12th grade students), PLAN® (for 10th grade students) and EXPLORE® (for 8th–9th grade students). All of the exams measure student proficiency in English, math, reading, and science. ACT's assessment benchmark scores for PLAN and EXPLORE are both linked to a 50% probability of eventually meeting the ACT college readiness benchmarks.⁸

Advanced Placement (AP®) exams, offered by the College Board and often paired with advanced high school courses, are a way for students to demonstrate college readiness through mastery of college-level content. AP exam scores of 3 or higher (out of 5) have

been linked to higher grades in related college courses, FYGPAs, second-year retention rates, cumulative GPAs, and graduation rates.⁹

Overall, students who demonstrate that they are mastering content in the earlier grades tend to keep progressing; it is often challenging for students who are behind as early as eighth grade to begin progressing toward college readiness.¹⁰

To increase the college readiness of students, however, we need to be aware of the actions and achievements of students that predict eventual success.

Transcript Indicators

While assessment scores are one important predictor of college readiness, researchers have also evaluated components of student transcripts to gain a more in-depth view of student performance in relation to postsecondary outcomes. Overall, students who complete a core curriculum, mathematics courses beyond Algebra II, and rigorous courses (e.g., AP, honors, dual enrollment) tend to be more successful in college than students who do not.

Completing a core curriculum (typically defined as at least four years of English, three years of mathematics, three years of science, and three years of social studies) has been associated with higher scores on college readiness assessments, higher course grades and FYGPAs, and higher college graduation rates.¹¹

Passing mathematics courses beyond Algebra II has been associated with achieving benchmark scores on college admission assessments, enrolling immediately in college, enrolling in a four-year college, earning higher course grades in mathematics and science entry-level college classes, earning higher FYGPAs, continuing into the second year of

⁴ College Board, 2012a; Kobrin, 2007; Wyatt, Kobrin, Wiley, Camara, & Proestler, 2011

⁵ ACT, 2010a; Radunzel & Noble, 2012a

⁶ College Board, 2012b

⁷ <http://professionals.collegeboard.com/profdownload/PSAT-College-Readiness-Benchmark.pdf>

⁸ ACT, 2010b

⁹ Hargrove, Godin, & Dodd, 2008; Mattern, Shaw, & Xiong, 2009; Morgan & Klaric, 2007; Patterson, Packman, & Kobrin, 2011; Sadler & Tai, 2007a

¹⁰ ACT, 2008, 2012

¹¹ ACT, 2005, 2010a, 2012; College Board, 2012a; Radunzel & Noble, 2012a; Wyatt et al., 2011

studies, and graduating from a postsecondary institution.¹²

Similarly, one of the strongest indicators of college readiness is a student's high school grade point average (HSGPA). Strong HSGPAs have been connected to other high school achievements, such as AP exam scores, SAT scores, and ACT scores,¹³ and associated with many postsecondary outcomes, including FYGPA, credits earned, retention, second-year grades, cumulative college GPA, and eventual graduation.¹⁴

Many of these indicators are relevant at the middle school level as well. Students taking rigorous courses in middle school and early high school, especially in mathematics, are more likely to graduate from high school and achieve higher scores on EXPLORE, ReadStep, PLAN, and the PSAT/NMSQT than students who do not.¹⁵ Middle school GPA is also predictive of high school outcomes, including early high school GPA, cumulative HSGPA, and high school graduation.¹⁶ On the other hand, failing classes in middle school and early high school is an indicator that a student is in trouble, as failing has been associated with lower high school graduation rates.¹⁷

Additional Indicators

The academic preparedness of students is crucial to their eventual success in college, but it is important to recognize that additional skills and behaviors also contribute to this goal. These skills and behaviors can often be recognized early, and indicators include

¹² ACT, 2005, 2010a; Adelman, 1999, 2006; Berry, 2003; Horn et al., 2005; Long, Iatarola, & Conger, 2009; Radunzel & Noble, 2012a; Sadler & Tai, 2007b, 2007c; Wyatt, Wiley, Camara, & Proestler, 2012

¹³ Ewing, Camara, & Millsap, 2006; Noble, Roberts, & Sawyer, 2006; Wyatt et al., 2011

¹⁴ Allen et al., 2008; Belfield & Crosta, 2012; Geiser & Santelices, 2004, 2007; Noble & Sawyer, 2002; Radunzel & Noble, 2012b

¹⁵ Kurlaender, Reardon, & Jackson, 2008; Milewski & Sawtell, 2006; Sawyer, 2008; Silver, Saunders, & Zarate, 2008

¹⁶ Allensworth & Easton, 2007; Casillas, Allen, Kuo, Pappas, Hanson, & Robbins, 2011; Casillas, Robbins, Allen, Kuo, Hanson, & Schmisser, 2012; Kurlaender et al., 2008

¹⁷ Allensworth & Easton, 2005, 2007; Balfanz, 2009; Balfanz, Herzog, & Mac Iver, 2007; Silver et al., 2008; Kurlaender et al., 2008

attendance, academic motivation, academic discipline, school conduct, and contextual knowledge.

Simply put, students need to be in class to be college ready because low attendance in late middle school and early high school is linked to lower graduation rates.¹⁸ Students must also be focused on learning once they get to school. Students who are motivated to learn (often based on previous positive academic experiences) may demonstrate an increase in their test scores, course enrollment, GPAs, and academic discipline.¹⁹

Academic discipline includes the planning, effort, and organization with which students do their work, and it has been associated with eighth grade course completion, ninth grade GPA, and HSGPA.²⁰ Concerns about disciplinary conduct in middle school are associated with decreased eighth grade course completion, ninth grade GPA, and high school graduation rates.²¹

To adequately prepare for and apply to college, students also need to have contextual knowledge; insufficient guidance about courses to take and financial aid, for example, could derail even the most dedicated students.²²

Conclusion

The current indicators described in this bulletin vary in terms of their form (e.g., test, transcript analysis), the postsecondary success outcome they predict, the extent to which they are quantifiable in nature, and the types of factors included. There is no one best indicator of college readiness, though some measures are more widely used than others, and using multiple indicators may yield a more complete picture of student progress.

Ways to predict postsecondary success and evaluate college readiness continue to evolve as education reform initiatives push for more

¹⁸ Allensworth & Easton, 2007; Balfanz, 2009; Balfanz et al., 2007; Roderick & Camburn, 1999; Silver et al., 2008

¹⁹ Dalton, 2010a, Eccles, 2008

²⁰ ACT, 2008; Allensworth & Easton, 2007; Casillas et al., 2011; Casillas et al., 2012

²¹ ACT, 2008; Balfanz, 2009; Balfanz et al., 2007; Dalton, 2010b

²² ACT, 2010a; Conley, 2007

students to be college ready. The development of earlier and additional indicators is a priority for education organizations because additional

time and areas identified for improvement could allow teachers and schools to better impact the academic trajectory of students.

Table 1: Indicators of College Readiness and Success

Postsecondary Indicators	Late High School Indicators	Earlier Indicators
Graduation	SAT and ACT scores	EXPLORE, PLAN, ReadStep, and PSAT/NMSQT scores
Cumulative GPA	AP exam scores	
Immediate and continuous enrollment	Core curriculum	Course rigor
Transfer from a two-year to a four-year institution	Course rigor	Course grades/GPA
Credits earned	Course grades/GPA	Attendance
FYGPA	Behavior	Behavior
Grades in entry-level, credit-bearing courses	Motivation	Motivation
Course placement	Contextual knowledge	

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