



# The Forgotten Middle:

## Ensuring that All Students Are on Target for College and Career Readiness before High School

### Executive Summary

Today, college readiness also means career readiness. While not every high school graduate plans to attend college, the majority of the fastest-growing jobs that require a high school diploma, pay a salary above the poverty line for a family of four, and provide opportunities for career advancement require knowledge and skills comparable to those expected of the first-year college student.

ACT data show that **fewer than two in ten eighth graders are on target to be ready for college-level work by the time they graduate from high school.** This means that more than eight of ten eighth-grade students do not have the knowledge and skills they need to enter high school and succeed there. And not surprisingly, our research shows that students who are not prepared for high school are less likely than other students to be prepared for college and career by the time they graduate from high school. So although the gates of high school are technically open to all students, for more than 80 percent of them, the door to their futures may already be closed.

In recent years, there has been heightened awareness of the importance of early childhood education and high school as intervention points in the educational lives of America's children. Less attention, it seems, has been paid to the importance of the upper elementary grades and middle school and the role they must play in the preparation of students for life after high school. The results of *The Forgotten Middle* suggest that, in the current educational environment, there is a critical defining point for students in the college and career readiness process—one so important that, if students are not on target for college and career readiness by the time they reach this point, the impact may be nearly irreversible.

Moreover, this research shows that, under current conditions, **the level of academic achievement that students attain by eighth grade has a larger impact on their college and career readiness by the time they graduate from high school than anything that happens academically in high school.** This report also reveals that students' academic readiness for college and career can be improved when students develop behaviors in the upper elementary grades and in middle school that are known to contribute to successful academic performance.

The implication is clear: if we want not merely to improve but to maximize the college and career readiness of U.S. students, we need to intervene not only during high school but *before* high school, in the upper elementary grades and in middle school.

## The Research Study

This study had four purposes. First, we wanted to examine in greater depth the factors that influence college and career readiness. In doing so, we wanted to identify those factors that are the most effective predictors of college and career readiness from middle school to high school. Second, we wanted to examine the effect that certain steps to improve students' level of academic preparation would have on their degree of readiness for college and career. Third, we wanted to examine the academic growth of these students during high school. Fourth, we wanted to examine the influence on their readiness of student behaviors related to academic performance. Our findings are summarized below.

### **Eighth-Grade Academic Achievement Is the Best Predictor of College and Career Readiness by High School Graduation**

We constructed predictive models to examine the relative strengths of six factors in influencing students' college readiness, as defined by their performance on the ACT® test:

- **Background characteristics**—gender, race/ethnicity, parent educational level, annual family income, primary language spoken at home
- **Eighth-grade achievement**—ACT EXPLORE® test scores in relevant subject areas
- **Standard coursework**—highest level of non-advanced, non-honors courses taken in relevant subject areas
- **Advanced/honors coursework**—accelerated, honors, or Advanced Placement courses in relevant subject areas
- **High school grade point average**—self-reported grade average for courses taken in relevant subject areas
- **Student testing behaviors**—whether students retook the ACT, whether students provided updated coursework and grade information if retesting, age and grade level at time of testing. Because student testing behaviors are the result of student decisions about whether, when, and how often to take the ACT, these behaviors reflect traits such as motivation and students' self-perceptions about their academic abilities.

The predictive models showed that eighth-grade achievement (as measured by the four EXPLORE scores in English, Mathematics, Reading, and Science) displays a stronger relationship with college and career readiness than does any other factor.

This means that eighth-grade achievement is the best predictor of students' ultimate level of college and career readiness by high school graduation—even more than students' family background, high school coursework, or high school grade point average. Compared to eighth-grade academic achievement, the predictive power of each of the other factors we examined was small, and in some cases negligible.

### **Improvement in Eighth-Grade Academic Achievement and Being on Target for College and Career Readiness in Eighth Grade Are More Beneficial Than Any High School-Level Academic Enhancement**

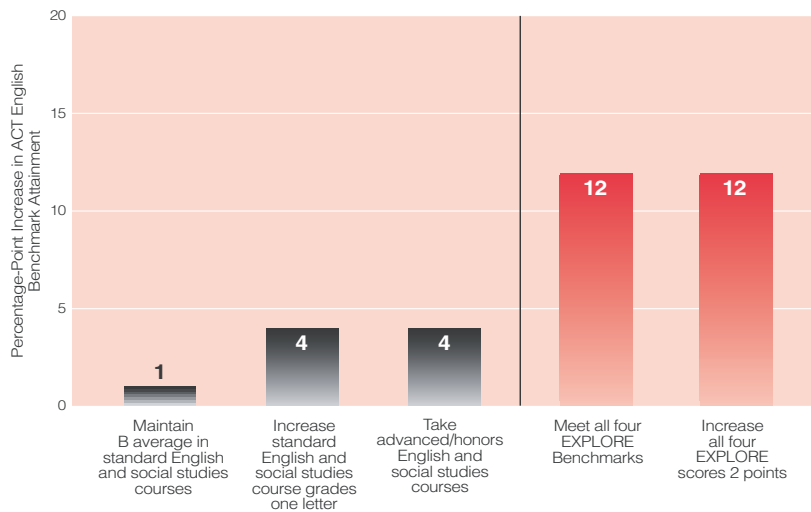
We examined the impact of a variety of steps students could take to improve their college readiness during high school, including:

- **Maintaining a B average** in relevant standard high school courses

- **Earning higher grades** in relevant standard high school courses
- **Taking a core curriculum** in relevant subject areas in high school (for Mathematics and Science only)<sup>1</sup>
- **Taking additional standard courses** in relevant subject areas in high school (for Mathematics and Science only)
- **Taking advanced or honors courses** in relevant subject areas (if not already taken)
- **Meeting EXPLORE College Readiness Benchmarks<sup>2</sup>** in all four subject areas
- **Increasing EXPLORE scores 2 points** in each subject area

The figures below and on the following page show the additional percentages of students who would meet the ACT College Readiness Benchmarks<sup>3</sup> in each subject area if the students took each of the seven steps independently of the others. As the figures show, being on target for college and career readiness in the eighth grade and improving the college and career readiness skills that students possess by grade 8 have the most dramatic impact on high school graduates' ultimate level of college and career readiness. This impact is much larger than that associated with any single high school-level enhancement. These results, however, should not be interpreted to mean that high school-level enhancements have little or no benefit for students. Rather, of the factors studied, modest increases in students' level of academic achievement by the eighth grade and being on target for college and career readiness in the eighth grade had the greatest relative impact on college and career readiness in grade 11 or 12.

*Increases in ACT College Readiness Benchmark Attainment Associated with Various Academic Interventions*

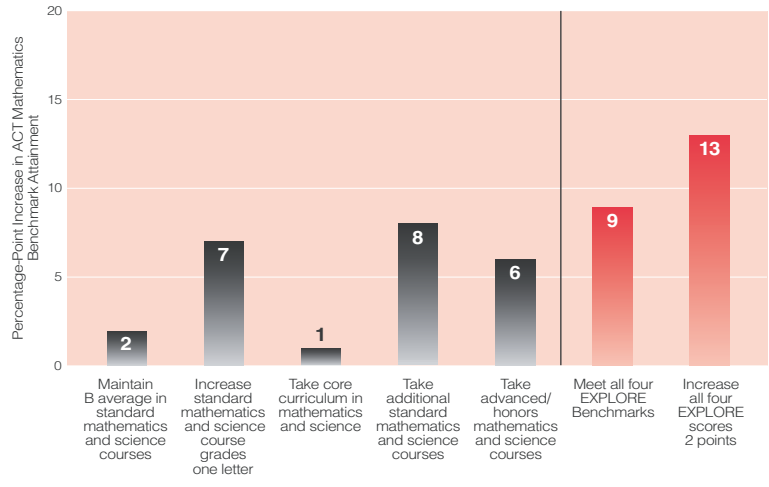


*English*

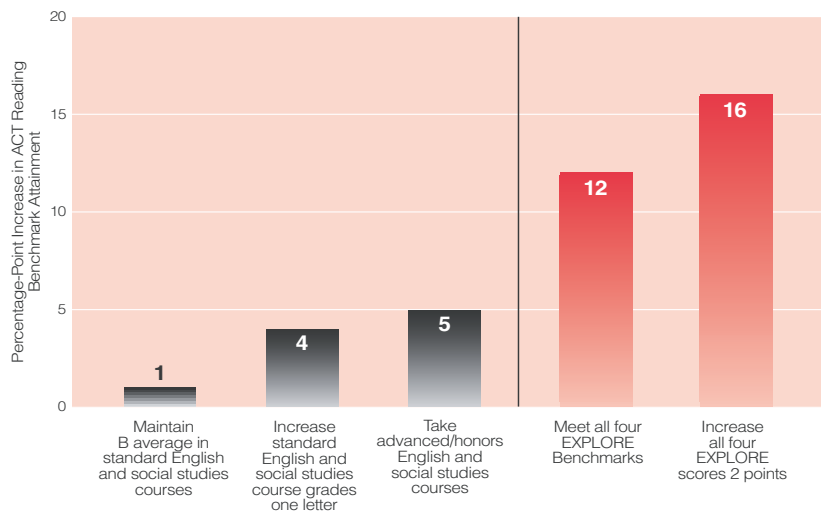
<sup>1</sup> The core curriculum in mathematics was defined as Algebra I, Geometry, and Algebra II; in science, the core curriculum was defined as Biology and Chemistry. For English and Reading, there was not enough variation in students' coursework patterns to permit meaningful enhancements with regard to taking either the core curriculum or additional standard courses (see next bullet). This is likely because high schools typically require all students to take the same English courses and many of the same social studies courses.

<sup>2</sup> ACT has developed College Readiness Benchmark scores on EXPLORE to identify students who are on target to be ready for college-level coursework in English, mathematics, science, and social science by the time they graduate from high school.

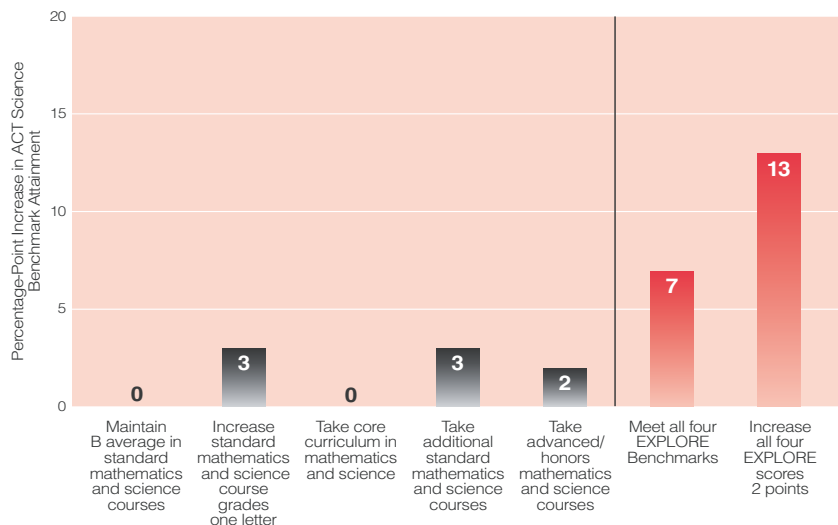
<sup>3</sup> The College Readiness Benchmark scores on the ACT identify students who are ready for college-level coursework.



*Mathematics*



*Reading*



*Science*

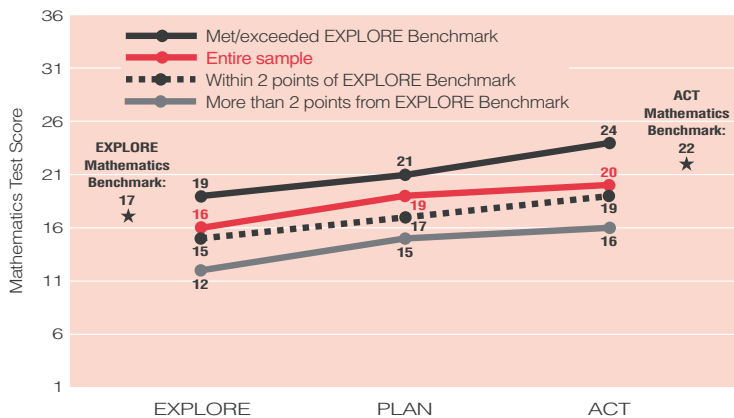
The increases in Benchmark attainment associated with higher EXPLORE scores and meeting all four EXPLORE College Readiness Benchmarks were up to three times the size of the largest increase associated with any single high school–level academic enhancement.

### Being on Target for College and Career Readiness in Eighth Grade Puts Students on a Trajectory for Success

Because the data for the sample used in this study ranged from the eighth to the twelfth grade for the same group of students, we were able to examine the rate of growth in students’ achievement through high school. We examined growth among three categories of students in our sample: those who were on target for college and career readiness in the eighth grade, those who just missed being on target for college and career readiness (i.e., by two or fewer score points), and those who were more substantially off target (i.e., by more than two score points).

**On average, only the group of students who were on target for college and career readiness by the eighth grade were ultimately ready for college and career by the eleventh or twelfth grade.** Even the group of students who just missed being on target in eighth grade fell short, on average, of becoming ready for college and career by the time they reached grade 11 or 12. This was true in each of the four subject areas (the results for Mathematics appear in the figure below).

*Average Scores for 2005 Sample (All Students)*



*Mathematics*

Once again, if students are on target to be ready for college and career in the eighth grade, their chances of being ready for college and career by high school graduation are substantially increased.

### Improving Certain Behaviors of Middle School Students—Particularly Academic Discipline—Can Help Improve Students’ Readiness for College and Career

Academic achievement is only part of what students need in order to be ready for college and career. Student readiness is also influenced by their psychosocial (that is, psychological and social) development, so we examined the role that academically related behaviors play in predicting two important indicators of students’ future academic success: course failure in grade 8 and high school grade point average in grade 9.

Failing a course is a strong predictor of dropping out of high school, and our findings suggest that two academic behaviors we studied had a substantial impact on whether a course was failed in grade 8: academic discipline (i.e., good work and study habits, such as consistently completing homework) and orderly conduct.

We also examined how academic behaviors affect grade point average in ninth grade because grade point average not only predicts future academic performance but also can be used to identify students who are at high risk of experiencing academic difficulty. We found that three academic behaviors had an impact: academic discipline, orderly conduct, and having positive relationships with school personnel.

Middle school students who demonstrate those behaviors that enhance academic achievement are more likely to perform well academically in high school and be ready for college and career by the end of high school, than middle school students who do not demonstrate these behaviors. By considering these behaviors along with academic achievement, educators can more accurately identify students who are in greatest need of interventions to prevent them from failing courses and dropping out of school, thus increasing the likelihood that these students will graduate from high school ready for college and career.

## **Recommendations for Improving College and Career Readiness**

Requiring high school students to take and pass more challenging courses and to earn higher grades, and working with teachers and administrators to improve the rigor of high school curricula, are important strategies for achieving the broad goal of improving the college and career readiness of our high school graduates. But the results of the research presented in *The Forgotten Middle* suggest that we cannot expect such activities in and of themselves to change the picture of college and career readiness among our students until more of them are ready to learn the content of rigorous high school courses. In the current educational environment, the majority of students in the eighth grade will likely not benefit enough from high school–level enhancements to be prepared for college and career by the time they graduate from high school, so we must focus on getting more students on target for college and career readiness by the end of eighth grade so that they are prepared to maximize the benefits of high school.

Ultimately, we must reduce the number of students who are seriously underprepared by the end of middle school, which will require interventions well before grade 8. Furthermore, if we can improve students' academic skills before grade 8, then the other, high school–level enhancements will be far more effective. **Making sure that all eighth-grade students have attained the knowledge and skills that put them on target to becoming ready for college and career is the single most important step that can be taken to improve their college and career readiness.**

Given the results of this study about the relationship among high school academic readiness, high school academic success, and college academic readiness, we offer the following recommendations to improve academic achievement and college and career readiness among our nation's high school graduates:

- 1. Focus K–8 standards on the knowledge and skills that are essential for college and career readiness, and make these nonnegotiable for all students.**

A key focus for the upper elementary grades and middle school should be to prepare students for the high school curriculum by focusing on the attainment of foundational skills in English composition, mathematics, reading, and science—the *essential* skills for college and career readiness by the end of high school.

Given the crucial importance of pre–high school academic achievement level on students’ eventual level of college and career readiness, it is no longer acceptable for only some students to possess these skills. Mastery of these foundational skills must therefore become a nonnegotiable prerequisite for entry into high school. *The Forgotten Middle* identifies the essential knowledge and skills in English, mathematics, reading, and science that students need by the end of eighth grade if they are to be on target for college and career readiness.

- 2. Monitor student progress in becoming ready for college and career, and intervene with students who are not on track to becoming ready, beginning in upper elementary school and continuing through middle school.** If students are to have a fighting chance of being ready for college-level coursework by the time they graduate from high school, their progress must be monitored so that deficiencies in their foundational skills can be identified early—in the upper elementary grades and at the start of middle school—and interventions can be made. While intervention is not the sole solution to the college and career readiness problem, it is a key element in guaranteeing that these students will have the skills they need to graduate from high school ready to succeed in college.
- 3. Improve students’ academic behaviors.** Counterproductive student behaviors that lead to putting off academic work can become habitual. Unfortunately, many students will not realize the consequences until much later, when they drop out of high school, drop out of college, or find themselves stuck in an unrewarding and low-paying career as adults. The earlier a student develops important academically related psychosocial behaviors (such as academic discipline) that contribute to college and career readiness, the more likely those behaviors are to become habitual. And these are also the same behaviors that are conducive to career success. Educators need to monitor, diagnose, and improve students’ academic discipline during the upper elementary and middle school years.
- 4. Increase federal and state support for schools to implement intervention programs that help all students become ready for college and career.** Policymakers should increase support for schools to implement interventions designed to bring students with academic deficiencies back on target for college and career readiness. This support should focus on both increasing academic preparation and improving academic behaviors that research shows support student success.

## Conclusion

Eighth-grade students who are not on target for college and career readiness face severe academic obstacles in high school and are substantially more likely to be unprepared for college and career when they graduate than students who are on target to become ready for college and career in the eighth grade.

At a time when fewer than two in ten eighth graders are on target to be ready for college-level coursework by the time they graduate from high school, it is crucial that we intervene with the students in the Forgotten Middle—the upper elementary grades and middle school—to ensure that they enter high school ready to benefit from high school coursework.

**The transition from middle school to high school should become just as important as the transition from high school to postsecondary education.**

Obstacles to college and career readiness must be met head on. We *can* take the steps necessary to ensure that every student learns the essential skills necessary to handle the rigorous high school coursework that prepares them for college and career. Let’s make these skills nonnegotiable minimum standards for all K–8 students. They deserve it.



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