

Benefits of PreACT: What Does the Evidence Say?

Jeff Allen, PhD

This brief summarizes five benefits of schools providing the PreACT® to all their students. The PreACT 8/9¹ and PreACT assessments are designed to provide students with an indication of their educational progress in the context of preparing for the ACT® and exploring postsecondary educational and career options. The PreACT assessments include four multiple-choice tests: English, math, reading, and science.

The five benefits of adopting the PreACT discussed below include:

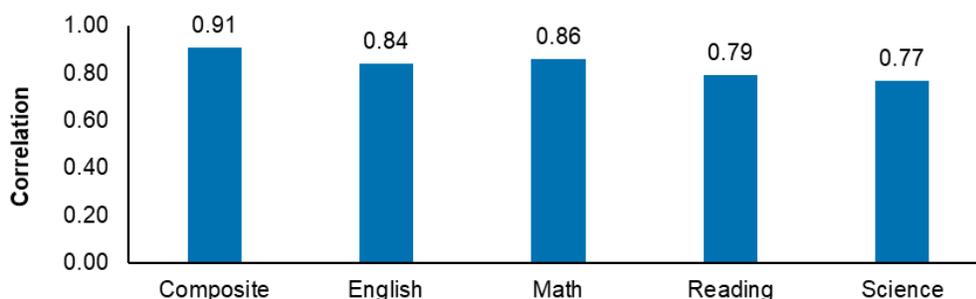
1. By accurately predicting ACT scores, the PreACT can help facilitate early college planning and preparedness
2. PreACT ensures equitable access to practice for the ACT test
3. Schools that adopt the PreACT see improved student readiness for college and careers
4. PreACT scores identify students who are ready to succeed in advanced high school courses—including AP
5. PreACT scores provide a baseline for measuring growth and to determine the impact of improvement efforts

#1: PreACT Scores are Accurate Predictors of ACT Test Scores

PreACT scores are strong predictors of ACT scores. This is not surprising given that the PreACT measures the same knowledge and skills as the ACT, but at a level appropriate for students in grades 8–9 (PreACT 8/9) and grade 10 (PreACT). Figure 1 shows the correlations of PreACT and ACT scores for students who took the PreACT one year before taking the ACT in 11th grade.² The correlations confirm that PreACT scores accurately predict ACT scores—especially for the Composite score.

PreACT scores forecast ACT scores while there's plenty of time left in high school for students to grow. By providing accurate predictions via the “Your Predicted ACT Score Ranges” section of the score report, the PreACT can help facilitate high school course planning, provide motivation for other growth opportunities, identify areas for targeted intervention, and give students an early start to exploring college majors and careers.

Figure 1. PreACT Scores are Strong Predictors of ACT Scores



Note: correlations of 1.00 implies perfect prediction.



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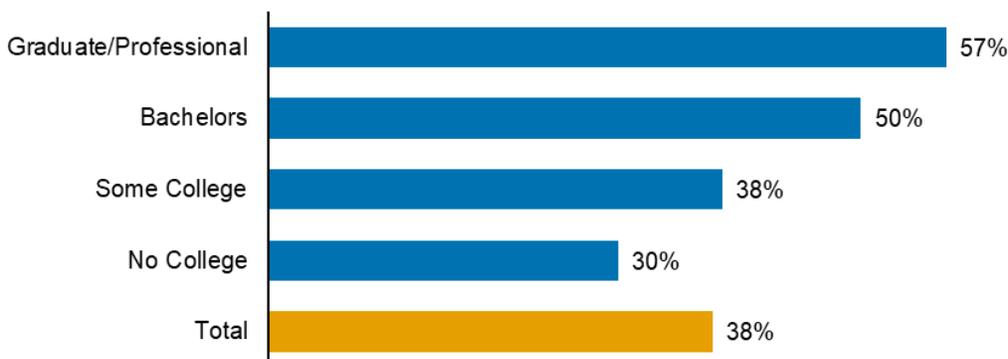
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#2: PreACT Ensures Equitable Access to Practice for the ACT Test

When schools adopt the PreACT, all students have the chance to become familiar with the test format and mental tasks demanded by the ACT test. Without the PreACT, practice for college entrance exams is left to student's volition, which can result in differences across socio-demographic groups in practice and preparation. For example, the percentage of students who take the ACT test more than once varies by parent education level (Figure 2).³ When the PreACT test is adopted, all students can benefit from an ACT practice experience.

Figure 2. ACT Retesting Rates Vary by Student Subgroup

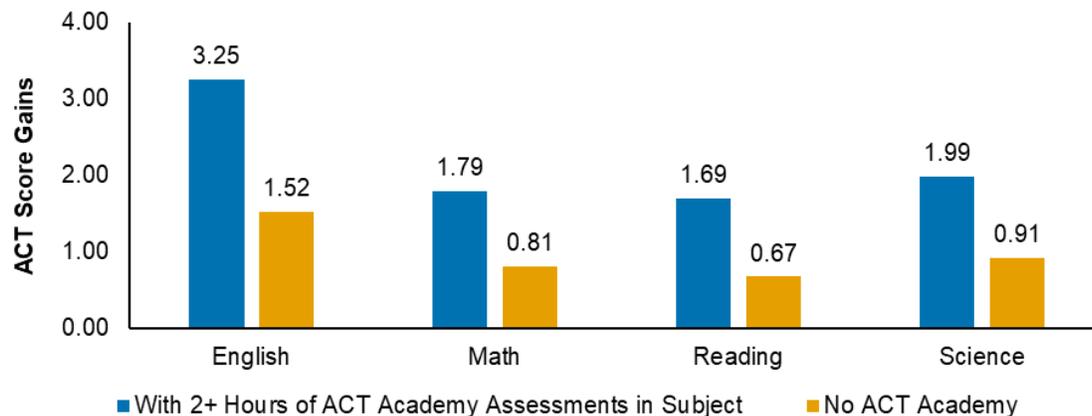


The PreACT test also introduces students to other opportunities to skill up for the ACT test and other challenges that lie ahead. Students can use free online resources, such as ACT Academy™, to strengthen academic skills needed for college and career readiness. ACT Academy provides individualized learning plans to help students improve their skills in the same four subject areas (English, math, reading, and science) covered by the PreACT and ACT.

A recent study examined score gains for students who used ACT Academy, compared to a similar group of students who did not use ACT Academy.⁴ The study examined students who took either PreACT or the ACT test, followed by another ACT test. In between tests, some students used ACT Academy, while others did not.

The study found that students who used ACT Academy assessments (quizzes and practice tests) for at least two hours in a subject area had score gains more than double those of similar students who did not use ACT Academy (Figure 3).⁵ The study's results suggest that readiness for college and careers can be improved if students use ACT Academy's learning and assessment resources. PreACT plays a key role, as students can enter their PreACT scores to set their individualized learning plan.

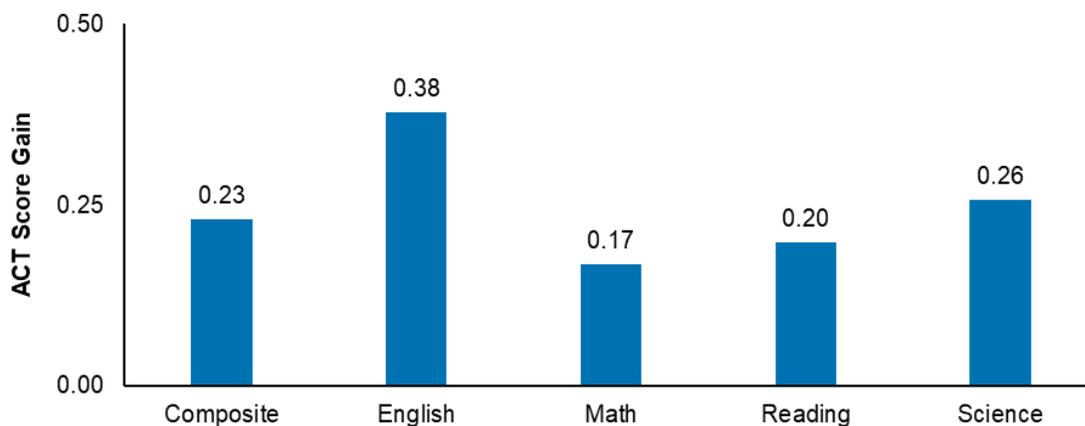
Figure 3. Score Gains More than Doubled for Students who Used ACT Academy Assessments



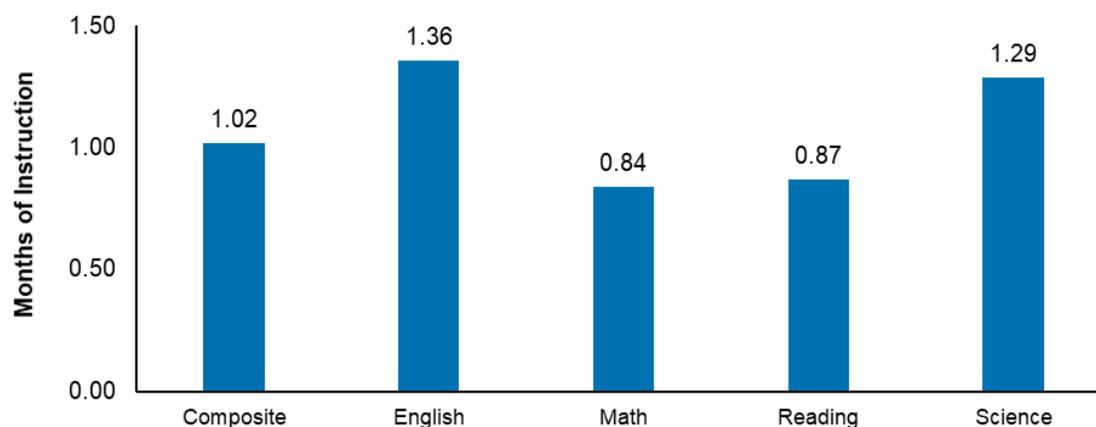
#3: Adopting the PreACT can Improve Readiness for College and Careers

A study conducted in 2018 found that schoolwide adoption of the PreACT led to an increase in ACT Composite score of 0.23 score points.⁶ Figure 4a shows the increase in average ACT scores for schools that adopted PreACT. The positive effect of PreACT adoption could be due to the feedback students receive from taking the PreACT, practice test effects, changes in instruction or school programming, or improvements in ACT test preparation.

Figure 4a. Adopting the PreACT Led to Increases in ACT Scores



The results can also be interpreted as the number of months typically needed to obtain the same ACT score gain as seen in Figure 4a. For example, the PreACT effect on Composite score (0.23, Figure 4a) is comparable to 1.02 months of instruction (Figure 4b). Overall, these results suggest a relatively small effect of PreACT adoption on ACT test scores.

Figure 4b. The Effect of Adopting the PreACT is Comparable to One Month of Instruction

The study also found that schools that adopted the PreACT saw improvements in college exploration and navigation behaviors. Students had greater fit between their planned college major and their vocational interests. Further, students who participated in the PreACT Educational Opportunity Service (EOS) were more likely to send their ACT scores to at least four colleges and at least one out-of-state college.

#4: PreACT Scores Identify Students who are Ready to Succeed in Advanced High School Courses—including AP

A recent study examined what PreACT scores are needed to have a good chance of success on AP exams. AP exams are scored on a scale of 1 to 5. Because many colleges grant credit or waive course requirements for scores of 3 and above, these scores were used as the success criterion. The study found that PreACT test scores are strong predictors of success on AP exams, indicating that PreACT can be used to identify students ready to succeed in AP courses.

Table 1 shows PreACT AP-ready scores for students who take PreACT during the fall of the academic year preceding the academic year of the AP course (e.g., fall 10th-grade PreACT, 11th-grade AP course), and for students who take PreACT during the spring of the preceding academic year (e.g., spring 10th-grade PreACT, 11th-grade AP course). For some AP courses, the PreACT English + Reading score, which has a score range of 2-70, is used to predict success. Table 1 only shows the results for eight AP courses; results for additional courses are available in an ACT research report documenting the study.⁷

Table 1. PreACT Scores Indicating Students are AP-Ready

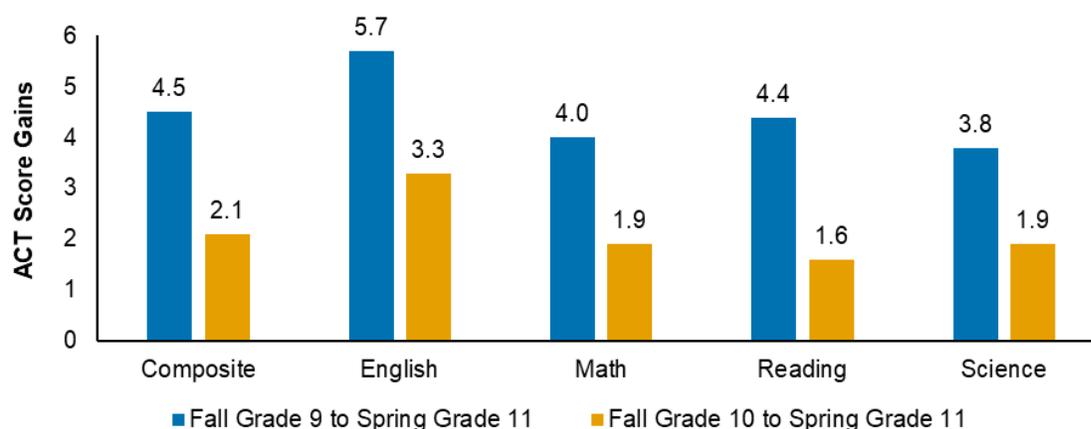
PreACT Score	Correlation	AP Course	AP-Ready Score	
			Fall	Spring
English + Reading	0.71	English Language & Composition	42	45
	0.73	English Literature & Composition	49	51
	0.65	Psychology	39	42
	0.61	US History	44	47
STEM	0.61	Calculus AB	25	25
	0.72	Statistics	23	24
	0.73	Biology	22	23
	0.66	Chemistry	24	25

#5: PreACT Scores Provide a Baseline for Measuring Growth and Improvement

How do you know if improvement efforts are having a positive impact on college and career readiness? Adopting PreACT 8/9 and PreACT allows a state, district, or school to set a baseline for student growth and then examine whether improvement efforts are working.

Because PreACT 8/9, PreACT, and the ACT test are aligned to the same score scale, gain scores can be used to monitor progress. Figure 5 shows the average score gain from PreACT to the spring 11th-grade ACT test.⁸ Two sets of average gains are presented—one for students who took PreACT in fall of 9th grade and another for students who took PreACT in fall 10th grade. Because there is more time between tests for students to grow academically, the gains are larger for the 9th-grade group. The differences may also be due, in part, to differences in the schools that tested in grades 9 and 10.

Figure 5. The PreACT Provides a Baseline for Students to Help Measure Growth



In addition to gain scores, Student Growth Percentiles (SGPs) are available for measuring growth from the PreACT to the ACT.⁹ SGPs are the percentile rank of a student's current score (e.g., ACT score), among all students with the same prior score (e.g., PreACT score). SGPs are preferred over gain scores for some uses—such as examining growth differences across schools and educational programs.

Notes

1. PreACT 8/9 was introduced in fall 2019 as an earlier version of the PreACT test that is more appropriate for students in grades 8 and 9. While the evidence presented here is based on data collected from the PreACT test, the benefits also apply to PreACT 8/9, given its similar design and common score scale.
2. Spring grade 10 PreACT to spring grade 11 ACT correlations obtained from Table 12.1 of the 2019 PreACT Technical Manual: *ACT. PreACT Technical Manual* (Iowa City, IA: ACT, 2019), https://www.act.org/content/dam/act/unsecured/documents/PreACT_Technical_Manual_2019.pdf.
3. ACT retest rates are provided for students from the 2019 ACT-tested graduating class.
4. Scott Payne and Jeff Allen, *An Early Look at ACT Academy Usage and Effectiveness* (Iowa City, IA: ACT, 2019), <https://www.act.org/content/dam/act/unsecured/documents/R1785-academy-first-look-2019-11.pdf>
5. Figure is derived using results from table 5 of the report: *An Early Look at ACT Academy Usage and Effectiveness*.
6. Jeff Allen, *Examining Effects of PreACT Adoption on College Readiness Outcomes* (Iowa City, IA: ACT, 2018), <https://www.act.org/content/dam/act/unsecured/documents/pdfs/R1724-pre-act-efficacy-2018-10.pdf> .
7. Justine Radunzel and Jeff Allen, *Predicting Success on Advanced Placement Exams Using ACT Aspire, PreACT, and ACT Test Scores* (Iowa City, IA: ACT, in progress).
8. Mean gain scores are obtained from Table 12.1 of the 2019 PreACT technical manual: ACT, *PreACT Technical Manual* (Iowa City, IA: ACT, 2019), https://www.act.org/content/dam/act/unsecured/documents/PreACT_Technical_Manual_2019.pdf.
9. Lookup tables for Student Growth Percentiles are updated annually and are available online at <http://www.act.org/content/act/en/research/services-and-resources/act-growth-modeling-resources.html> (ACT, "ACT Growth Modeling Resources," 2020).

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