



CASE STUDY

Statewide Administration of the ACT: A Key Component in Improving Student Preparation for College and Work

Introduction

In recent years there has been an increasing focus among states on the importance of preparing all students for college and work. The educational aspirations of American young people have never been higher, and they continue to grow (U.S. Department of Education, 2005). However, for many, the dream of graduating from college remains a dream. Lacking adequate academic planning and preparation, many students enter college unable to meet the rigors of a college curriculum and far too many drop out before their sophomore year (Carey, 2004). Other students do not even see college as an option. And, unlike college graduates, those who do not go to college or drop out before completing college face greater obstacles throughout their lives, including higher levels of unemployment (U.S. Department of Labor, 2004), dependence on social assistance (Vernez, Krop, & Rydell, 1999), and incarceration (Harlow, 2003).

These converging issues have led a number of states to raise the expectations of students when they graduate from high school and to use a college admissions and placement program as their high school student assessment program. Not only can this approach help to prepare all students for college and work, but also the assessment itself has intrinsic value to the students who take it—something that is not true of student assessments in general.

Statewide administration of the ACT[®] provides all students, including those who have never considered college as an option, with the opportunity to identify academic strengths and weaknesses, explore educational and career interests, set high standards for academic achievement, and prepare to meet their educational and career goals. Statewide ACT administration also increases awareness among educators and policymakers of the important role that educational planning and preparation play in ensuring college readiness. And, since the ACT is accepted by virtually all postsecondary institutions across the U.S. for college admission and course placement, it provides students with a credential that they can use when they leave high school.

Since 2001, two states, Colorado and Illinois, have administered the ACT to all public high school juniors. Colorado uses the ACT in the Colorado Student Assessment Program (CSAP) as an eleventh-grade achievement-based assessment that gives the state an indication of how well its public schools are performing at educating students at the K–12 level. Illinois also administers the ACT to all of its public high school juniors as part of its Prairie State Achievement Exam (PSAE). Illinois uses the ACT to measure student progress on meeting state learning standards.

For both states, in the years since statewide ACT administration began, increases or improvements have occurred in the following seven areas: student preparation for college, student academic achievement, student readiness for college, identification of college-ready students, college enrollment, workforce planning and career counseling, and economic benefits to students and states.

These improvements in Colorado and Illinois could have positive implications for the future well-being of all of America's students and the nation as a whole. Each of these improvements is discussed next.

Improved Preparation for College

Early academic planning and preparation are essential for college readiness. A rigorous college preparatory curriculum is the best foundation for college success. Since the introduction of statewide administration of the ACT to public high school juniors in 2001, the percentages of all Colorado and Illinois high school graduates taking the college preparatory core curriculum recommended by ACT (four years of English and three years each of mathematics, social studies, and science) increased. As shown in Tables 1 and 2, from 2002 to 2006:

- The percentage of students taking the core curriculum increased from 52 percent to 55 percent in Colorado and from 45 percent to 47 percent in Illinois (for students who provided their course information). These increases are particularly significant because during the same time, the corresponding percentage of ACT-tested high-school graduates across the nation taking the core curriculum decreased from 62 percent to 61 percent.
- Increases in the percentages of students taking the core curriculum occurred for most racial/ethnic groups, particularly Hispanic American students (from 40 percent to 45 percent in Colorado, and from 35 percent to 39 percent in Illinois). Increases also occurred for lower-income students.
- For both males and females, the percentages of students taking the college preparatory core curriculum increased by 2 percentage points in Illinois and by 4 percentage points in Colorado.
- The percentages of students who took advanced, accelerated, or honors courses increased from 55 percent to 60 percent in Colorado and from 55 percent to 56 percent in Illinois. Increases were seen for most racial/ethnic groups, especially in Colorado.

Table 1: Percentages of ACT-Tested Colorado High School Graduates Taking the Core Curriculum and/or Advanced, Accelerated, or Honors Courses

Group	Core Curriculum ^A		Higher-level Courses	
	2002	2006	2002	2006
All Students	52	55	55	60
African American	48	48	54	55
Asian American	60	61	68	73
Caucasian	56	60	56	62
Hispanic American	40	45	48	52
Lower-Income ^B	41	45	48	50
Female	53	57	59	64
Male	50	54	52	56

^AThese percentages differ from those reported in High School Profile Reports; only students who completed the ACT Course Grade Information Section were included in these calculations.

^BAnnual family income \$30,000 or less.

Table 2: Percentages of ACT-Tested Illinois High School Graduates Taking the Core Curriculum and/or Advanced, Accelerated, or Honors Courses

Group	Core Curriculum ^A		Higher-level Courses	
	2002	2006	2002	2006
All Students	45	47	55	56
African American	36	37	55	54
Asian American	60	61	73	74
Caucasian	50	52	54	56
Hispanic American	35	39	53	53
Lower-Income ^B	34	36	48	48
Female	47	49	58	60
Male	44	46	51	53

^AThese percentages differ from those reported in High School Profile Reports; only students who completed the ACT Course Grade Information Section were included in these calculations.

^BAnnual family income \$30,000 or less.

Our findings suggest that since statewide administration of the ACT began in Colorado and Illinois, more students from all backgrounds appear to be taking rigorous coursework that better prepares them for the academic demands of college and improves their chances for college admittance and success.

Statewide administration of the ACT provides critical data that can help inform and shape state policy regarding core course requirements. By design, the ACT directly reflects and measures the impact of core course requirements.

Increased Academic Achievement

Rigorous coursework has a positive impact on the academic preparation of all students, regardless of race/ethnicity, gender, or socioeconomic status (ACT, 2004).

Since statewide administration of the ACT for high school juniors in Colorado and Illinois began in Spring 2001, average ACT scores increased for all high school graduates from both states. As shown in Tables 3 and 4, from 2002 to 2006:

- Average ACT Composite scores increased from 20.1 to 20.3 in Colorado and from 20.1 to 20.5 in Illinois.
- For both Colorado and Illinois, average ACT English, Mathematics, Reading, and Science scores increased by at least 0.1 score point. For Colorado students, the largest average score increases were in English and Reading (from 19.3 to 19.7 in English and from 20.4 to 20.8 in Reading). For Illinois students, the largest increase was in English (from 19.4 to 20.2).
- Increases in average ACT scores for Colorado and Illinois students were similar to or greater than those seen for all ACT-tested high school graduates nationally. (Average scores nationally increased from 20.2 to 20.6 in English, from 20.6 to 20.8 in Mathematics, from 21.1 to 21.4 in Reading, from 20.8 to 20.9 in Science, and from 20.8 to 21.1 for the Composite score).
- Increases in average ACT scores occurred for all racial/ethnic groups and for both males and females. In Illinois, average ACT scores for lower-income students increased in all but one subject area.

Table 3: Average ACT Scores for Colorado High School Graduates

Group	English		Mathematics		Reading		Science		Composite	
	2002	2006	2002	2006	2002	2006	2002	2006	2002	2006
All Students	19.3	19.7	19.8	19.9	20.4	20.8	20.2	20.4	20.1	20.3
African American	16.0	16.1	16.8	16.9	17.0	17.3	17.2	17.6	16.9	17.1
Asian American	18.8	19.9	21.0	21.4	19.8	20.5	20.2	21.2	20.1	20.9
Caucasian	20.6	21.3	20.8	21.1	21.7	22.2	21.2	21.6	21.2	21.7
Hispanic American	15.6	16.0	17.0	17.2	17.0	17.5	17.5	17.8	16.9	17.3
Lower-Income	17.0	17.1	17.9	17.7	18.3	18.5	18.5	18.5	18.1	18.1
Female	19.9	20.3	19.4	19.6	20.8	21.3	19.9	20.3	20.1	20.5
Male	18.7	19.0	20.3	20.2	20.0	20.3	20.5	20.6	20.0	20.2

Table 4: Average ACT Scores for Illinois High School Graduates

Group	English		Mathematics		Reading		Science		Composite	
	2002	2006	2002	2006	2002	2006	2002	2006	2002	2006
All Students	19.4	20.2	20.2	20.3	20.3	20.6	20.0	20.4	20.1	20.5
African American	15.9	16.4	16.5	16.7	16.6	17.0	16.6	17.1	16.5	16.9
Asian American	21.1	22.2	23.5	23.6	21.5	22.0	21.7	22.1	22.1	22.6
Caucasian	21.0	21.9	21.4	21.7	21.7	22.2	21.3	21.7	21.5	22.0
Hispanic American	16.4	17.3	17.7	17.9	17.6	17.9	17.7	18.1	17.5	17.9
Lower-Income	16.6	17.2	17.8	17.7	17.8	17.9	17.9	18.1	17.6	17.9
Female	19.9	20.7	19.8	20.0	20.6	21.0	19.7	20.0	20.1	20.5
Male	18.8	19.8	20.6	20.7	19.9	20.3	20.4	20.8	20.1	20.5

Increased College Readiness

Students who complete the college preparatory core curriculum improve their chances of meeting the ACT College Readiness Benchmarks. Each Benchmark is an indicator of whether a student has the knowledge and skills needed to have a reasonable chance of success in a particular college course. The ACT Benchmarks (English = 18, Mathematics = 22, Reading = 21, and Science = 24) represent the scores required for at least a 50 percent chance of achieving a B or higher grade—or at least a 75 percent chance of a C or higher grade—in entry-level, credit-bearing college English composition, algebra, social sciences, and biology courses, respectively. Therefore, students who meet the ACT Benchmarks are considered to be ready for college and are much more likely to be successful in college.

Tables 5 and 6 illustrate positive trends in the college readiness levels of high school graduates in Colorado and Illinois. From 2002 to 2006:

- The percentages of Colorado high school graduates who met the ACT College Readiness Benchmarks increased from 61 percent to 63 percent in English, from 34 percent to 35 percent in Mathematics, and from 24 percent to 25 percent in Science. The percentage of Colorado students who met the ACT College Readiness Benchmark in Reading remained stable at 49 percent, and the percentage of Colorado students who met none of the four Benchmarks decreased from 33 percent to 32 percent.
- The percentages of Illinois high school graduates who met the ACT College Readiness Benchmarks increased from 60 percent to 65 percent in English, from 36 percent to 38 percent in Mathematics, and from 23 percent to 25 percent in Science. The percentage of Illinois students who met the ACT College Readiness Benchmark in Reading remained stable at 46 percent, and the percentage of Illinois students who met none of the four Benchmarks decreased from 34 percent to 32 percent.

Improvement was also achieved by students from most racial/ethnic groups. From 2002 to 2006:

- In Colorado, for each racial/ethnic group, the percentages of students meeting the ACT Benchmarks increased in at least two subject areas (Table 5). The percentages of college-ready Caucasian students increased in all four subject areas.
- In Illinois, for each racial/ethnic group, the percentages of students meeting the ACT Benchmarks increased in at least two subject areas (Table 6). The percentages of Illinois high school graduates meeting the ACT Benchmark in English increased most for Asian American and Hispanic American students (from 70 percent to 76 percent and from 39 percent to 45 percent, respectively). Asian American and Caucasian students increased the percentages of college-ready students in all four subject areas. Hispanic American students showed the largest decrease in the percentage meeting none of the four Benchmarks (from 55 percent to 51 percent).

Table 5: Percentages of ACT-Tested Colorado High School Graduates Meeting the College Readiness Benchmarks

Group	English		Mathematics		Reading		Science		All Benchmarks		No Benchmarks	
	2002	2006	2002	2006	2002	2006	2002	2006	2002	2006	2002	2006
All Students	61	63	34	35	49	49	24	25	18	19	33	32
African American	37	38	13	12	25	25	7	8	5	4	59	58
Asian American	57	63	42	45	45	45	20	29	17	22	34	30
Caucasian	71	75	41	44	57	59	29	31	23	24	23	20
Hispanic American	35	36	14	14	25	25	7	10	5	6	60	59
Lower-Income	45	45	19	17	34	32	12	12	8	8	49	50
Female	65	67	31	32	51	52	20	22	16	17	31	29
Male	57	58	38	37	46	45	27	27	21	20	36	35

Table 6: Percentages of ACT-Tested Illinois High School Graduates Meeting the College Readiness Benchmarks

Group	English		Mathematics		Reading		Science		All Benchmarks		No Benchmarks	
	2002	2006	2002	2006	2002	2006	2002	2006	2002	2006	2002	2006
All Students	60	65	36	38	46	46	23	25	19	20	34	32
African American	35	38	10	10	20	20	4	5	3	3	61	59
Asian American	70	76	59	62	54	55	34	37	29	32	23	20
Caucasian	72	77	46	49	56	57	30	33	25	27	23	20
Hispanic American	39	45	17	18	28	27	8	9	6	6	55	51
Lower-Income	41	44	18	18	29	27	10	10	7	7	53	52
Female	64	67	34	35	48	48	20	21	17	18	32	30
Male	57	62	39	41	44	44	27	29	21	23	37	34

Using the College Readiness Benchmarks is a valuable way to help educators, parents, and students set high standards for academic achievement. Our findings show that in the years since statewide administration of the ACT began, more Colorado and Illinois students are meeting the ACT College Readiness Benchmarks. Students who meet the Benchmarks increase their chances of succeeding in college.

Improved Identification of College-Ready Students

Statewide administration of the ACT for high school juniors in Colorado and Illinois began in Spring 2001. As a result, the numbers of high school graduates completing the ACT increased substantially in both states (see Table 7).

Table 7: Number of High School Graduates Taking the ACT

Colorado	2001^A	2006
All students	27,260	47,105
African American	845	1,678
Asian American	965	1,487
Caucasian	19,702	25,462
Hispanic American	2,602	6,370
Lower-Income ^B	4,162	8,088
Illinois		
All students	89,311	137,399
African American	9,871	16,224
Asian American	4,650	5,140
Caucasian	61,167	73,029
Hispanic American	6,597	13,852
Lower-Income ^B	16,102	24,924

Note: race/ethnicity and family income are self-reported by ACT-tested students. The counts do not sum to the reported totals because of missing data.

^A Before statewide administration of the ACT.

^B Annual family income \$30,000 or less.

As shown in Table 7, from 2001 to 2006 the numbers of ACT-tested high school graduates from nearly all racial/ethnic groups increased substantially in both states. This was especially true for African American students and Hispanic American students. The number of ACT-tested, lower-income students also increased substantially.

Dramatically increasing the number of ACT-tested students in Colorado and Illinois has improved our ability to identify students who are prepared for college. It is particularly important to identify college-ready students from underrepresented minority groups, as these groups continue to lag in college readiness and college enrollment rates (Greene & Forster, 2003).

These findings suggest that statewide administration of the ACT provides an effective way to identify more students who are prepared for college. Students who would not ordinarily plan to continue their education beyond high school may become aware of their potential for success in college. Taking the ACT also encourages many students to explore their educational and career interests, define goals for further education, and begin to think about how to reach these goals. Statewide ACT administration removes barriers that previously might have prevented some students from testing (cost of test, Saturday testing, low or no college aspirations or awareness, low self-confidence, etc.). Statewide ACT administration also fosters collegiate outreach to targeted populations. Statewide ACT administration is a key step towards making college enrollment a reality for high school students from all backgrounds, including many who might otherwise have not considered college as an option.

Increased College Enrollment and Steady Retention

Since statewide implementation of the ACT, both Colorado and Illinois have experienced steady increases in the numbers of high school graduates from all backgrounds enrolling in college the fall following high school graduation (Tables 8 to 10). Our findings include:

- From 2002 to 2004, the percentage of Colorado and Illinois high school graduates who enrolled in college the fall following high school graduation increased by 1 and 2 percentage points, respectively.
- Increases in college enrollment rates occurred for males, females, and Illinois underrepresented minority graduates (Tables 9 and 10).

Table 8: Percentages of ACT-Tested Colorado and Illinois High School Graduates Who Enrolled in College^A

State	2002	2003	2004	Increase in percent 2002-2004
Colorado				
ACT-Tested H.S. Graduates ^B	43,253	45,503	45,930	
ACT-Tested Fall Freshmen	23,373	24,860	25,325	
Percent Enrolled	54	55	55	1
Illinois				
ACT-Tested H.S. Graduates ^B	127,219	132,552	131,597	
ACT-Tested Fall Freshmen	77,386	82,697	83,346	
Percent Enrolled	61	62	63	2

^ACollege enrollment rates were based on National Student Clearinghouse data. Colleges include both 2-year and 4-year postsecondary institutions, as well as full- and part-time students.

^BCounts differ from those in ACT High School Profile Reports for 2002 to 2004; duplicate records with differing SSNs were dropped.

Table 9: Percentages of ACT-Tested Colorado High School Graduates Who Enrolled in College, by Demographic Group

Group	Enrolled Students					
	2002		2003		2004	
	No.	Pct.	No.	Pct.	No.	Pct.
ACT-Tested Fall Freshmen	23,373	54	24,860	55	25,325	55
Male	10,424	50	11,206	50	11,506	51
Female	12,750	58	13,454	59	13,587	59
Underrepresented ^A	2,698	42	3,012	42	3,319	42
Lower-Income	2,657	41	2,772	40	3,033	40

^AIncludes African American students, American Indian students, and Hispanic American students.

Table 10: Percentages of ACT-Tested Illinois High School Graduates Who Enrolled in College, by Demographic Group

Group	Enrolled Students					
	2002		2003		2004	
	No.	Pct.	No.	Pct.	No.	Pct.
ACT-Tested Fall Freshmen	77,386	61	82,697	62	83,346	63
Male	35,313	57	37,892	59	37,650	60
Female	41,716	64	44,353	65	45,038	66
Underrepresented ^A	11,604	49	12,849	50	13,460	50
Lower-Income	10,748	48	11,122	48	11,299	47

^AIncludes African American students, American Indian students, and Hispanic American students.

The ACT prepares students for the academic challenges of college by increasing their awareness of the need to pursue a rigorous college preparatory core curriculum, as well as enhancing their awareness of necessary educational planning steps. Not only are more students in Colorado and Illinois enrolling in college after high school graduation, but most are returning for their second year of college. In Table 11, we show the numbers and percentages of students who enrolled in college in the fall of their high school graduation year and who returned to college the subsequent fall, whether to the same college or to any college.

- 69 percent of Colorado’s high school graduates of 2002 and 2003 who enrolled in college returned to the same college for their second year and 82 to 83 percent returned to any college for their second year.
- 75 percent of Illinois’s high school graduates of 2002 and 2003 who enrolled in college returned to the same college for their second year and 85 to 86 percent returned to any college for their second year.
- The retention rates in Illinois slightly exceed the national rates for ACT-tested high school graduates of 2003.

Table 11: ACT-Tested High School Graduates Who Enrolled in College and Returned for Second Year^{A,B}

	2002		2003	
	No.	Pct.	No.	Pct.
Colorado				
Returned to Same College in Year 2	16,134	69	17,133	69
Returned to Any College in Year 2	19,349	83	20,389	82
Number Enrolled	23,373		24,860	
Illinois				
Returned to Same College in Year 2	58,151	75	62,013	75
Returned to Any College in Year 2	66,615	86	70,580	85
Number Enrolled	77,386		82,696	
National^A				
Returned to Same College in Year 2			574,313	74
Returned to Any College in Year 2			657,393	84
Number Enrolled			779,977	

^ARetention rates were based on National Student Clearinghouse data. Colleges include both 2-year and 4-year postsecondary institutions, as well as full- and part-time students.

^BRetention data were not available for 2002 ACT-tested high school graduates nationally.

Improved Workforce Planning and Career Counseling

As part of the ACT, students respond to questions about their occupational preferences. They also complete ACT’s Interest Inventory, which provides

results that allow them to explore programs of study and occupations that are in keeping with their interests. Career counselors can use this information to help guide students towards occupations and postsecondary education and training programs that are aligned with their interests. Further, they can identify students whose interests are congruent with expected opportunities in the state's job market. For example, the Colorado Department of Labor and Employment (2006) estimates that in Colorado over the next eight years there will be an annual average of 1,340 job openings for accountants and auditors. Of the 2006 ACT-tested high school graduates in Colorado, 364 chose accounting as their first choice of occupation. Given this information, career counselors can inform these students that there will indeed be a strong demand for this profession in their state and help them prepare for this career. Counselors can also target students whose interests are aligned with accounting, helping them learn more about the profession and the future demand for accountants in the state.

In addition to assisting individual students with career counseling, results from the statewide ACT allow states to forecast the supply and demand of occupations. By comparing each cohort's career interests to expected career opportunities, state planners and policy makers can get a better idea of where shortages will occur. With such information, states can initiate programs that minimize job vacancies.

Increased Economic Benefits to Students and States

College readiness translates into economic and quality of life benefits for students. College-ready students are more likely to enroll in college and be successful. Upon graduation from college, students have more career opportunities and are better able to pursue their interests. Over their working lives, high school graduates earn, on average, about \$1.1 million; college graduates typically earn almost twice that amount (U.S. Department of Education, 2004). Aside from the obvious monetary awards, quality of life is enhanced for college graduates who achieve career satisfaction while providing security for themselves and their families.

Increases in college readiness also benefit individual states and the nation as a whole. Because they qualify for and typically occupy higher-paying jobs, college graduates have more disposable income and pay more local, state, and federal taxes (Institute on Taxation and Economic Policy, 2003). For example, Table 8 showed that from 2002 to 2004, the number of ACT-tested high school graduates who enrolled in college increased by approximately 2,000 in Colorado and 6,000 in Illinois. If half of these students go on to graduate from college and if these graduates earn, on average, \$1 million more over their lifetimes than if they had not graduated, this would bring increases in taxable income of \$1 billion in Colorado and \$3 billion in Illinois. Assuming a typical tax rate of 9.9 percent (Institute on Taxation and Economic Policy, 2003) this would give an increase in state tax revenues of almost \$100 million in Colorado and almost \$300 million in Illinois. The investment in statewide ACT administration represents a small fraction of these projected tax revenues, so the long-term return on investment is clear. In addition, with better jobs and improved career satisfaction, governments can expect lower expenditures on welfare and other assistance programs. Further, the United States will be more competitive in the global marketplace with a more educated workforce.

By improving the college readiness of college-going students, states can reduce the need for remedial coursework and see immediate economic benefits. In Table 6, we saw that the percentage of Illinois high school graduates meeting the ACT College Readiness Benchmark in English increased from 60 percent to 65 percent between 2002 and 2006. This represents an increase of 1,426 students per year, over and above population increases, who would no longer need remedial coursework prior to taking English Composition (a common writing course taken during the first year of college). Assuming an average cost of \$1,800 per course, this works out to a savings of about \$2.6 million per year. This savings alone offsets a significant portion of the state's annual test administration costs, and does not include savings due to fewer students needing remedial coursework in other subject areas, such as mathematics.

Conclusion

Since 2001, the states of Colorado and Illinois have paved the way in adopting the ACT as part of their statewide assessment programs. Our findings clearly demonstrate the positive changes that have occurred since the introduction of statewide ACT administration in each state. It is possible that without statewide assessment, many students may not have been aware of the opportunities to explore a broad range of future educational and career avenues that would challenge their abilities and help guide them in preparing to meet their postsecondary goals. The pool of potentially college-ready students in each state has increased and more students have taken the college preparatory core curriculum, as well as higher-level courses. These increases have occurred in all racial/ethnic, gender, and family income groups. More students have met the ACT College Readiness Benchmarks, indicating that they are ready to meet the academic demands of college. Our findings also suggest that ACT-tested students were better prepared for college with most students persisting in college to their second year. Since the ACT was adopted statewide, there have been positive changes in academic preparation, achievement, and college enrollment rates among all students. Further, a state's workforce planning and career counseling efforts are enhanced with statewide testing.

A number of other states are currently considering adopting the ACT as part of their statewide assessments at the eleventh- or twelfth-grade level. The reason is simple: the ACT is a key component in statewide policy designed to improve college preparation, with benefits for all.

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