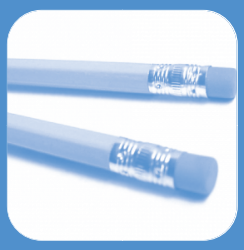
collegiate learning assessment



INSTITUTIONAL REPORT

Overview

This report has five sections and a few appendices. Section I summarizes the purposes of the CLA. Section II describes the CLA measures and how CLA scores were derived. Section III presents information about the colleges and universities that participated in the CLA during the 2004–2005 academic year. Section IV provides a guide to the several tables and figures that are used to present results, including those that were generated specifically for your institution. Section V, which is a separate document, contains these tables and figures. We recommend that you refer to Section IV as you review Section V (your school's test results). Throughout this report, first-year and fourth-year students are referred to as freshmen and seniors, respectively.

Section I. Purposes of the CLA

The Collegiate Learning Assessment (CLA) is a national effort that provides colleges and universities with information about how well their students are doing with respect to certain learning outcomes that almost all undergraduate institutions strive to achieve. This information is derived from tests that are administered to all or a sample of the institution's freshmen and seniors.

The CLA focuses on how well the school as a whole contributes to student development. Consequently, it uses the institution (rather than the individual student) as the primary unit of analysis. It does this by measuring the "value added" an institution provides where value added is defined in two ways, namely:

- **"Deviation Scores"** indicate the degree to which a school's students earn higher or lower scores than would be expected where the expectation is based on (1) the students' admissions test scores (i.e., ACT or SAT scores) and (2) the typical relationship between admission scores and CLA scores across all of the participating institutions. In other words, how well do the students at a school do on the CLA tests relative to the scores earned by "similar students" (in terms of entrance examination scores) at other colleges and universities?

- **"Difference Scores"** contrast the performance of freshmen with seniors. Specifically, after holding admission scores constant, do an institution's seniors earn significantly higher scores than do its freshmen and most importantly, is this difference larger or smaller than that observed at other colleges?

No testing program can assess all the knowledge, skills, and abilities that colleges endeavor to develop in their students. Consequently, the CLA focuses on some of the areas that are an integral part of most institutions' mission statements, namely: critical thinking, analytic reasoning, problem solving, and written communication

Section II. The CLA Tests and Scores

The CLA uses various types of performance and analytic writing tasks, all of which require open-ended responses. There are no multiple-choice questions.

Performance Tasks

Each CLA Performance Task requires students to use an integrated set of critical thinking, analytic reasoning, problem solving, and written communication skills to answer several open-ended questions about a hypothetical but realistic situation. In addition to directions and questions, each CLA Performance Task also has its own document library that includes a range of information sources, such as letters, memos, summaries of research reports, newspaper articles, maps, photographs, diagrams, tables, charts, and interview notes or transcripts. Students are instructed to use these materials in preparing their answers to the Performance Task's questions within the allotted 90 minutes.

The first portion of each CLA Performance Task contains general instructions and introductory material. The student is then presented with a split screen. On the right side of the screen is a list of the materials in the document library. The student selects a particular document to view by using a pull-down menu. On the left side of the screen are a question and a response box. There is no limit on how much a student can type. When a student completes a question, he or she then selects the next question in the queue. Some of these components are illustrated below:

Introductory Material: You advise Pat Williams, the president of DynaTech, a company that makes precision electronic instruments and navigational equipment. Sally Evans, a member of DynaTech's sales force, recommended that DynaTech buy a small private plane (a SwiftAir 235) that she and other members of the sales force could use to visit customers. Pat was about to approve the purchase when there was an accident involving a SwiftAir 235. Your document library contains the following materials:

1. *Newspaper article about the accident*
2. *Federal Accident Report on in-flight breakups in single-engine planes*
3. *Internal Correspondence (Pat's e-mail to you & Sally's e-mail to Pat)*
4. *Charts relating to SwiftAir's performance characteristics*
5. *Excerpt from magazine article comparing SwiftAir 235 to similar planes*
6. *Pictures and descriptions of SwiftAir Models 180 and 235*

Sample Questions: Do the available data tend to support or refute the claim that the type of wing on the SwiftAir 235 leads to more in-flight breakups? What is the basis for your conclusion? What other factors might have contributed to the accident and should be taken into account? What is your preliminary recommendation about whether or not DynaTech should buy the plane and what is the basis for this recommendation?

No two CLA Performance Tasks assess the same combination of abilities. Some ask students to identify and then compare and contrast the strengths and limitations of alternative hypotheses, points of view, courses of action, etc. To perform these and other tasks, students may have to weigh different types of evidence, evaluate the credibility of various documents, spot possible bias or inconsistencies, and identify questionable or critical assumptions.

A CLA Performance Task also may ask students to suggest or select a course of action to resolve conflicting or competing strategies and then provide a rationale for that decision, including why it is likely to be better than one or more other approaches. For example, students may be asked to anticipate potential difficulties or hazards that are associated with different ways of dealing with a problem including the likely short- and long-term consequences and implications of these strategies. Students may then be asked to suggest and defend one or more of these approaches. Alternatively, students may be asked to review a collection of materials or a set of options, analyze and organize them on multiple dimensions, and then defend that organization.

The CLA Performance Tasks often require students to marshal evidence from different sources; distinguish rational from emotional arguments and fact from opinion; understand data in tables and figures; deal with inadequate, ambiguous, and/or conflicting information; spot deception and holes in the arguments made by others; recognize information that is and is not relevant to the task at hand; identify additional information that would help to resolve issues; and weigh, organize, and synthesize information from several sources.

All of the CLA Performance Tasks require students to present their ideas clearly, including justifying the basis for their points of view. For example, they might note the specific ideas or sections in the document library that support their position and describe the flaws or shortcomings in the arguments underlying alternative approaches.

Analytic Writing Tasks

Students write answers to two types of essay prompts, namely: a "Make-an-Argument" question that asks them to support or reject a position on some issue; and a "Critique-an-Argument" question that asks them to evaluate the validity of an argument made by someone else. Both of these tasks measure a student's ability to articulate complex ideas, examine claims and evidence, support ideas with relevant reasons and examples, sustain a coherent discussion, and use standard written English.

A "Make-an-Argument" Analytic Writing Task prompt typically presents an opinion on some issue and asks students to address this issue from any perspective they wish, so long as they provide relevant reasons and examples to explain and support their views. Students have 45 minutes to complete this essay. For example, they might be asked to explain why they agree or disagree with the following:

> *There is no such thing as "truth" in the media. The one true thing about the information media is that it exists only to entertain.*

A "Critique-an-Argument" Analytic Writing Task asks students to critique an argument by discussing how well reasoned they find it to be (rather than simply agreeing or disagreeing with the position presented). For example, they might be asked to evaluate the following argument:

> *A well-respected professional journal with a readership that includes elementary school principals recently published the results of a two-year study on childhood obesity. (Obese individuals are usually considered to be those who are 20 percent above their recommended weight for height and age.) This study sampled 50 schoolchildren, ages 5-11, from Smith Elementary School. A fast food restaurant opened near the school just before the study began. After two years, students who remained in the sample group were more likely to be overweight—relative to the national average. Based on this study, the principal of Jones Elementary School decided to confront her school's obesity problem by opposing any fast food restaurant openings near her school.*

Scores

To facilitate reporting results across schools, SAT scores were converted (using the standard table in Appendix A) to the same scale of measurement as that used to report ACT scores. These converted scores are hereinafter referred to simply as ACT scores.

Students receive a single score on a CLA task because each task assesses an **integrated** set of critical thinking, analytic reasoning, problem solving, and written communication skills. A student's "raw" score on a task is the total number of points assigned to it by the graders. However, a student can earn more raw score points on some tasks than on others. To adjust for these differences, the raw scores on each task were converted to "scale" scores using the procedures described in Appendix B. This step allows for combining scores across different versions of a given type of task as well as across tasks, such as for the purposes of computing total scores.

Section III. Characteristics of Participating Institutions and Students

In the 2004–2005 academic year, there were 43 schools that tested enough freshmen and seniors to provide sufficiently reliable data for the school level analyses and results presented in this report. Table 1 shows the percentage of these 43 schools across Carnegie Classifications. The spread of schools corresponds fairly well with that of the 1,409 schools in the Education Trust's, College Results Online (CRO) dataset[1] across these same classifications.

Table 1
Percentage of 4-Year Institutions in the Collegiate Learning Assessment and College Results Online Datasets by Carnegie Classification

Institutional Classification	Collegiate Learning Assessment (CLA)	College Results Online (CRO)
Doctoral	21%	18%
Masters	44%	40%
Bachelors	33%	36%
Other*	2%	6%

*The "other" category includes specialized institutions, such as seminaries and professional (business, law, medical) schools. One teachers college participated in the CLA.

Table 2 compares some important characteristics of the 43 CLA-tested schools with the characteristics of the colleges and universities in the national CRO dataset. These data show that the CLA schools are very similar to institutions nationally with respect to some variables but not others. For example, the CLA and CRO samples have nearly identical percentages of students receiving financial aid and mean Barron's selectivity ratings, but the 43-school CLA sample had a much higher percentage of public sector institutions.

[1] The CRO dataset, managed by the Education Trust, covers most 4-year Title IV-eligible higher-education institutions in the United States. Data were obtained with permission from the Education Trust and constructed from IPEDS and other sources. The Trusts' Web site describes this dataset's content and coverage (*www.collegeresults.org/aboutthedata.aspx*). All schools did not report on every measure in the table. Thus, the averages and percentages may be based on slightly different denominators.

Table 2
Characteristics of Insitutions in the
Collegiate Learning Assessment and College Results Online Datasets

School Characteristic	CLA	CRO
Percent Public	65%	36%
Percent Historically Black College or University (HBCU)	9%	6%
Mean percentage of undergraduates receiving Pell grants	32%	31%
Mean 4-year graduation rate	27%	35%
Mean 6-year graduation rate	46%	52%
Mean first-year retention rate	73%	75%
Mean Barron's selectivity rating	3.1	3.3
Mean estimated median SAT score	1030	1060
Mean student-related expenditures per FTE student (rounded)	$8,700	$11,900

In most instances, the students who participated in the CLA testing at a school appeared to be representative of their classmates, at least with respect to ACT scores. Specifically, the mean freshmen ACT score of the students who took the CLA tests was only 0.3 points higher than the median freshmen ACT score for these same schools in the CRO dataset. Moreover, there was a high correlation ($r = 0.89$) between a school's mean ACT score in the CLA sample and its median ACT score in the CRO dataset. Taken together, these data suggest that the academic abilities of the students tested in the CLA were similar to those of their classmates. This correspondence increases the confidence in the inferences that can be made from the results with the samples of students that were tested at a school to all the students at that institution.

Section IV. Guide to Tables and Figures

In the fall of 2004, each entering freshmen in the CLA sample was scheduled to take one 90-minute Performance Task and both types of Analytic Writing Tasks (i.e., Make-an-Argument and Critique-an-Argument). To reduce testing time per student and increase participation in the CLA, the spring 2005 testing of seniors involved having each sampled student take ***either*** one 90-minute Performance Task or both types of Analytic Writing Tasks. A school's total scale score is the mean of its Performance Task and Analytic Writing Tasks scale scores.

As noted above, Appendix A describes how SAT scores were converted to the same scale of measurement as used to report ACT scores and are hereinafter referred to as ACT scores. Appendix B describes how the reader-assigned "raw" scores on different tasks were converted to scale scores. The analyses discussed below focus primarily but not exclusively on those schools where at least 25 students took a CLA measure and also had an "ACT" score as defined above. This dual requirement was imposed to ensure that the results on a given measure were sufficiently reliable to be interpreted and that the analyses could adjust for differences among schools in the incoming abilities of the students participating in the CLA.

The remainder of this section has three parts. Part A discusses differences in performance levels **between** institutions while Part B deals with differences **within** institutions. Part C examines value added with respect to **other outcomes**, i.e., besides CLA scores. You are strongly encouraged to look at the tables and figures in Section V, which is a separate document that was generated for your institution, as you review the information below.

Part A: Between-School Comparisons

Table 3 shows the number of freshmen and seniors at your school who participated in the 2004–2005 testing cycle who took a CLA measure and also had an ACT score. The counts in this table were used to determine whether your school met the dual requirement described above. Tables 8–13 contain counts and summary statistics, including means and standard deviations, specifically:

- Tables 8 and 11 show the number of test takers at your school regardless of whether or not they also had an ACT score;
- Tables 9 and 12 show the same information across all schools at the student level; and
- Tables 10 and 13 aggregate this information to the school level.

The remainder of this part discusses how well the freshman and seniors at your school performed on the CLA measures relative to "similarly situated" students at other institutions. For this purpose, "similarly situated" is defined as students whose ACT scores were comparable to those of the students at your school who participated in the CLA. Specifically, the inserted figures and tables show whether your students did better, worse, or about the same as what would be expected given (1) their ACT scores and (2) the general relationship between CLA and ACT scores at other institutions.

Figure 1 shows the relationship between the mean ACT score of a college's freshmen (on the horizontal or x-axis) and their mean CLA total score (on the vertical or y-axis). Each data point is a college that had at least 25 freshmen who participated in the fall 2004 testing and also had an ACT score. Figure 2 shows the corresponding data for spring 2005 seniors.

In both figures, the diagonal line running from lower left to upper right shows the typical relationship between an institution's mean ACT score and its mean CLA score. The solid data point corresponds to your school. Schools above the line scored higher than expected whereas those below the line did not do as well as expected. Small deviations from the line in either direction could be due to chance. Thus, you should only pay close attention to relatively "large" deviations as defined below.

The difference between a school's actual mean score and its expected mean score is called its "deviation" (or "residual") score. Results are reported in terms of deviation scores because the freshmen and seniors who participated at a school were not necessarily a representative sample of all the freshmen and seniors at their school. For example, they may have been generally more or less proficient in the areas tested than the typical student at that college. Deviation scores are used to adjust for such disparities.

Table 4 shows the freshman and senior deviation scores at your institution on each measure and whether those deviations were well above, above, at, below, or well below what would be expected given the ACT scores of the students who participated from your college. These calculations were done separately for freshmen and seniors.

To facilitate comparisons among measures, deviation scores are expressed in terms of standard errors. On each measure, about two-thirds of the colleges fell within the range of -1.00 to +1.00 standard errors and are categorized as being "at" expected. Institutions whose actual mean CLA score deviated by at least one standard error (but less than two standard errors) from the expected value are in the "above" or "below" categories (depending on the direction of the deviation). The three schools with deviations greater than two standard errors from their expected values are in the "well above" or "well below" categories.

Part B: Within-School Comparisons

Figure 3 combines Figures 1 and 2. The most striking feature of Figure 3 is that the line for seniors is almost perfectly parallel to but much higher than the line for freshmen. It may be inferred from these data that the seniors within a school generally scored substantially (and statistically significantly) higher than comparable freshmen (in terms of ACT scores) at that school (the average difference was more than 1.5 standard deviation units). Indeed, there was almost no overlap in mean scores between the two classes.

For example, on average, if a school had a mean freshmen ACT score of 22.5, then these students are likely to have a mean CLA total score of 22.8. In contrast, if the mean ACT score of the seniors at this school also was 22.5, then they are likely to have a mean CLA total score of 26.0. In other words, their mean CLA score is likely to be about 3.2 points higher than the freshmen mean CLA score even though they have the same average ACT score. Appendix C1 contains the equations that were used to estimate a school's CLA score on the basis of its students' mean ACT score. Appendix C2 contains the expected CLA score for a school's freshmen and seniors for various mean ACT scores.

A school's actual mean CLA score often deviated somewhat from its expected value, i.e., the actual value did not always fall right on the line. The two most likely reasons for this happening with freshmen are (1) chance and (2) some direct or indirect effect of an intended or unintended policy or practice that resulted in the school admitting students that scored higher (or lower) on CLA type measures than would otherwise be expected given their ACT scores. For example, a school may tend to admit students who are unusually good (or bad) writers.

Deviations from expected values among seniors could be due to these same two factors plus the effects of the college education they received, such as it being especially beneficial in improving the abilities tested by the CLA. Consequently, it is instructive to examine whether the deviation score for a college's seniors is larger or smaller than what would be expected given the deviation score for its freshmen. The benchmark here is the size of the difference in deviation scores that is typically observed between freshmen and seniors at other schools after controlling on these students' ACT scores.

Table 5 makes this comparison for the subset of 23 schools that tested at least 25 freshmen as well as at least 25 seniors on each measure (and where those tested also had ACT scores). The first column shows the difference between the freshmen and senior deviation scores at your college. A large positive value means the seniors did especially well relative to the freshmen. In other words, after controlling for ACT scores, the difference between the freshmen and senior mean scores was substantially greater than it was at most other schools. A large negative value means the opposite occurred. The last column indicates whether the differences at your school were above, at, or below average relative to the differences at other colleges.

The difference scores reported in Table 5 are categorized as above, at, or below average if they are in the top, middle, or bottom thirds of the distribution of differences between freshmen and senior deviation scores, respectively. Keep in mind, however, that even at a school with a below-average improvement, its seniors still usually scored higher on the CLA measures than its freshmen. It just indicates that the degree of improvement between freshmen and seniors was not as great as it was at most other schools. It does not mean the school's freshmen earned higher scores than its seniors. An "NA" signifies that there were not enough freshmen and seniors at your school who had both an ACT and a CLA score to compute a reliable difference score for your institution.

Table 6 shows the mean scores for all the schools that participated in the 2004–2005 CLA testing cycle that met the dual criterion of having at least 25 students with an ACT score who also had a CLA score on the measure. The "Your

School" column in this table shows the mean at your school for the students that met this requirement. The values reported in Table 6 for your school were the ones that were used to compute its actual and expected CLA scores for the results presented in Tables 4 and 5 (and Figures 1–3). An "NA" in the "Your School" column of Table 6 indicates there were not enough students at your school with both an ACT and a CLA score to compute a reliable mean CLA score for your institution.

Differences or similarities between the values in the "All Schools" and "Your School" columns of Table 6 are not directly interpretable because colleges varied in how their students were sampled to participate in the CLA. Consequently, you are encouraged to focus on the data in Tables 4 and 5.

Tables 8–13 contain data for all the students that took one or more of the CLA measures, i.e., there were no restrictions based on the number of students tested or whether or not they had an ACT score. Thus, your school's mean scores in these tables may differ from those in Table 6.

Part C: Other Outcome Measures

We also examined whether certain other outcomes, such as a school's graduation rate, were consistent with what would be expected given the characteristics of its incoming students and other factors. The data used for these analyses were provided to CAE by the Education Trust and were initially derived from IPEDS and other sources. Appendix D describes the factors that were considered and the procedures that were used to make these projections. We examined the following three outcomes:

- First-year retention rate. Percentage of first-time, full-time degree-seeking undergraduates in the fall of 2002 who were enrolled at the same institution in the fall of 2003.
- Four-year graduation rate. Percentage of students who began in 1997 as first-time, full-time degree-seeking students at the institution and graduated within four years.
- Six-year graduation rate. Percentage of students who began in 1997 as first-time, full-time degree-seeking students at the institution and graduated within six years.

Table 7 shows the actual and expected values at your school for each of the outcomes listed above, the deviation between these values (in standard error units to facilitate direct comparisons), and whether that deviation was above, at, or below expectations. For this purpose, "above" expected is defined as being more than one standard error above the expected value whereas "below" is more than one standard error below the expected value. To facilitate comparisons, Table 7 also reports whether the mean freshmen and senior CLA scores at your school were above, at, or below what would be expected given your students' mean ACT scores.

Figure 1: Relationship Between Mean ACT Scores and Mean Total CLA Scores for Freshmen

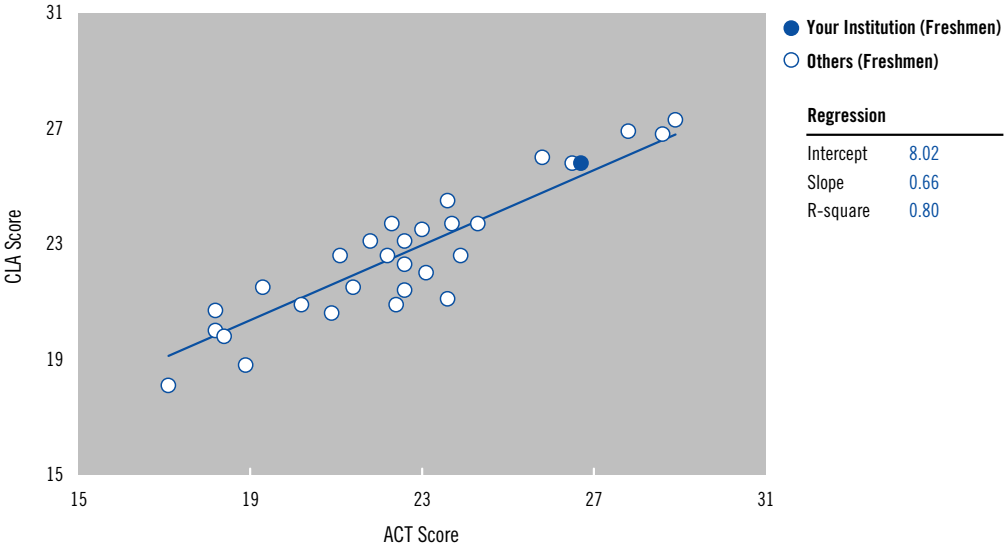


Figure 2: Relationship Between Mean ACT Scores and Mean Total CLA Scores for Seniors

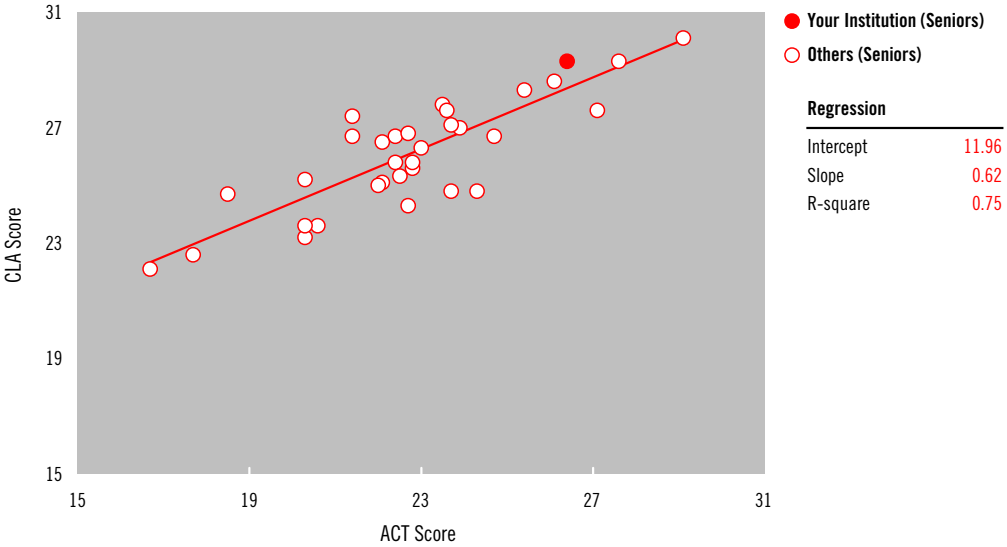


Figure 3: Relationship Between Mean ACT Scores and Mean Total CLA Scores for Freshmen and Seniors

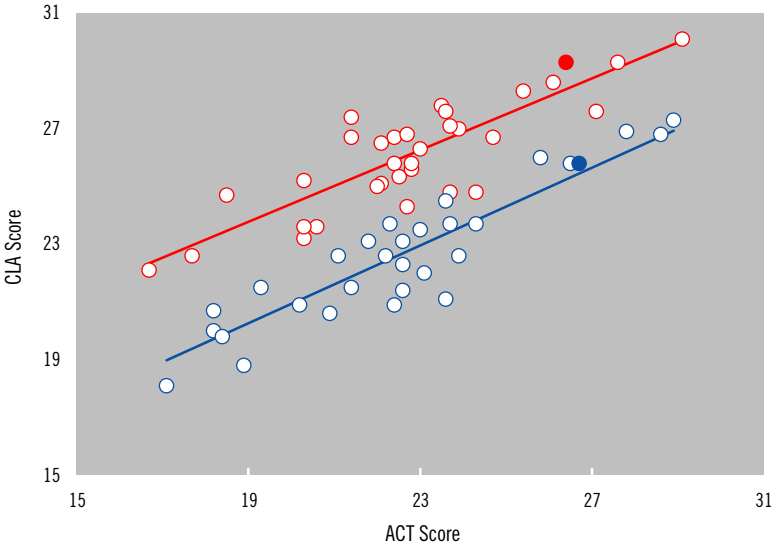


Table 3: Number of Freshmen and Seniors with Scores on Each Measure at Your School who Also Had an ACT Score

Measure	Number of Freshmen	Number of Seniors
Performance Task	138	42
Analytic Writing Tasks	133	41
Make-an-Argument	138	41
Critique-an-Argument	133	41
Total score	138	83
ACT score	26.7	26.4

Table 4: Deviation Scores and Relative-to-Expected Results at Your School for Freshmen and Seniors

	Freshmen		Seniors	
Measure	Deviation Score	Relative to Expected	Deviation Score	Relative to Expected
Performance Task	-0.12	At	0.82	At
Analytic Writing Tasks	0.47	At	1.17	Above
Make-an-Argument	0.41	At	0.91	At
Critique-an-Argument	0.59	At	1.19	Above
Total score	0.24	At	0.96	At

Note: Deviation (residual) scores are reported in terms of the number of standard error units the school's actual mean deviates from its expected value.

Table 5: Difference Scores and Relative-to-Average Results (Comparison of Freshmen and Senior Deviation Scores)

Measure	Difference Score	Relative to Average
Performance Task	0.94	Above
Analytic Writing Tasks	0.70	Above
Make-an-Argument	0.50	Above
Critique-an-Argument	0.60	At
Total score	0.72	Above

Note: Difference Score = Senior Deviation Score – Freshmen Deviation Score

Table 6: Mean Scores for Freshmen and Seniors in the CLA Sample and at Your School that Met the Dual Requirement of Having at Least 25 Students with Both CLA and ACT Scores

	Freshmen		Seniors	
Measure	All Schools	Your School	All Schools	Your School
Performance Task	22.5	25.4	24.8	28.1
Analytic Writing Tasks	22.9	26.1	27.3	30.5
Make-an-Argument	22.6	25.8	26.9	29.5
Critique-an-Argument	22.6	26.0	27.3	31.0
Total score	22.8	25.8	26.1	29.3
ACT score	22.7	26.7	22.7	26.4

Table 7: Comparison of Observed and Expected Outcomes at Your School

Outcome	Your School	Expected Value	Deviation Score	Relative to Expected
First-year retention rate	85.0	83.7	0.20	At
4-year graduation rate	60.6	60.2	0.00	At
6-year graduation rate	67.5	69.8	-0.30	At
Freshmen CLA total score	25.8	25.6	0.24	At
Senior CLA total score	29.3	28.4	0.96	At

Note: For a few schools, the equation resulted in a predicted 4-year graduation rate slightly less than zero. For these schools, the predicted rates are reported as zero.

Table 8: Summary Statistics for All Fall 2004 Freshmen Tested at Your School

Measure	Number of Students	Mean Scale Score	Standard Deviation	25th Percentile	75th Percentile
Performance Task	138	25.4	3.9	22.0	28.0
Analytic Writing Tasks	133	26.1	3.6	24.0	29.0
Make-an-Argument	138	25.8	4.0	23.0	30.0
Critique-an-Argument	133	26.0	4.4	25.0	28.0
ACT score	138	26.6	3.3	24.0	29.0

Table 9: Summary Statistics for All Fall 2004 Freshmen in the CLA

Measure	Number of Students	Mean Scale Score	Standard Deviation	25th Percentile	75th Percentile
Performance Task	3,414	22.3	4.8	19.0	26.0
Analytic Writing Tasks	3,261	22.7	4.2	19.0	26.0
Make-an-Argument	3,334	22.5	4.7	20.0	26.0
Critique-an-Argument	3,332	22.4	4.8	17.0	25.0
ACT score	3,029	22.6	4.6	19.0	26.0

Table 10: Summary Statistics for Schools that Tested Fall 2004 Freshmen

Measure	Number of Schools	Mean Scale Score	Standard Deviation	25th Percentile	75th Percentile
Performance Task	39	22.2	2.5	20.6	23.9
Analytic Writing Tasks	39	22.6	2.4	21.0	24.2
Make-an-Argument	39	22.3	2.5	20.8	24.1
Critique-an-Argument	39	22.3	2.4	21.0	23.7
Total score	39	22.3	2.5	20.7	23.8
ACT score	37	22.1	3.1	19.3	23.5

Table 11: Summary Statistics for All Spring 2005 Seniors Tested at Your School

Measure	Number of Students	Mean Scale Score	Standard Deviation	25th Percentile	75th Percentile
Performance Task	42	28.1	4.5	25.0	31.0
Analytic Writing Tasks	41	30.5	2.6	29.0	31.0
Make-an-Argument	41	29.5	2.6	26.0	30.0
Critique-an-Argument	41	31.0	3.6	28.0	35.0
ACT score	83	26.3	2.9	25.0	28.0

Table 12: Summary Statistics for All Spring 2005 Seniors in the CLA

Measure	Number of Students	Mean Scale Score	Standard Deviation	25th Percentile	75th Percentile
Performance Task	1,616	24.8	5.0	21.0	28.0
Analytic Writing Tasks	1,604	27.1	4.0	24.0	29.0
Make-an-Argument	1,611	26.7	4.5	23.0	30.0
Critique-an-Argument	1,616	27.0	4.7	25.0	28.0
ACT score	2,462	23.0	4.7	20.0	26.0

Table 13: Summary Statistics for Schools that Tested Spring 2005 Seniors

Measure	Number of Schools	Mean Scale Score	Standard Deviation	25th Percentile	75th Percentile
Performance Task	34	24.7	1.9	23.7	25.7
Analytic Writing Tasks	32	27.0	2.0	26.0	28.3
Make-an-Argument	32	26.6	1.9	25.7	27.9
Critique-an-Argument	32	27.0	2.2	25.9	28.4
Total score	42	25.4	2.0	24.1	26.9
ACT score	32	22.8	2.7	21.4	24.1

Appendix A
Standard ACT to SAT Conversion Table

from SAT	to ACT	to SAT
1600	36	1600
1560-1590	35	1580
1510-1550	34	1520
1460-1500	33	1470
1410-1450	32	1420
1360-1400	31	1380
1320-1350	30	1340
1280-1310	29	1300
1240-1270	28	1260
1210-1230	27	1220
1170-1200	26	1180
1130-1160	25	1140
1090-1120	24	1110
1060-1080	23	1070
1020-1050	22	1030
980-1010	21	990
940-970	20	950
900-930	19	910
860-890	18	870
810-850	17	830
760-800	16	780
710-750	15	740
660-700	14	680
590-650	13	620
520-580	12	560
500-510	11	500

Sources:

"Concordance Between ACT Assessment and Recentered SAT I Sum Scores" by N.J. Dorans, C.F. Lyu, M. Pommerich, and W.M. Houston (1997), College and University, 73, 24-31; "Concordance between SAT I and ACT Scores for Individual Students" by D. Schneider and N.J. Dorans, Research Notes (RN-07), College Entrance Examination Board: 1999; "Correspondences between ACT and SAT I Scores" by N.J. Dorans, College Board Research Report 99-1, College Entrance Examination Board: 1999; ETS Research Report 99-2, Educational Testing Service: 1999.

Appendix B
Procedures for Converting Raw Scores to Scale Scores

There is a separate scoring guide for each Performance Task and the maximum number of points a student can earn may differ across Performance Tasks. Consequently, it is easier to earn a given reader-assigned "raw" score on some Performance Tasks than it is on others. To adjust for these differences, the reader-assigned "raw" scores on a Performance Task were converted to "scale" scores. In technical terms, this process involved transforming the raw scores on a measure to a score distribution that had the same mean and standard deviation as the ACT scores of the students who took that measure. This process also was used with the Analytic Writing Tasks.

In non-technical terms, this type of scaling essentially involves assigning the highest raw score that was earned on a task by any freshman the same value as the highest ACT score of any freshman who took that task (i.e., not necessarily the same person). The second highest raw score is then assigned the same value as the second highest ACT score, and so on. A freshman and a senior who earned the same raw score on a task were assigned the same scale score for that task.

As a result of the scaling process, scores from different tasks could be combined to compute a school's mean Performance Task scale score. The same procedures also were used to compute scale scores for the two Analytic Writing Tasks.

Appendix C1
Equations Used to Estimate a School's CLA Score on the Basis of its Students' Mean ACT Score

Some schools may be interested in making freshmen to senior comparisons for other ACT scores. The table below provides the necessary parameters from the regression equations that will allow you to carry out your own calculations. Also provided for each equation is the standard error and R-square values.

Measure	Class	Intercept	Slope	Standard Error	R-square
Performance Task	Freshmen	6.800	0.703	0.902	0.858
	Seniors	10.875	0.621	0.992	0.789
Analytic Writing Tasks	Freshmen	9.147	0.614	1.276	0.693
	Seniors	14.651	0.551	1.254	0.626
Make-an-Argument	Freshmen	8.664	0.623	1.449	0.645
	Seniors	15.488	0.495	1.216	0.589
Critique-an-Argument	Freshmen	8.727	0.623	1.148	0.744
	Seniors	13.001	0.624	1.462	0.610
Total Score	Freshmen	8.015	0.657	1.026	0.802
	Seniors	11.957	0.622	1.007	0.747

Appendix C2
Expected CLA Score for Any Given Mean ACT Score for Freshmen and Seniors

	Freshmen					Seniors				
Mean ACT Score	Performance Task	Analytic Writing Tasks	Make-an-Argument	Critique-an-Argument	Total Score	Performance Task	Analytic Writing Tasks	Make-an-Argument	Critique-an-Argument	Total Score
1	7.5	9.8	9.3	9.4	8.7	11.5	15.2	16.0	13.6	12.6
2	8.2	10.4	9.9	10.0	9.3	12.1	15.8	16.5	14.2	13.2
3	8.9	11.0	10.5	10.6	10.0	12.7	16.3	17.0	14.9	13.8
4	9.6	11.6	11.2	11.2	10.6	13.4	16.9	17.5	15.5	14.4
5	10.3	12.2	11.8	11.8	11.3	14.0	17.4	18.0	16.1	15.1
6	11.0	12.8	12.4	12.5	12.0	14.6	18.0	18.5	16.7	15.7
7	11.7	13.4	13.0	13.1	12.6	15.2	18.5	19.0	17.4	16.3
8	12.4	14.1	13.6	13.7	13.3	15.8	19.1	19.4	18.0	16.9
9	13.1	14.7	14.3	14.3	13.9	16.5	19.6	19.9	18.6	17.6
10	13.8	15.3	14.9	15.0	14.6	17.1	20.2	20.4	19.2	18.2
11	14.5	15.9	15.5	15.6	15.2	17.7	20.7	20.9	19.9	18.8
12	15.2	16.5	16.1	16.2	15.9	18.3	21.3	21.4	20.5	19.4
13	15.9	17.1	16.8	16.8	16.6	18.9	21.8	21.9	21.1	20.0
14	16.6	17.7	17.4	17.4	17.2	19.6	22.4	22.4	21.7	20.7
15	17.3	18.4	18.0	18.1	17.9	20.2	22.9	22.9	22.4	21.3
16	18.0	19.0	18.6	18.7	18.5	20.8	23.5	23.4	23.0	21.9
17	18.8	19.6	19.3	19.3	19.2	21.4	24.0	23.9	23.6	22.5
18	19.5	20.2	19.9	19.9	19.8	22.1	24.6	24.4	24.2	23.2
19	20.2	20.8	20.5	20.6	20.5	22.7	25.1	24.9	24.9	23.8
20	20.9	21.4	21.1	21.2	21.2	23.3	25.7	25.4	25.5	24.4
21	21.6	22.0	21.7	21.8	21.8	23.9	26.2	25.9	26.1	25.0
22	22.3	22.7	22.4	22.4	22.5	24.5	26.8	26.4	26.7	25.6
23	23.0	23.3	23.0	23.1	23.1	25.2	27.3	26.9	27.4	26.3
24	23.7	23.9	23.6	23.7	23.8	25.8	27.9	27.4	28.0	26.9
25	24.4	24.5	24.2	24.3	24.4	26.4	28.4	27.9	28.6	27.5
26	25.1	25.1	24.9	24.9	25.1	27.0	29.0	28.4	29.2	28.1
27	25.8	25.7	25.5	25.5	25.8	27.6	29.5	28.9	29.8	28.8
28	26.5	26.3	26.1	26.2	26.4	28.3	30.1	29.3	30.5	29.4
29	27.2	27.0	26.7	26.8	27.1	28.9	30.6	29.8	31.1	30.0
30	27.9	27.6	27.4	27.4	27.7	29.5	31.2	30.3	31.7	30.6
31	28.6	28.2	28.0	28.0	28.4	30.1	31.7	30.8	32.3	31.2
32	29.3	28.8	28.6	28.7	29.0	30.7	32.3	31.3	33.0	31.9
33	30.0	29.4	29.2	29.3	29.7	31.4	32.8	31.8	33.6	32.5
34	30.7	30.0	29.8	29.9	30.4	32.0	33.4	32.3	34.2	33.1
35	31.4	30.6	30.5	30.5	31.0	32.6	33.9	32.8	34.8	33.7
36	32.1	31.3	31.1	31.2	31.7	33.2	34.5	33.3	35.5	34.3

Appendix D
Factors Considered and Procedures Used to Compare Observed and Expected Outcomes at Your School

The CLA staff used national data to develop equations to predict college graduation and retention rates. They then applied these models to the characteristics of the institutions that participated in the CLA 2004–2005 data collection cycle. Table 7 in Section V presents the results of these analyses. The remainder of this appendix describes the data that were used for this purpose and the modeling procedures that were employed.

Data. The Education Trust provided the data that were used for model building. The dataset included institutional variables from approximately 1,400 4-year institutions that submitted data to IPEDS for the 2003–2004 academic year. Additional variables were derived from other sources (e.g., *Barron's Guide to American Colleges*) or constructed using specified-calculation rules.

Modeling Procedures. Three Ordinary Least Squares (OLS) regression models were conducted on all available schools in the dataset using the first-year retention rate, 4-year graduation rate, and 6-year graduation rate as the dependent variables. Potential predictors of these outcome variables were selected based on a review of literature and the previous work of the Education Trust. The following is the final list of the predictors that were used:

- Sector (public vs. private)
- Status as a Historically Black College or University (HBCU)
- Carnegie Classification (coded as 0/1 variables based on the specific school classification)
- Estimated median SAT or ACT equivalent of freshman class
- Admissions selectivity, per *Barron's Guide to American Colleges*
- Number of full-time equivalent (FTE) undergraduates (in 1000s)
- Percentage of undergraduates receiving Pell grants
- Student-related expenditures / FTE student
- Percentage of FTE undergraduate students age 25 and over
- Percentage of undergraduates who are enrolled part-time
- Status as a commuter campus

Please refer to (*www.collegeresults.org/aboutthedata.aspx*) for more detail on these variables. All the models used the same set of predictors. However, because of missing data, not all schools were used in each model. Schools that were missing any predictor or outcome data were designated "NA." The table below shows the number of schools used for model building, the resulting R-square value (R-square indicates the percentage of variance in the outcome variable that can be explained by the combination of predictors used), and the coefficients and significance of each intercept and predictor variable (* indicates p values less than .05 and ** indicates p values less than .01).

Number of Schools and R-square Values
Coefficients and Significance of Intercepts and Predictor Variables for Each Outcome Model

	First-year retention rate	4-year graduation rate	6-year graduation rate
Number of Schools	831	1,238	1,257
R-square	.62	.75	.72

	First-year retention rate	4-year graduation rate	6-year graduation rate
Intercept	31.456	-17.087	-5.775
Sector (public vs. private)	-1.636 *	-12.253 **	-6.842 **
Status as a Historically Black College or University (HBCU)	6.006 **	9.399 **	9.657 **
Carnegie Classification			
Doctoral/Research Universities—Extensive	2.305	7.031 *	7.327 **
Doctoral/Research Universities—Intensive	1.463	2.602	4.919 *
Master's Colleges and Universities I	4.015 *	6.316 *	7.399 **
Master's Colleges and Universities II	3.498	5.693 *	6.576 **
Baccalaureate Colleges—Liberal Arts	3.070	9.147 **	5.656 *
Baccalaureate Colleges—General	0.717	4.258	4.561 *
Baccalaureate/Associate's Colleges	-2.037	6.612	4.446
Other (includes specialized institutions)	5.126	-4.400	6.104
Estimated median SAT or ACT equivalent of freshman class	0.035 **	0.052 **	0.055 **
Admissions selectivity	1.577 **	1.874 **	1.495 **
Number of full-time equivalent (FTE) undergraduates (1000s)	0.320 **	-0.268 **	0.226 **
Percent of undergraduates receiving Pell grants	-0.074 **	-0.310 **	-0.268 **
Student-related expenditures / FTE student	0.133 **	0.311 **	0.185 **
Percent of FTE undergraduate students age 25 and over	-0.070 *	-0.046	-0.104 **
Percent of undergraduates who are enrolled part-time	0.006	-0.101 **	-0.108 **
Status as a commuter campus	-0.438	-4.072**	-2.582 **

* $p < .05$
** $p < .01$

The regression weights from the models were applied to the data from each participating CLA school to calculate its predicted or "expected" rate for each outcome. The predicted rate for a school was then subtracted from its actual rate to yield a deviation or "residual" score. A positive deviation indicates the school had a higher than expected retention or graduation rate whereas a negative value indicates a lower than expected rate. The deviation scores were divided by the standard error and these results were used to classify schools as having rates that were above, at, or below expected.

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