# Concord University CLA Results, 2006-2012 

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Each year, Concord University administers the Collegiate Learning Assessment (CLA) to a maximum of 100 first-semester freshman and 100 graduating seniors who have taken the majority of their coursework at Concord. The CLA is funded by the HEPC (through 2013). "The CLA offers a value-added, constructed-response approach to the assessment of higher-order skills, such as critical thinking and written communication" (CLA, 2012).

## About the Test

Each student is randomly assigned either a Performance Task or an Analytic Writing Task. All tasks are administered online and consist of open-ended prompts. "The CLA requires that students use critical thinking and written communication skills to perform cognitively demanding tasks. The integration of these skills mirrors the requirements of serious thinking and writing task faced in life outside of the classroom" (CLA, 2012).

In the Performance Task, students are presented with a series of open-ended questions about a realistic, but hypothetical situation. Included with the questions and direction is a Document Library that contains information sources such as letters, research summaries, newspaper articles, maps, charts, interview transcripts, and maps. Students are given 90 minutes to respond to the Performance Task questions, using the included evidence.
"Performance Tasks often require students to marshal evidence from different sources; distinguish rational arguments from emotional ones 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 resolve issues; and weigh, organize, and synthesize information from several sources" (CLA, 2012).

The Analytic Writing Task consists of two essays: Make-an-Argument and Critique-anArgument. In Make-an-Argument, students are presented with an opinion on some issue and are given 45 minutes to write a persuasive analytic essay to support a position on the issue. Students are expected to develop a position and support it with relevant and persuasive examples. In Critique-an-Argument, students are given 30 minutes to evaluate the reasoning used in an argument (rather than simply agreeing or disagreeing), including identifying logical flaws or fallacies and how they affect the conclusion of the argument.

## Scoring and Value Added

The institution, not the student, is considered the primary unit of analysis. "The CLA is designed to measure an institution's contribution, or value-added, to the development of higherorder thinking skills" (CLA, 2012). In addition to an overall score and scores for each task, subscores are reported for Analytic Reasoning and Evaluation, Writing Effectiveness, Writing Mechanics, and Problem Solving.

A key component of the score report is the Value Added score. Using a statistical technique known as hierarchical linear modeling (HLM), the value added score takes into account students' entering academic ability (SAT or ACT scores), as well as the performance of both freshmen and seniors. "Value-added modeling is often viewed as an equitable way of estimating an instifution's contribution to learning. [...] providing scores that can be interpreted as relative to institutions testing students of similar entering academic ability." "Under this methodology, a school's value-added score indicates the degree to which the observed senior mean CLA score meets, exceeds, or falls below expectations established by (1) senior's Entering Academic Ability (EAA) scores and (2) the mean CLA performance of freshman at that school, which serves as a control for selection effects not covered by EAA" (CLA, 2012).

## Summary by Year

Score reporting formats are inconsistent from year to year; summary information may vary based on reported data.

2006-2007 ${ }^{1}$. Seventy-six (76) freshmen and 29 seniors took the CLA in 2006-2007. Subscore data for seniors was not reported because the total number per test was under 25 (recall that students are split equally between the two tasks). Freshmen CLA scores were lower than expected from entering academic ability (EAA) and seniors performed as expected. The value added decile was 10, meaning our value-added score was better than $90 \%$ of four-year institutions taking the CLA. See Table 1 for scores.

2007-2008'. Sixty (60) freshmen and 13 seniors took the CLA in 2007-2008. Again, subscore data for seniors was not reported due to small sample size. Freshmen CLA scores were above expected from EAA (well above for the performance task, at expected for make an argument) and overall were in the $81^{\text {st }}$ percentile (better than $81 \%$ of participating institutions); senior data was not reported-there were not enough students with both CLA data and EEA data. No value added score was reported this year. See Table 1 for scores.

2008-2009 ${ }^{1}$. Ninety-six (96) freshmen and 49 seniors took the CLA in 2008-2009. Fewer than 25 seniors took the Analytic Writing task, so these scales and subscales are not reported. Freshmen scored below expected from EAA (23 ${ }^{\text {rd }}$ percentile) and seniors were above expected $\left(76^{\text {th }}\right.$ percentile). Value added score was in the $92^{\text {nd }}$ percentile; after adjusting for entering academic ability, the difference in performance between seniors and freshmen was higher than $92 \%$ of comparison institutions. See Table 1 for scores.

2009-2010 ${ }^{\mathbf{1}}$. Eighty (80) freshmen and 34 seniors took the CLA in 2008-2009.
Freshmen scored in the $22^{\text {nd }}$ percentile and seniors in the $13^{\text {th }}$. Overall, CLA scores were lower than expected from EAA. Value added score was in the $10^{\text {th }}$ percentile, meaning we did better than only $10 \%$ of participating institutions. See Table 1 for scores.

[^0]2010-2011 ${ }^{\mathbf{2}}$. Thirty-six (36) freshmen and 29 seniors took the CLA in 2010-2011.
Freshmen scored in the $10^{\text {th }}$ percentile and seniors in the $31^{\text {st }}$; overall CLA scores were near expected. Our value added score was in the $61^{\text {st }}$ percentile. See Table 1 for scores.

2011-2012 ${ }^{2}$. Fifty-six (56) freshmen and 18 seniors took the CLA in 2011-2012.
Freshmen scored in the $5^{\text {th }}$ percentile and seniors in the $39^{\text {th }}$; overall CLA scores were near expected. Our value added score was in the $65^{\text {th }}$ percentile. See Table 1 for scores.

Table 1: CLA Scores, by Year

|  | $2006-07$ | $2007-08$ | $2008-09$ | $2009-10$ | $2010-11$ | $2011-12$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Freshmen (n) | 76 | 60 | 96 | 80 | 36 | 56 |
| Freshman Total CLA | 991 | 1044 | 1025 | 1021 | 932 | 888 |
| Freshman Performance Task | 984 | 1045 | 999 | 1023 | 929 | 887 |
| Freshman Analytic Writing Task | 998 | 1035 | 1050 | 1019 | 935 | 888 |
| Freshman Make an Argument | 1010 | 1021 | 1053 | 1023 | 922 | 887 |
| Freshman Critique an Argument | 984 |  | 1047 | 1015 | 915 | 887 |
| Freshman EAA |  |  | 1008 | 999 | 955 | 972 |
| Seniors (n) | 29 | 13 | 49 | 34 | 29 | 18 |
| Senior Total CLA | 1210 |  | 1201 | 1093 | 1119 | 1143 |
| Senior Performance Task | 1184 | 914 | 1136 | 1052 | 1156 | 1179 |
| Senior Analytic Writing Task | 1214 | 941 |  | 1133 | 1067 | 1071 |
| Senior Make an Argument | 1189 | 1000 |  | 1116 | 1026 | 1079 |
| Senior Critique and Argument | 1145 | 978 |  | 1151 | 1108 | 1062 |
| Senior EAA |  |  | 1025 | 1025 | 1054 | 1097 |
| Value Added \%tile | 100 |  | 92 | 10 | 61 | 65 |
| VA Peformance Task |  |  | 85 | 7 | 71 | 66 |
| VA Analytic Writing |  |  |  | 20 | 30 | 38 |
| VA Make an Argument |  |  |  | 17 | 16 | 63 |
| VA Critique an Argument |  |  |  | 29 | 56 | 16 |

[^1]
## Analysis of Subscores

Because of small and uneven sample sizes, further analysis of data is complicated. However, in an attempt to glean more data, data from Concord was compared to all institutions giving the CLA. This comparison used a t-test. If probability is less than 0.05 (5\%), the sample (Concord students) is significantly different from the comparison group (all CLA institutions); if less than 0.01 (1\%), the sample is strongly significantly different.

In 2006-2007, freshmen scored strongly significantly lower than all students for every measure (Performance Task, Analytic Writing Task, Make-an-Argument, Critique-an-Argument, Total CLA, Entering Academic Ability), but seniors were statistically no different (with the exception of total CLA). In other words, our freshmen started out lower than average, but our seniors were comparable to other graduating seniors. In the case of total CLA score, our seniors scored significantly higher than other seniors. See Table A1 in Appendix.

In 2007-2008, only freshmen Entering Academic Ability (EAA) was strongly significantly lower than all students. All other scores were comparable. See Table A2 in Appendix.

In 2008-2009, freshmen scored strongly significantly lower than all students for every measure (Performance Task, Analytic Writing Task, Make-an-Argument, Critique-anArgument), but seniors were statistically no different. (Total CLA and EEA for all schools not reported this year.) In other words, our freshmen started out lower than average, but our seniors were comparable to other graduating seniors. See Table A3 in Appendix.

In 2009-2010, freshmen scored significantly lower than all students for every measure (Performance Task, Analytic Writing Task, Make-an-Argument, Critique-an-Argument, Total CLA, Entering Academic Ability); however, so did seniors, for everything except EAA, which was not significantly different. See Table A4 in Appendix.

In 2010-2011, freshmen scored strongly significantly lower than all students for every measure (Performance Task, Analytic Writing Task, Make-an-Argument, Critique-an-Argument, Total CLA, Entering Academic Ability). Seniors were significantly lower in the Analytic Writing

Task and strongly significantly lower in Make -an-Argument, but no different for other measures and overall. In other words, our freshmen started out lower than average, but our seniors were comparable to other graduating seniors. See Table A5 in Appendix.

Summary subscores were included for the first time in this year's report. Analytic Reasoning and Evaluation, Writing Effectiveness, and Writing Mechanics subscores were included for each task, and Problem Solving was included for the Performance Task. Freshmen were significantly lower for all subscores except writing effectiveness in the Performance Task. Seniors scored significantly lower for subscores in Make-an-Argument, but no different in other subscores. See Table A6 in Appendix.

In 2011-2012, freshmen scored strongly significantly lower than all students for every measure (Performance Task, Analytic Writing Task, Make-an-Argument, Critique-an-Argument, Total CLA, Entering Academic Ability), but seniors were statistically no different. In other words, our freshmen started out lower than average, but our seniors were comparable to other graduating seniors. See Table A7 in Appendix.

Summary subscores were included again this year. Freshmen were significantly lower for all subscores, and seniors no different for all subscores, compared to other students taking the CLA. See Table A8 in Appendix.

## Combined Score Analysis



[^2]for the new scaled data did not indicate any significant differences between Concord students and students at all CLA institutions. See Table A9 in Appendix.

The score report for each year includes information on how to calculate a value added score for subgroups. This analysis is not feasible, given our small sample sizes. However, using the parameters described in the 2011-2012 Institutional Report, the combined CLA scores from 2006-2012 were combined into a value added score. This is at best a rough comparisonparameters are different for each year. With this limitation in mind, consider Table 2.

Using this rough combined score, Concord seniors scored better than $33 \%$ of CLA institutions on the Performance Task from 2006-2012 (taking into account entering academic ability and freshman performance). They scored better than $81 \%$ on the Analytic Writing Task, $86 \%$ on Make-an-Argument, and $44 \%$ on Critique-an-Argument. Overall, the combined CLA score indicates that our seniors performed better than 79\% of CLA institutions from 2006-2012, when scores are adjusted for entering academic ability.

Table 2: Combined Value Added Scores, 2006-2012

|  | Expected <br> Value | Value Added | Value Added <br> Percentile |
| :--- | :---: | :---: | :---: |
| Performance Task | 1119 | -0.36828 | 33 |
| Analytic Writing Task | 1114 | 0.079406 | 81 |
| Make-an-Argument | 1099 | 0.203717 | 86 |
| Critique-an- <br> Argument | 1127 | -0.10518 | 44 |
| Total CLA | 1115 | 0.074932 | 79 |

## Summary

Although small sample sizes make complete analysis problematical, a general picture of the value added by a degree from Concord University can be gleaned from the CLA data from 2006-2012. In general, our freshmen are less prepared than freshman at other institutions, but our seniors are no different from their graduating peers-in fact, they generally score better than expected on the CLA, based on entering academic ability. Our value added scores are
generally in the $60^{\text {th }}$ percentile or higher, indicating that the value added at Concord is higher than at least $60 \%$ of CLA institutions.

## Works Cited

2011-2012 Institutional Report for Concord University of the Collegiate Learning Assessment


## Appendix I

Table A1: 2006-2007 Subscores

| 2006-07 |  |  |  | *Schools that tested freshmen \& seniors |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :--- |
| Summary statistics | CU Mean | CU SD | CU n | All Mean | All SD | All n | t score | p | sig |
| FRESHMEN |  |  |  |  |  |  |  |  |  |
| Performance Task | 980 | 158 | 44 | 1065 | 103 | 114 | -3.30756 | $<.01$ | $* *$ |
| Analytic Writing Task | 997 | 123 | 35 | 1099 | 100 | 103 | -4.43334 | $<.01$ | $* *$ |
| Make-an-Argument | 1007 | 165 | 41 | 1096 | 103 | 107 | -3.22165 | $<.01$ | $* *$ |
| Critique-an-Argument | 984 | 135 | 35 | 1089 | 102 | 109 | -4.23001 | $<.01$ | $* *$ |
| Total CLA | 991 | 101 | 76 | 1077 | 101 | 116 | -5.76982 | $<.01$ | $* *$ |
| SAT score | 990 | 178 | 87 | 1059 | 133 | 115 | -3.03168 | $<01$ | $* *$ |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| SENIORS (n) |  |  |  |  |  |  |  |  |  |
| Performance Task | 1184 | 153 | 20 | 1180 | 113 | 94 | 0.110673 | $>.05$ |  |
| Analytic Writing Task | 1214 | 181 | 15 | 1207 | 93 | 83 | 0.146334 | $>.05$ |  |
| Make-an-Argument | 1189 | 216 | 16 | 1187 | 92 | 90 | 0.036454 | $>.05$ |  |
| Critique-an-Argument | 1207 | 184 | 18 | 1218 | 100 | 90 | -0.24646 | $>.05$ |  |
| Total CLA | 1210 | 102 | 29 | 1174 | 102 | 108 | 1.687536 | $<.05$ | $*$ |
| SAT score | 1061 | 135 | 35 | 1097 | 127 | 104 | -1.38482 | $>.05$ |  |

Table A2: 2007-2008 Subscores

| 2007-08 |  | - |  | *Schools that tested freshmen \& seniors |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Summary statistics | CU Mean | CUSD | CUn | All Mean | All SD | Alln | t score | p | sig |
| FRESHMEN |  |  |  |  |  |  |  |  |  |
| Performance Task | 1045 | 165 | 30 | 1051 | 98 | 161 | -0.19293 | $>.05$ |  |
| Analytic Writing Task | 1035 | 123 | 31 | 1072 | 82 | 157 | -1.60587 | $>.05$ |  |
| Make-an-Argument | 1021 | 145 | 31 | 1074 | 88 | 159 | -1.96576 | $>.05$ |  |
| Critique-an-Argument | 1049 | 162 | 31 | 1068 | 84 | 157 | -0.63634 | $>.05$ |  |
| Total CLA |  |  |  |  |  |  |  |  |  |
| SAT score | 973 | 173 | 60 | 1053 | 123 | 168 | -3.29671 | <. 01 | ** |
| - | - |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| SENIORS ( n ) |  |  |  |  |  |  |  |  |  |
| Performance Task | 1081 | 239 | 8 | 1157 | 95 | 148 | -0.8956 | >. 05 |  |
| Analytic Writing Task | 1165 | 224 | 7 | 1176 | 78 | 142 | -0.12954 | $>.05$ |  |
| Make-an-Argument | 1191 | 241 | 8 | 1170 | 83 | 143 | 0.245647 | $>.05$ |  |
| Critique-an-Argument | 1123 | 200 | 7 | 1178 | 80 | 144 | -0.72477 | $>.05$ |  |
| Total CLA |  |  |  |  |  |  |  |  |  |
| SAT score | 1071 | 131 | 14 | 1079 | 115 | 161 | -0.22121 | $>.05$ |  |

Table A3: 2008-2009 Subscores

| 2008-09 |  |  |  | *Schools that tested freshmen \& seniors |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Summary statistics | CU Mean | CU SD | CU n | All Mean | All SD | All n | t score | p | sig |
| FRESHMEN |  |  |  |  |  |  |  |  |  |
| Performance Task | 992 | 131 | 50 | 1067 | 90 | 183 | -3.81009 | <. 01 | ** |
| Analytic Writing Task | 1046 | 132 | 48 | 1110 | 106 | 183 | -3.10665 | <. 01 | ** |
| Make-an-Argument | 1050 | 170 | 50 | 1113 | 114 | 183 | -2.47294 | <. 01 | ** |
| Critique-an-Argument | 1043 | 142 | 49 | 1105 | 102 | 183 | -2.86484 | <. 01 | ** |
| Total CLA | 1025 |  | 96 |  |  |  |  |  |  |
| SAT score |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | - |  |  |
|  |  |  |  |  |  |  |  |  |  |
| SENIORS ( n ) |  |  |  |  |  |  |  |  |  |
| Performance Task | 1132 | 164 | 27 | 1170 | 83 | 191 | -1.18276 | $>.05$ |  |
| Analytic Writing Task | 1227 | 200 | 26 | 1230 | 95 | 191 | -0.07534 | $>.05$ |  |
| Make-an-Argument | 1239 | 247 | 26 | 1215 | 96 | 191 | 0.490435 | $>.05$ |  |
| Critique-an-Argument | 1215 | 183 | 26 | 1243 | 98 | 191 | -0.76538 | $>.05$ |  |
| Total CLA | 1201 |  | 49 |  |  |  |  |  |  |
| SAT score |  |  |  |  |  |  |  |  |  |

Table A4: 2009-2010 Subscores

| 2009-10 | CU Mean | $C \cup S D$ | * * Schools that tested freshmen \& seniors |  |  |  |  | $p$ | sig |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Summary statistics |  |  | CUn | All Mean | All SD | All n | t score |  |  |
| FRESHMEN |  |  |  |  |  |  |  |  |  |
| Performance Task | 1023 | 142 | 40 | 1070 | 89 | 153 | -1.99347 | <. 05 | * |
| Analytic Writing Task | 1019 | 136 | 40 | 1115 | 101 | 153 | -4.17362 | <. 01 | ** |
| Make-an-Argument | 1023 | 166 | 40 | 1118 | 108 | 153 | -3.43443 | <. 01 | ** |
| Critique-an-Argument | 1015 | 172 | 40 | 1111 | 97 | 153 | -3.39179 | <. 01 | ** |
| Total CLA | 1021 | 138 | 80 | 1092 | 93 | 153 | -4.13673 | <. 01 | ** |
| EAA | 999 | 131 | 80 | 1054 | 115 | 153 | -3.17041 | <. 01 | ** |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| SENIORS ( n ) |  |  |  |  |  |  |  |  |  |
| Performance Task | 1052 | 176 | 17 | 1156 | 89 | 159 | -2.40374 | <. 01 | ** |
| Analytic Writing Task | 1133 | 141 | 17 | 1226 | 95 | 159 | -2.65581 | <. 01 | ** |
| Make-an-Argument | 1116 | 174 | 17 | 1215 | 97 | 159 | -2.30788 | <. 05 | * |
| Critique-an-Argument | 1151 | 169 | 17 | 1235 | 97 | 159 | -2.01419 | <. 05 | * |
| Total CLA | 1093 | 163 | 34 | 1191 | 90 | 159 | -3.39675 | <. 01 | ** |
| EAA | 1025 | 154 | 34 | 1071 | 107 | 159 | -1.65822 | $>.05$ |  |

Table A5: 2010-2011 Subscores

| 2010-11 |  |  |  | *Schools that tested freshmen \& seniors |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :--- | :--- |
| Summary statistics | CU Mean | CU SD | CU n | All Mean | All SD | All n | t score | p | sig |
| FRESHMEN |  |  |  |  |  |  |  |  |  |
| Performance Task | 929 | 170 | 19 | 1048 | 97 | 188 | -3.00224 | $<.01$ | $* *$ |
| Analytic Writing Task | 935 | 121 | 17 | 1052 | 96 | 188 | -3.87797 | $<.01$ | $* *$ |
| Make-an-Argument | 922 | 154 | 19 | 1048 | 100 | 188 | -3.49273 | $<.01$ | $* *$ |
| Critique-an-Argument | 915 | 160 | 17 | 1051 | 99 | 188 | -3.44551 | $<.01$ | $* *$ |
| Total CLA | 932 | 147 | 36 | 1050 | 95 | 188 | -4.63456 | $<.01$ | $* *$ |
| EAA | 955 | 152 | 38 | 1045 | 114 | 188 | -3.45865 | $<.01$ | $* *$ |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| SENIORS (n) |  |  |  |  |  |  |  |  |  |
| Performance Task | 1156 | 167 | 17 | 1157 | 91 | 186 | -0.02436 | $>.05$ |  |
| Analytic Writing Task | 1067 | 142 | 12 | 1154 | 87 | 186 | -2.09713 | $<.05$ | $*$ |
| Make-an-Argument | 1026 | 168 | 12 | 1141 | 91 | 186 | -2.34913 | $<.01$ | $* *$ |
| Critique-an-Argument | 1108 | 150 | 12 | 1165 | 90 | 186 | -1.30133 | $>.05$ |  |
| Total CLA | 1119 | 161 | 29 | 1156 | 86 | 186 | -1.21094 | $>.05$ |  |
| EAA | 1054 | 138 | 29 | 1060 | 105 | 186 | -0.22424 | $>.05$ |  |

Table A6: 2010-2011 Summary Subscores

| Freshmen: Summary Subscore Statistics | CU Mean | CU SD |  | All Mean | All SD | All n | T (df>29) | $p$ | sig |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Performance Task |  |  | $36$ |  |  | 188 |  |  |  |
| Analytic Reasoning and Evaluation | $2.1$ | $0.9$ |  | 2.8 | 0.9 | 188 | -3.23092 | <. 005 | ** |
| Writing Effectiveness | $2.6$ | $1.1$ | 19 | 3 | 0.9 | 188 | -1.53401 | >. 05 |  |
| Writing Mechanics | 2.5 | 1.1 | 19 | 3.1 | 0.9 | 188 | -2.30102 | <. 025 | * |
| Problem Solving | $2.3$ | 1.1 | 19 | 2.9 | 0.9 | 188 | -2.30102 | <. 025 | * |
| Make-anArgument |  |  |  |  |  |  |  |  |  |
| Analytic <br> Reasoning and Evaluation | 2.7 | 0.7 | 19 | 3.2 | 0.8 | 188 | -2.92634 | <. 005 | ** |
| Writing <br> Effectiveness | 2.6 | 0.8 | 19 | 3.2 | 0.9 | 188 | -3.07823 | <. 005 | ** |
| Writing Mechanics | 2.9 | 0.8 | 19 | 3.4 | 0.8 | 188 | -2.59627 | <. 005 | ** |


| Freshmen: <br> Summary <br> Subscore <br> Statistics |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Table A7: 2011-2012 Subscores

| $\mathbf{2 0 1 1 - 1 2}$ |  |  |  | *Schools that tested freshmen \& seniors |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :--- | :--- |
| Summary statistics | CU Mean | CU SD | CU n | All Mean | All SD | All n | t score | p | sig |
| FRESHMEN |  |  |  |  |  |  |  |  |  |
| Performance Task | 887 | 137 | 29 | 1048 | 98 | 167 | -10.4722 | $<.01$ | $* *$ |
| Analytic Writing Task | 888 | 153 | 27 | 1048 | 89 | 169 | -8.89836 | $<.01$ | $* *$ |
| Make-an-Argument | 887 | 187 | 28 | 1047 | 96 | 169 | -7.06313 | $<.01$ | $* *$ |
| Critique-an-Argument | 887 | 165 | 27 | 1046 | 88 | 169 | -8.71634 | $<.01$ | $* *$ |
| Total CLA | 888 | 144 | 56 | 1048 | 93 | 169 | -13.3466 | $<.01$ | $* *$ |
| EAA | 972 | 137 | 57 | 1031 | 110 | 169 | -4.49507 | $<.01$ | $* *$ |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| SENIORS (n) | 1179 | 166 | 12 | 1165 | 95 | 171 | 0.288853 | $>.05$ |  |
| Performance Task | 1071 | 146 | 6 | 1157 | 84 | 172 | -1.43459 | $>.05$ |  |
| Analytic Writing Task | 1079 | 162 | 6 | 1142 | 86 | 172 | -0.94793 | $>.05$ |  |
| Make-an-Argument | 10 |  |  |  |  |  |  |  |  |
| Critique-an-Argument | 1062 | 192 | 6 | 1170 | 91 | 172 | -1.37247 | $>.05$ |  |
| Total CLA | 1143 | 164 | 18 | 1162 | 87 | 172 | -0.48444 | $>.05$ |  |
| EAA | 1097 | 116 | 18 | 1062 | 102 | 172 | 1.231262 | $>.05$ |  |

Table A8: 2011-2012 Summary Subscores

| Freshmen: <br> Summary <br> Subscore <br> Statistics | CU Mean | CU SD | CU n | All Mean | All SD | All n | $t(d f>29)$ | $p$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Performance Task |  |  | $56$ |  |  | 169 |  |  |  |
| Analytic <br> Reasoning and <br> Evaluation | $2.1$ | $0.9$ | $29$ | 2.9 | 0.8 | 167 | -4.48876 | <. 005 | ** |
| Writing Effectiveness |  | $0.8$ | 29 | 2.9 | 0.9 | 167 | -5.48543 | <. 005 | ** |
| Writing Mechanics | $2.4$ | 0.9 | 29 | 3.2 | 0.8 | 167 | -4.48876 | <. 005 | ** |
| Problem Solving |  | 0.6 | 29 | 2.7 | 0.8 | 167 | -5.49191 | <. 005 | ** |
| Make-anArgument |  |  |  |  |  |  |  |  |  |
| Analytic <br> Reasoning and <br> Evaluation | 2.5 | 0.9 | 28 | 3.2 | 0.8 | 169 | -3.87009 | <. 005 | ** |
| Writing Effectiveness | 2.3 | 0.9 | 28 | 3.2 | 0.9 | 169 | -4.90105 | <. 005 | ** |
| Writing Mechanics | 2.8 | 1 | 28 | 3.4 | 0.8 | 169 | -3.01888 | <. 005 | ** |


| Freshmen: Summary Subscore Statistics | CU Mean | CU SD | CU n | All Mean | All SD | All n | t (df>29) | p |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Critique-anArgument |  |  |  |  |  |  |  |  |  |
| Analytic Reasoning and Evaluation | 1.9 | 0.9 | 27 | 2.8 | 0.9 | 169 | -4.825 | <. 005 | ** |
| Writing Effectiveness | 2.1 | 0.8 | 27 | 2.8 | 0.8 | 169 | $-4.22187$ | <. 005 | ** |
| Writing <br> Mechanics | 2.7 | 0.9 | 27 | 3.4 | 0.8 | 169 | $-3.80823$ | $.005$ | ** |
| Seniors: <br> Summary <br> Subscore <br> Statistics | CU Mean | CU SD | CU n | All Mean | All SD |  | $T(d f>29)$ |  |  |
| Performance Task |  |  | 18 |  |  | $172$ |  |  |  |
| Analytic Reasoning and Evaluation | 3.5 | 1 | 12 | 3.4 | $0.9$ | $171$ | 0.336966 | >. 05 |  |
| Writing Effectiveness | 3.8 | 1 | 12 | 3.5 | $0.9$ | 172 | 1.011055 | $>.05$ |  |
| Writing Mechanics | 3.8 | 0.6 | 12 | $3.7$ | $0.8$ | 172 | 0.544566 | $>.05$ |  |
| Problem Solving | 3.4 | 1 | 12 | 3.3 | 0.9 | 172 | 0.337018 | $>.05$ |  |
| Make-anArgument |  |  |  | $\rangle$ |  |  |  |  |  |
| Analytic Reasoning and Evaluation | $3.2$ | $1$ |  | 3.6 | 0.8 | 172 | -0.96904 | >. 05 |  |
| Writing Effectiveness | $3.3$ |  | 6 | 3.7 | 0.9 | 172 | -0.96624 | $>.05$ |  |
| Writing Mechanics |  | 0.8 | 6 | 3.8 | 0.7 | 172 | -0.90653 | $>.05$ |  |
| Critique-anArgument |  |  |  |  |  |  |  |  |  |
| Analytic Reasoning and Evaluation | 3 | 1.1 | 6 | 3.4 | 0.9 | 172 | -0.8805 | $>.05$ |  |
| Writing Effectiveness | 3 | 1.1 | 6 | 3.5 | 0.9 | 172 | -1.10063 | >. 05 |  |
| Writing Mechanics | 3.2 | 1.2 | 6 | 3.9 | 0.7 | 172 | -1.42046 | $>.05$ |  |

Table A9: Combined Scores, 2006-2012

| Summary statistics | Combined |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| FRESHMEN | CU Mean | CU SD | CU n | All Mean | All SD | All n | t | p |
| Performance Task | 954.5425 | 148 | 212 | 1057.59 | 96 | 966 | -0.58361 | $>.05$ |
| Analytic Writing Task | 968.8462 | 132 | 198 | 1080.917 | 96 | 953 | -0.68639 | $>.05$ |
| Make-an-Argument | 967.9446 | 166 | 209 | 1081.062 | 102 | 959 | -0.58119 | $>.05$ |
| Critique-an-Argument | 965.591 | 155 | 199 | 1077.098 | 95 | 959 | -0.61201 | $>.05$ |
| Total CLA | 959.617 | 111 | 344 | 1064.728 | 95 | 626 | -0.71905 | $>.05$ |
| EAA | 960.8616 | 156 | 322 | 1047.478 | 118 | 793 | -0.44183 | $>.05$ |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| SENIORS (n) |  |  |  |  |  |  |  |  |
| Performance Task | 1096.341 | 172 | 101 | 1163.169 | 93 | 949 | -0.34207 | $>.05$ |
| Analytic Writing Task | 1119.192 | 177 | 83 | 1190.445 | 89 | 933 | -0.36034 | $>.05$ |
| Make-an-Argument | 1111.613 | 212 | 85 | 1177.513 | 91 | 941 | -0.28596 | $>.05$ |
| Critique-an-Argument | 1121.111 | 178 | 86 | 1200.594 | 93 | 942 | -0.39542 | $>.05$ |
| Total CLA | 1119.229 | 124 | 159 | 1169.666 | 90 | 625 | -0.32905 | $>.05$ |
| EAA | 1034.251 | 138 | 130 | 1071.509 | 110 | 782 | -0.21102 | $>.05$ |


[^0]:    ${ }^{1}$ NOTE: For some years, sample sizes are extremely small; this makes analysis of data less reliable. Use caution when citing or analyzing data from a single year.

[^1]:    ${ }^{2}$ NOTE: For some years, sample sizes are extremely small; this makes analysis of data less reliable. Use caution when citing or analyzing data from a single year.

[^2]:    3،6 From fall 2006 to spring 2010, CAE used the same scaling equations for each assessment cycle in order to facilitate year-to-year comparisons. With the introduction of new scoring criteria in fall 2010, raw scores are now on a different scale than they were in previous years, which makes it necessary to revise the scaling equations. [...] [W]e encourage you to use the equation below to convert pre-fall 2010 scale scores to current scale scores. [...]
    score $_{\text {new }}=102.29+\left(0.8494\right.$. score $\left._{\text {old }}\right) " \quad(C L A, 2012)$

