

SOUTH DAKOTA BOARD OF REGENTS

Committee on Academic and Student Affairs

AGENDA ITEM: I – E

DATE: December 3-4, 2014

SUBJECT: FY2014 CAAP Report

Board policy requires all degree-seeking students to meet satisfactory performance benchmarks on the Collegiate Assessment of Academic Proficiency (CAAP) exam, a nationally-normed achievement test developed by ACT, Inc. comprising four subtests (writing, mathematics, reading, and science). The following report summarizes Regental exam data from FY2014, and also presents updated findings from ACT Inc.'s annual "gains analysis," which attempts to gauge the academic value-added of Regental schools.

RECOMMENDED ACTION OF THE EXECUTIVE DIRECTOR

Information only.

FY2014 CAAP Report

This report summarizes examination data for the 5,089 Regental students who sat for the CAAP exam for the first time during FY2014 (i.e., Fall 2013 or Spring 2014). Unless otherwise noted, this report uses ACT, Inc.'s "Four-Year College Sophomores" national norm group as its principal comparison group.

Mean Scores

Table 1 shows that, from FY2013 to FY2014, Regental mean scores ticked down slightly in writing and mathematics, and rose slightly in reading and science. Despite these small changes, Regental mean scores in FY2014 fell within normal ranges for all four subtests, and – as in past years – exceeded national mean scores on all four subtests. In fact, Regental mean scores have exceeded national mean scores for every cohort of students tested over the history of testing program.

Table 1
Mean Scores by Cohort

	<i>SDBOR FY2010</i>	<i>SDBOR FY2011</i>	<i>SDBOR FY2012</i>	<i>SDBOR FY2013</i>	<i>SDBOR FY2014</i>	<i>Nation FY2014</i>
<i>Writing</i>	65.1	64.9	64.6	64.7	64.6	63.0
<i>Math</i>	59.6	59.6	59.4	59.6	59.5	58.6
<i>Reading</i>	63.9	63.5	63.6	63.2	63.4	61.6
<i>Science</i>	63.2	62.9	62.9	62.8	63.0	61.2

Pass Rates

Overall, 88.7 percent of Regental students passed all four CAAP subtests in FY2014. Consequently, 11.3 percent of students failed to meet the qualifying score on at least one subtest. While CAAP pass rates varied somewhat across the six public universities in FY2014, Table 2 shows that – for all campuses – students passed the CAAP writing subtest at a much lower rate than any other subtest. Table 3 (next page) shows that the pass rates recorded in FY2014 fall into line with those seen over the last five years.

Table 2
Pass Rates, FY2014

	<i>Writing</i>	<i>Math</i>	<i>Reading</i>	<i>Science</i>	<i>All Tests</i>
<i>BHSU</i>	85.6%	97.6%	93.1%	98.9%	81.5%
<i>DSU</i>	89.8%	98.3%	93.3%	98.8%	85.1%
<i>NSU</i>	88.7%	97.3%	93.5%	98.8%	84.9%
<i>SDSMT</i>	94.9%	100.0%	96.2%	100.0%	93.4%
<i>SDSU</i>	92.9%	99.0%	96.3%	99.5%	90.7%
<i>USD</i>	92.4%	98.0%	96.5%	99.5%	89.8%
<i>System</i>	91.5%	98.5%	95.6%	99.4%	88.7%

Table 3
Pass Rates by Cohort

	FY2010	FY2011	FY2012	FY2013	FY2014
Writing	93.4%	92.7%	91.6%	92.3%	91.5%
Math	98.8%	98.1%	98.3%	98.2%	98.5%
Reading	96.2%	95.6%	95.9%	95.1%	95.6%
Science	99.5%	99.2%	99.4%	99.4%	99.4%
All Tests	90.5%	89.2%	88.8%	88.7%	88.7%

Students Meeting National Mean

In FY2014, 87.9 percent of Regental students met or exceeded the national mean on at least one subtest. Additionally, 38.2 percent of students in the FY2014 cohort met or exceeded the national mean on all four subtests. Table 4 shows results by campus and subtest. Across all subtests, SDSMT had the highest percentage of students meeting or exceeding the national mean.

Table 4
Students Meeting National Mean, FY2014

	Writing	Math	Reading	Science	Any Test	All Tests
BHSU	61.1%	37.4%	62.4%	53.1%	78.8%	24.5%
DSU	67.8%	54.7%	58.5%	59.4%	82.5%	33.9%
NSU	63.2%	49.6%	55.5%	53.7%	81.9%	25.8%
SDSMT	81.4%	94.5%	74.3%	85.1%	97.8%	65.5%
SDSU	71.5%	62.8%	65.5%	70.3%	90.1%	40.5%
USD	72.3%	57.8%	67.4%	65.2%	89.3%	36.7%
System	70.4%	59.5%	65.1%	66.1%	87.9%	38.2%

Gains Analysis

The ACT-to-CAAP “gains analysis” – in which students’ CAAP scores are compared with previous ACT scores – is conducted each year by research staff at ACT, Inc., and is intended to provide an objective summary of the academic value-added offered by Regental university system.

In order to interpret gains in achievement, ACT, Inc. first identifies all US students with scores on both the ACT and the CAAP. Next, national quartile ranks are computed for each student’s score on both tests.¹ This procedure allows for the comparison of inter-quartile shifting among student groups. For example, a student who scores in the second national quartile on an ACT subtest and later scores in the third national quartile on the same CAAP subtest can be seen as having experienced progress during the intervening years (ostensibly due in part to postsecondary learning).

¹ In this analysis, the national comparison group consists of all students from two- or four-year institutions with matched ACT-CAAP records, aggregated across the three most recent years. Of main interest in the gains analysis is the proportion of students whose performance on the CAAP exam either matched or exceeded earlier performance on the ACT.

Results from the FY2014 gains analysis suggest that Regental students showed strong gains in all four content areas examined by the ACT and the CAAP. Table 5 indicates that, across most content areas and campuses, 3 in 4 students (or more) achieved a national CAAP quartile rank that was the same as or higher than their analogous rank on the ACT. Regental institutions performed similarly across all content areas, though SDSMT students recorded especially strong gains in math achievement. Table 6 (below) provides system-level data for past cohorts, and shows that gains figures have been relatively stable over time.

Table 5
Students with Achievement Gains

	BHSU	DSU	NSU	SDSMT	SDSU	USD	System
Writing	77%	80%	79%	77%	76%	76%	77%
Math	77%	81%	83%	98%	82%	84%	84%
Reading	77%	72%	75%	77%	74%	77%	76%
Science	78%	76%	68%	79%	79%	78%	78%

Note: Percentages represent the proportion of students whose quartile rank on the CAAP was the same as or higher than their quartile rank on the ACT.

Table 6
Students with Achievement Gains, by Cohort

	FY2010	FY2011	FY2012	FY2013	FY2014
Writing	77%	75%	74%	73%	77%
Math	86%	81%	85%	83%	84%
Reading	82%	74%	77%	74%	76%
Science	82%	74%	78%	73%	78%

Note: Percentages represent the proportion of students whose quartile rank on the CAAP was the same as or higher than their quartile rank on the ACT.

Appendix A: Policy Information

Proficiency Exam Requirement

Board policy 2:28 was put in place to address several accountability issues related to increased standards, analysis of general education requirements, and the comparison of South Dakota students' performance to national norms. Degree-seeking undergraduates are required to sit for the examination during the first semester in which they become eligible (with eligibility defined as 48 passed credits at or above the 100 level for baccalaureate and 32 passed credits at or above the 100 level for associate). Students who fail to perform at a satisfactory level during first-time testing may retest twice during the following calendar year. Students who are unable to earn satisfactory scores during retesting are no longer permitted to enroll in courses at any of the six public universities. Students who are denied enrollment may apply for certification of their proficiency through an alternate method. Over time, roughly two percent of students initially failing a CAAP subtest have been unable to demonstrate an acceptable level of proficiency either through retesting or through alternate methods, and subsequently have been denied permission to re-enroll. This outcome has become less common in recent years, as campus remediation efforts have become more effective in assisting students to obtain the skills needed to meet proficiency requirements.

Qualifying Scores

During its pilot period in 1996-97, a total of 2,141 students completed the CAAP exam in South Dakota. Using both national norms and recommendations made by content area specialists, it was determined that students scoring within and above an established confidence interval would pass a given CAAP subtest. Ultimately, qualifying scores were set at half a standard deviation below the national user norms of the time. Using this method, qualifying scores were established for writing (59), mathematics (52), reading (56), and science (54).

ACT, Inc. publishes an annual *CAAP User Norms* report, which presents aggregate student performance data from several national norm groups. Using data from these publications, Table A1 provides a comparison of the national percentile ranks associated with each of SDBOR's current qualifying scores. These data do not depict the performance of Regental students, but rather are meant to indicate the relative level of rigor of SDBOR's qualifying scores in 1997 and in the current year.

Table A1
National Percentile Ranks for Current CAAP Qualifying Scores

<i>Year</i>	<i>Writing (59)</i>	<i>Math (52)</i>	<i>Reading (56)</i>	<i>Science (54)</i>
1997	15	7	12	9
2014	26	8	20	11