

CAAP Report Fall 2004-5

Introduction

The Collegiate Assessment of Academic Proficiency (CAAP) Test was given fall 2004-5 to junior students in all AUB faculties. Despite continuous reminders and urging, only 403 junior students took it though we rescheduled some extra sessions at the beginning of spring term. With the help of the Registrar's Office and the Banner system, suitable times for administration were scheduled for all juniors. Each student who took the test was given the Critical Thinking (CT) component of the test and was allowed a test of his/her choice from Mathematics Reasoning (MR), Science Reasoning (SCR), Reading (R), and Writing Skills (W).

The tests were administered following CAAP standardized administration procedures. Completed forms were sent to ACT for scoring and a month later reports were received. There was an institutional report, in addition to individual student reports. Each student received a report detailing his/her performance on tests that were taken, giving score and percentile rank compared to AUB students and also compared to American national norms of comparable 4-year institutions. In addition, students who got $\geq 50^{\text{th}}$ percentile received a Certificate of Achievement.

Results

Results of the various CAAP tests for the whole sample are reported in Table 1. Comparison with 2003 and 2002 figures and with American national norms is also provided. AUB students' best performance is on MR followed by Writing and SCR, while their lowest performance is on R. Compared to national norms, AUB performance is higher on MR, CT and on SCR while lower on R and W. With respect to previous performance on CAAP, reveals improvement in 2004 on all subjects especially in Reading and Writing. A reason could be that the 2004 sample is smaller and maybe better academically, as only the more capable students were motivated to take the test. This needs to be checked by examining students' GPA. Examining GPA data reveals that this year's sample has a higher GPA as 55% of them reported a GPA ≥ 3.01 vs. 42% of 2003 sample. Figure 1 also provides a figural representation of the results.

Table1. Comparison of CAAP Results with National Norms and with 2002

Year	N	CT	SCR	R	MR	W
2004	403	62.7	62.9	62.5	64.6	63.0
2003	736	62.3	61.2	59.7	64.2	60.0
2002*	188	63.1	60.5	59.1	61.6	60.6
2002 Jr.	46	63.0	59.0	58.0	60.0	60.0
Norms	39,463	62.1	61.1	62.6	58.1	64.5

* Includes students from all levels

Results were further examined by comparing CAAP scores for students with similar GPA in both years. Table 2 reports breakdown of scores by GPA for both years. Tests for

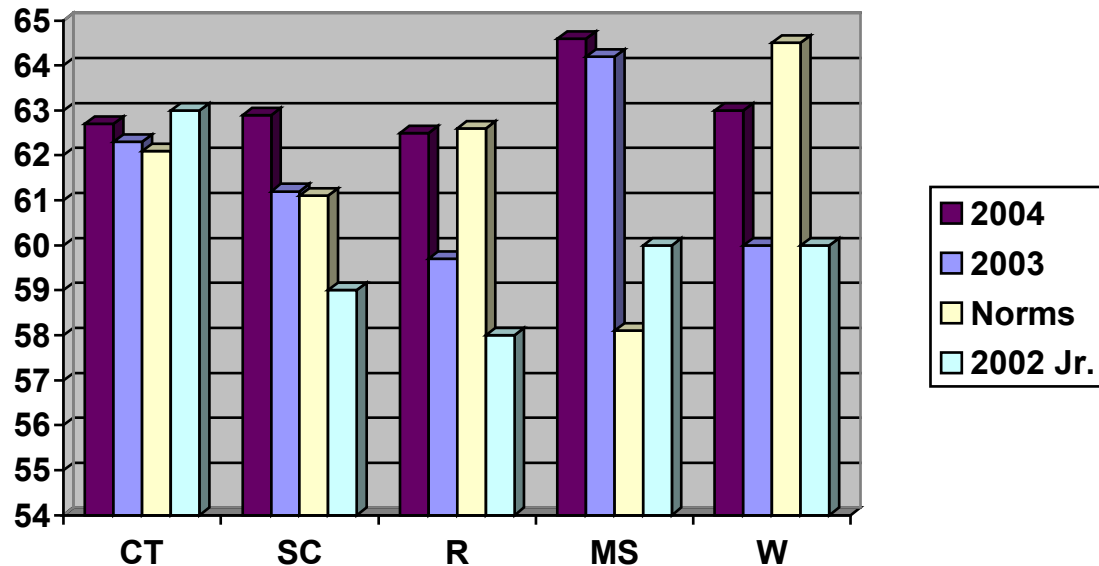
equivalence of means were conducted and areas in which differences in achievement were significant were identified. It is obvious from the results that differences in achievement on the CAAP were significant for the 2.5-3.0 group on nearly all the tests (except Reading because sample size was small). They were also significant for the 3.0-3.5 group on SCR and MR and for the ≥ 3.5 in writing. So, in general the higher means in 2005 represent real improvement especially for lower ability group and not only a better sample.

Table 2. CAAP Results by GPA

GPA	N	CT		SC		R		MR		W	
		05	04	05	04	05	04	05	04	05	04
< 2.00	7	64									
2.0-2.50	59	61	61	62	60		58	63	62	61	60
2.51-3.00	103	62*	61	62*	60	63	60	64*	63	64*	59
3.01-3.50	165	63	63	64*	62		62	64*	65	63	62
≥ 3.51	55	65	66	64	64			68	68	66*	61
No response	14	63						65			

*p< .05

Figure 1. CAAP Test Results for 2004, 2003 and 2002



Performance on CAAP tests was also compared by gender, GPA, major and whether English was a first language or not. With respect to gender, examining Table 3 reveals that highest differences between males and females were on MR, SCR and surprisingly Reading in favor of males, followed by similar performance on CT, while the differences on Writing were in favor of females. On conducting significance testing for equality of

means, we find the female advantage in Writing is not significant, and the male advantage in Reading is not significant too. Only significance was found on Science and Math in favor of males and these are in agreement with findings in the literature on gender differences. Similarly, CT ones are supported by the literature that reports non significant differences on CT between gender.

Table 3. CAAP Results by Gender

Gender	N	CT	SCR	R	MR	W
Male	224	63 (n=223)	64 (n=25)	64 (n=12)	65 (n=169)	63 (=12)
Female	179	63 (n=179)	62 (n=32)	62 (n=21)	64 (n=77)	63 (n=37)

As to age differences on the CAAP tests, all who took the test were juniors and there should not have been large differences in age level nor in results due to age.

With respect to differences resulting from English being a first language or not, there were differences as noted in Table 4, however small sample size of first group precludes statistically significant differences. Significant differences were noted, however, on CAAP test scores by GPA. In general but with the exception in Reading, the higher the GPA the higher the CAAP test score. Table 5 provides summary results by GPA, while figure 2 highlights differences graphically.

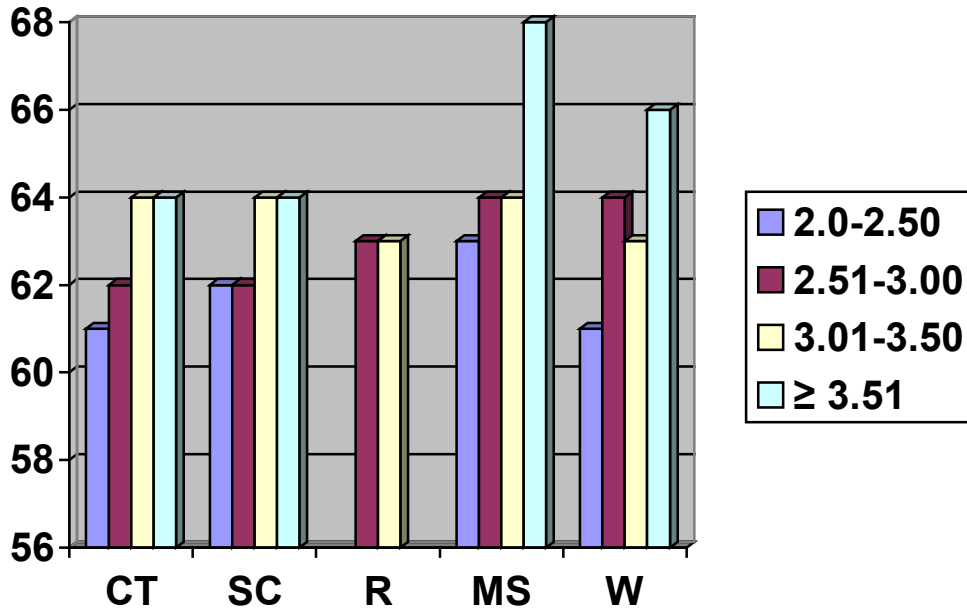
Table 4. CAAP Results by Native Language

English	N	CT	SCR	R	MR	W
First Language	54	63 (n=54)	66 (n=8)	59 (n=5)	65 (n=30)	64 (N=6)
Not First Language	346	63 (n=345)	62 (n=49)	63 (n=27)	64 (n=214)	63 (n=43)

Table5. CAAP Results by GPA

GPA	N	CT	SC	R	MR	W
< 2.00	7	64				
2.0-2.50	59	61	62		63	61
2.51-3.00	103	62	62	63	64	64
3.01-3.50	165	63	64	63	64	63
≥ 3.51	55	65	64		68	66
No response	14	63			65	

Figure 2 CAAP Score Differences by GPA



Differences by major were also noted, students from biological sciences got highest scores on all tests, followed by Engineering and Social Science students. Table 6 presents CAAP test results by major, while figures 3-4 present differences in CT and MR by major and in comparison with 2004 (in purple).

Figure 3 CT Scores by Major, Comparison with 2004 (purple)

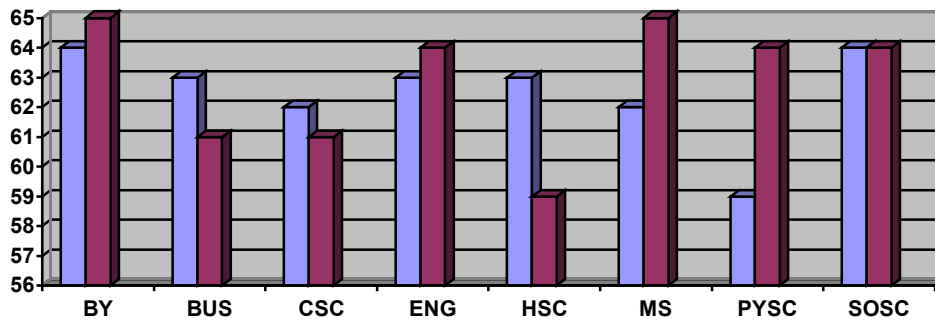


Figure 4 Math Reasoning by Major, Comparison with 2004 (purple)

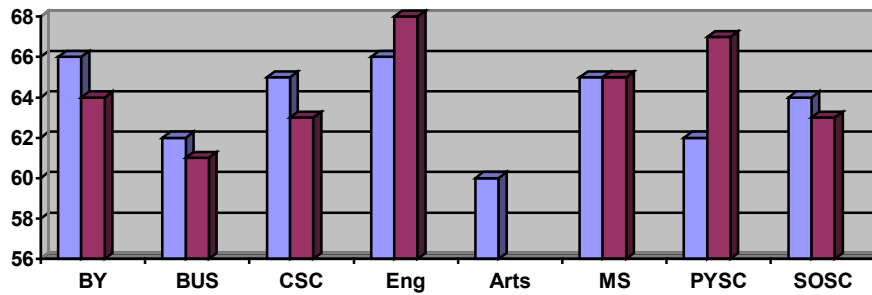


Table 6. Results by Major

Major	N	CT	SCR	R	MR	W
Agriculture	3					
Architecture	2					
Biol. Sc.	60	64	64		66	
Business	101	63		63	62	63
Comp. Sc.	28	62			65	
Education						
Engineering	109	63			66	
Fine & App. Arts*	6				60	
Health sc.	18	63	61			62
Math	5	62			65	
Physical sc.	8	59			62	
Social sc.	28	64			64	
No response	8	60			62	
Other	8	63				

* Probably Graphic Design

Results also revealed important information for Writing, Mathematics, and Reading in terms of sub scores. Table 7 provides sub scores for each of these tests, in addition to a comparison with national norms and with 2003 and 2002. In writing, AUB students do better on usage/mechanics than on rhetorical writing, while in reading they do better on social science readings than on arts/literature. With respect to math, they do very well on college algebra and much higher than the norms.

Table 7. Writing, Reading, and Math Sub score Results, 2003, 2002

Test	2004 av.	2003 av.	2002 av.	Norms 03
Writing: Usage/Mechanics	17.2	15.6	15.9	17.2
Writing: Rhetorical	16.0	14.7	14.9	17.3
Reading: Arts/literature	15.5	14.5	14.3	15.7
Reading: Social sciences	16.5	15.2	15.0	16.5
Essay	3.0	3.2	3.4	3.3
Math: Basic algebra	17.6	17.8	16.6	15.3
Math: College algebra	20.4	20.0	18.2	15.2

Certificates of Achievement

A good number of students obtained Certificates of Achievements indicating that they achieved $\geq 50^{\text{th}}$ %ile of the normative sample. Table 8 provides the number and percentage of certificates obtained in different subjects and in comparison with 2004. Percentage greatly increased in SCR, Writing and Reading while they slightly decreased in MR and in Essay writing. Figure 5 provides the percentiles by subject graphically and in comparison with 2004. Some students obtained certificates in one subject, others in two. Table 9 details this information in comparison with 2004. The highest percentage of certificates was obtained in math reasoning followed by science reasoning and critical thinking. Lowest was in Essay writing.

Table 8 Distribution of Certificates of Achievement by Subject

Subject	N	Certificates	%Certificate 05	%Certificate 04
Critical Thinking	402	220	55	51
Math Reasoning	246	199	81	88
Science Reasoning	57	41	72	50
Writing Skills	49	20	41	14
Reading	33	17	52	31
Essay	19	5	26	35

Figure Percentage Certificates by Test, 2004-5 Comparison

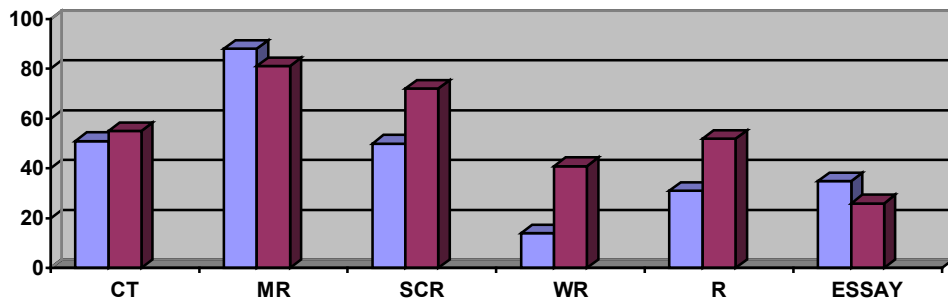


Table 9. Frequency of Number of Distributions, Comparison with 2004

	N 05	%Certificates 05	% Certificates 04	% Total 05	% Total 04
# who got certificates in 1 subject	157	45	48	39	36
# who got certificates in 2 subjects	191	55	49	47	37
Total	348	100	100	86	76

The percentage of students who took certificates went up from 2004 from 76% to 86%. Similarly the percentage of students who were awarded two certificates also went up to

55%, more than half the sample. This increase could be attributed to better ability of the sample who took the CAAP this year, as evidenced by higher GPA.

Conclusion

Administering the CAAP is very useful as it provides AUB with an indicator of the level of its students in basic general education skills and competencies that include thinking critically, reasoning and written communication. The information provides us with information regarding skills needing improvement and the changes over time. It is a very important and serious outcome that needs to be maintained and even encouraged.

We had problem with students taking the CAAP this year. We had to reschedule a second round of administration early in spring term in the hope of increasing participation. Our efforts did not succeed and we need to work more on this side by finding ways to motivate all juniors to take the tests and to put their best effort while doing so. At the same time we need to work on improving the writing and reading components by highlighting them as learning outcomes in all courses, especially general education courses. We have administered the CAAP this year on juniors as it enables AUB to identify skills that need improvement before graduation and enables students who still have weaknesses in certain areas to work on them.