

# CAAP Report Fall 2005-6

## Introduction

The Collegiate Assessment of Academic Proficiency (CAAP) Test was given fall 2005-6 to a representative sample of junior students from all AUB faculties. With the help of the Registrar's Office and the Banner system, suitable times for administration were scheduled for the sample. Despite continuous reminders and urging, only 245 of the selected 471 (52%) junior students took it though we rescheduled some extra sessions at the beginning of spring term. We also tried to motivate them by providing cafeteria lunch vouchers for LL 5,000 each. Faculties, in turn, contacted selected sample and urged them to take it as a faculty requirement. Unfortunately, we could not get full response rate. Examining the sample representative ness, reveals that it is quite proportional to original sample with slight over representation of Engineering and under representation of Nursing. 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 2004, 2003, and 2002 figures and with American national norms is also provided. AUB students' best performance is still on MR followed by Writing, while their lowest performance is on R. Compared to national norms; AUB performance is higher on MR only, while it is significantly lower on all others, except on Writing where differences are not significant. With respect to previous performance on CAAP, the improvement revealed in 2004 on all subjects especially in Reading and Writing did not continue this year except in MR and W, while all other scores went down. On checking for significance of this drop in scores, t-tests revealed significant differences between performance of AUB junior students in 2005/6 and 2004/5 on CT, SCR, and R. This finding needs to be checked against candidates' GPA to check if this group is academically similar or weaker than that of previous years. Examining GPA data reveals that this year's sample has a lower GPA as 44% of them reported a GPA  $\geq 3.01$  vs. 55% in 2005 and 42% in 2004. For this reason, this year's results are closer to 2003/4 results as groups are more comparable. T-test comparisons between 2005/6 performance and that of 2003/4 revealed non-significant differences in performance between these two years. Apparently this is more or less AUB junior year norm. Figure 1 also provides a figural representation of the results.

**Table1. Comparison of CAAP Results with National Norms and with 2002-4**

Year	N	CT	SCR	R	MR	W
2005/6	245	61.9	60.5	59.9	64.9	63.4
2004/5	403	62.7	62.9	62.5	64.6	63.0
2003/4	736	62.3	61.2	59.7	64.2	60.0
2002*	188	63.1	60.5	59.1	61.6	60.6
Norms	39,463	62.1	61.1	62.6	58.1	64.5

\* Includes students from all levels

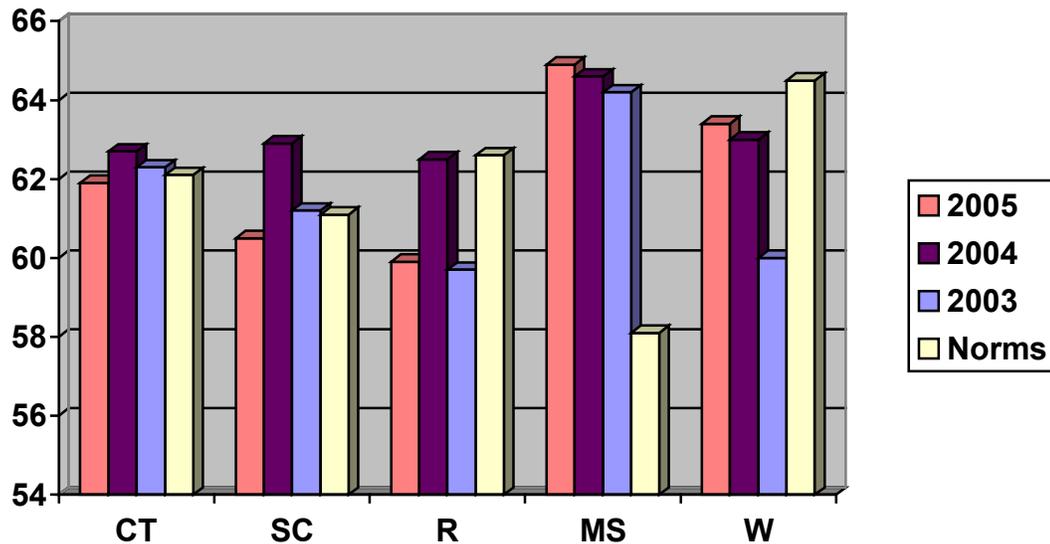
Results were further examined by comparing CAAP scores for students with similar GPA in both years. Table 2 reports breakdown of scores by GPA for both years. Most noticeable decreases were in 2.5-3.0 group in SC and R, and the 3.01-3.5 group in SC. So, in general the lower means in 2006 in some areas represent lower competence.

**Table 2. CAAP Results by GPA**

GPA	N	CT		SC		R		MR		W	
		06	05	06	05	06	05	06	05	06	05
< 2.00	3		64								
2.0-2.50	42	61	61	61	62	58		62	63	62	61
2.51-3.00	75	61	62	58*	62	58*	63	64	64	62	64
3.01-3.50	79	62	63	61*	64	62	63	65	64		63
≥ 3.51	28	64	65		64	64		69	68		66
No response	18	60	63					66	65		

\*p< .05

**Figure 1. CAAP Test Results for 2005, 2004 and 2003**



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, 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 and Science Reasoning are not significant too. Only significance was found on Math in favor of males and this is 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	136	62 (n=136)	61 (n=22)	59 (n=14)	66 (n=91)	63 (n=6)
Female	109	62 (n=109)	60 (n=20)	60 (n=28)	63 (n=40)	64 (n=16)

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 Writing, the higher the GPA the higher the CAAP test score. Table 5 provides summary results by GPA, while figure 2 highlights differences graphically.

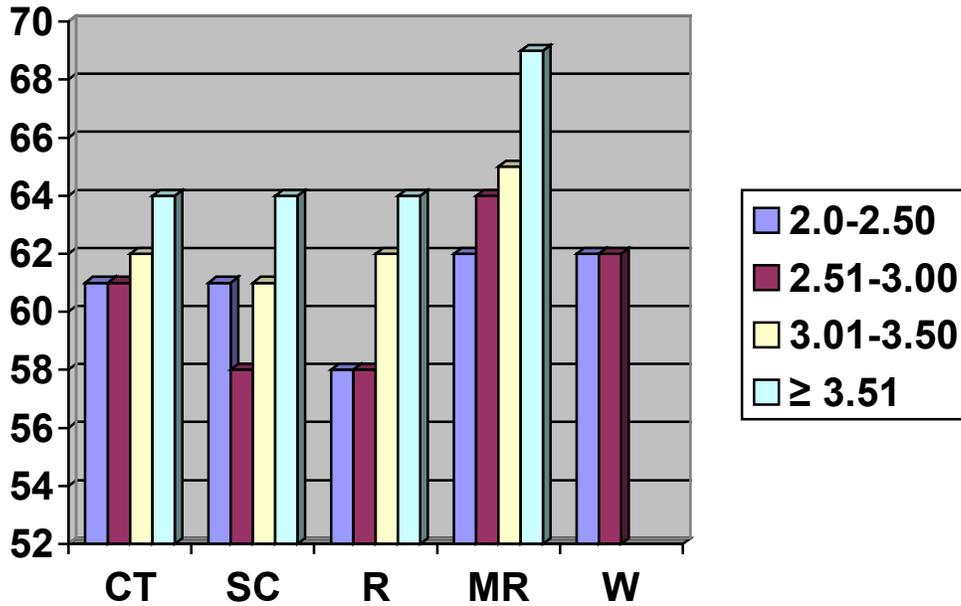
**Table 4. CAAP Results by Native Language**

English	N	CT	SCR	R	MR	W
First Language	53	62 (n=53)	61 (n=11)	61 (n=9)	65 (n=25)	64 (N=6)
Not First Language	192	62 (n=192)	60 (n=31)	60 (n=33)	65 (n=106)	63 (n=16)

**Table 5. CAAP Results by GPA**

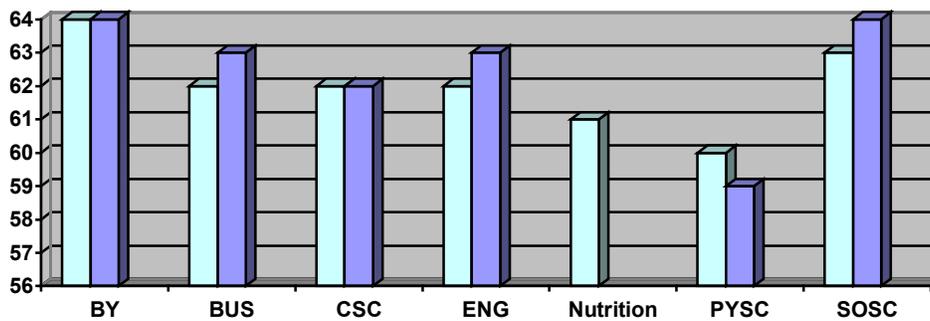
GPA	N	CT	SC	R	MR	W
< 2.00	3					
2.0-2.50	42	61	61	58	62	62
2.51-3.00	75	61	58	58	64	62
3.01-3.50	79	62	61	62	65	
≥ 3.51	28	64		64	69	
No response	18	60			66	

**Figure 2 CAAP Score Differences by GPA**

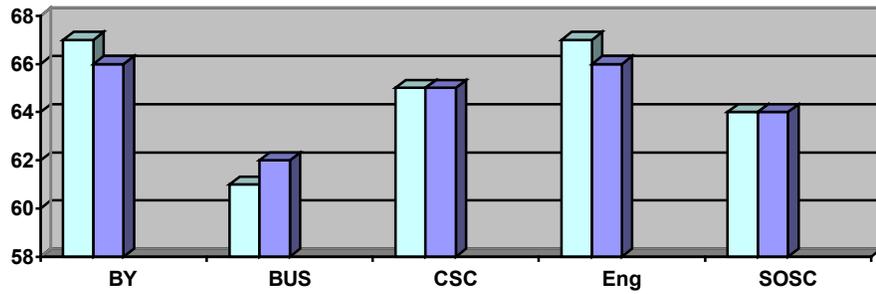


Differences by major were also noted, students from biological sciences got highest scores on all tests, except R and W. Engineering got highest in MR, while Social Science students were highest in Reading and Business in Writing. Table 6 presents CAAP test results by major, while figures 3-4 present differences in CT and MR by major and in comparison with 2005 (in purple). In general, scores were maintained or dropped down slightly in CT, and stayed the same or slightly went up in MR...

**Figure 3 CT Scores by Major, Comparison with 2005 (purple)**



**Figure 4 Math Reasoning by Major, Comparison with 2005 (purple)**



**Table 6. Results by Major**

Major	N	CT	SCR	R	MR	W
Undecided	1					
Agriculture	3					
Architecture	5	59				
Biol. Sc.	37	64	61	63	67	62
Business	52	62		57	61	66
Marketing	2					
Comp. Sc.	11	62			65	
Education	2					
Engineering	76	62	60		67	
Health Sc.	4					
Nutrition.	10	61				
Letters	3					
Math	1					
Physical sc.	6	60				
Social sc.	18	63		64	64	
No response	14	60			63	

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 2003-5. 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. Improvement in Writing is noticeable over the years, in addition to score on Essay which is higher than the norms. 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, 2003-6**

Test	N	2006 av.	2005 av.	2004 av.	2003 av.	Norms 03
Writing: Usage/Mechanics	22	16.8	17.2	15.6	15.9	17.2
Writing: Rhetorical	22	16.6	16.0	14.7	14.9	17.3
Reading: Arts/literature	42	14.3	15.5	14.5	14.3	15.7
Reading: Social sciences	42	15.5	16.5	15.2	15.0	16.5
Essay	8	3.4	3.0	3.2	3.4	3.3
Math: Basic algebra	131	18.0	17.6	17.8	16.6	15.3
Math: College algebra	131	20.2	20.4	20.0	18.2	15.2

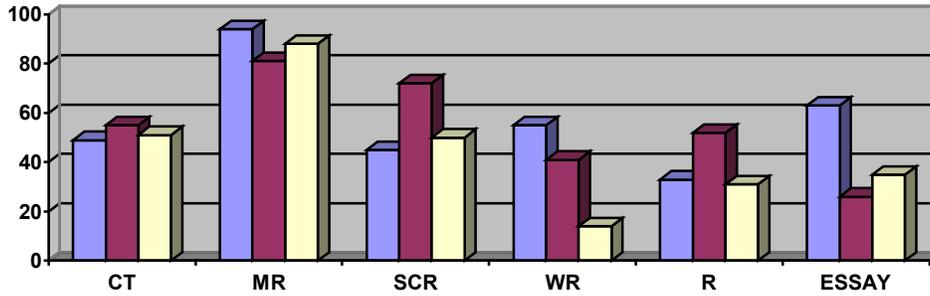
**Certificates of Achievement**

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 2005 and 2004. Percentages in 2006 are quite close to 2004 figures in CT, SR, and R. An increase in MR is noticeable this year, in addition to a trend in improvement in Writing and Essay. Figure 5 provides the percentiles by subject graphically and in comparison with 2005 (red) and 2004 (yellow). Some students obtained certificates in one subject, others in two. Table 9 details this information in comparison with 2005. 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 06	%Certificate 05	%Certificate 04
Critical Thinking	245	120	49	55	51
Math Reasoning	131	123	94	81	88
Science Reasoning	42	19	45	72	50
Writing Skills	22	12	55	41	14
Reading	42	14	33	52	31
Essay	8	5	63	26	35

**Figure 5. Percentage Certificates by Test, 2006-4 Comparison**



**Table 9. Frequency of Number of Distributions, Comparison with 2005**

	N (06)	%Certificates 06	%Certificates 05	%Certificates 04	% Total 06	% Total 05	% Total 04
# who got certificates in 1 subject	109	54	45	48	44	39	36
# who got certificates in 2 subjects	92	46	55	49	38	47	37
<b>Total</b>	<b>201</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>82</b>	<b>86</b>	<b>76</b>

The percentage of students who took certificates went slightly down in 2006 from 86% to 82%. Similarly the percentage of students who were awarded two certificates also went down to 46% from 55%. When checking for candidates' level of motivation while taking the test, we find that 2006 students did not differ significantly from those of 2005 on nearly all tests except on Writing and Reading. In 2006, 86% of candidates stated that they 'tried their best' or 'gave moderate effort' in Writing versus 71% in 2005. In Reading only 43% checked those statements versus 60% in 2005. These could explain the improvement in Writing and the drop in Reading, in addition to the lower GPA of this year's sample.

### **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.