

CAAP Report Spring 2015-16

Introduction

The Collegiate Assessment of Academic Proficiency (CAAP) Test was given early spring term 2015-16 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 147 of the selected 807 (18%) junior students sat for the CAAP lower than previous years' participation. Examining the sample representativeness (Table 1), reveals that it is quite proportional to original sample with over representation of OSB and FAS and under representation of FEA unlike previous years when we had higher interest from FEA students. 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.

Table 1. Representativeness of CAAP Sample Spring 2015-16

Total Population			CAAP Sample			Took CAAP		
Faculty	Count	%	Faculty	Count	%	Faculty	Count	%
AG	123	7	AG	64	8	AG	10	7
AS	671	37	AS	293	36	AS	59	40
EA	595	32	EA	257	32	EA	39	27
HS	58	3	HS	13	2	HS	2	1.4
NU	49	3	NU	29	4	NU	6	4
SB	331	18	SB	151	19	SB	31	21
	1827	100		807	100		147	100

Results

Results of the various CAAP tests for the whole sample are reported in Table 2. Comparison with previous years and with American national norms is also provided. As compared to last year's performance, AUB students' performance is significantly lower on Reading and lower on CT and MR, but significantly higher on Writing and Science Reasoning. With respect to norms, it is significantly lower in R but higher in CT, MR and SCR, and approached norms on Writing, which is an achievement.

Figure 1 also provides a figural representation of the results. It is clear from the figure that over the years, AUB performance on MR has been highest followed by SCR. CT improved in early years then started fluctuating but is higher than national average. Performance on Reading has been fluctuating between average and slightly below average with a significant drop this year, while Writing has always been below norms, started low then stabilized, has been also fluctuating in past two years though this year showed a significant increase. Type of sample taking CAAP could explain these fluctuations.

Table 2. Comparison of CAAP Results with National Norms and with 2003-15

Year	N	CT	SCR	R	MR	W
2015-16	147	61.5	63.8	57.7	64.1	62.5
2014-15	181	62.3	61.9	59.6	65	61.3
2013-14	197	63	65	61.9	65.8	62.4
2012-13	135	60.8	63.6	61.9	64.5	61.4
2011-12	185	62.7	64.2	60.4	65.9	62.2
2010-11	250	63.3	63.4	62.6	65.5	63.6
2009/10	360	62.6	63.2	62.5	65.4	62.9
2008/9	421	60.8	63.4	60.6	64.7	62.8
2007/8	235	63.1	65	62.4	65.7	65.6
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
2003/4	736	62.3	61.2	59.7	64.2	60
Norms		59.7	61	61.3	58.7	62.7

These findings need to be checked against candidates' GPA to check if this group is academically similar or weaker than that of previous years. Examining GPA data (Tables 3 and 4) reveals that this year's sample has slightly lower GPA than last year as 53% of them reported a GPA of ≥ 3.01 , vs. 55% last year, and this is similar to 2013 with 52%. This is also confirmed when we examine their actual GPA as we find that average of whole sample required to take CAAP this year is 79.0 (**78.5** last year), while average of those who took it is **80.0** (quite similar to last year's of 80.4) and those who did not take it is 78.8, so sample is of similar ability to last year. Differences were noted on CAAP test scores by GPA. In general the higher the GPA the higher the CAAP test score

especially for CT, as it is consistent across all GPA levels. Figure 2 highlights differences graphically.

Figure 1. CAAP Test Results for 2015-16

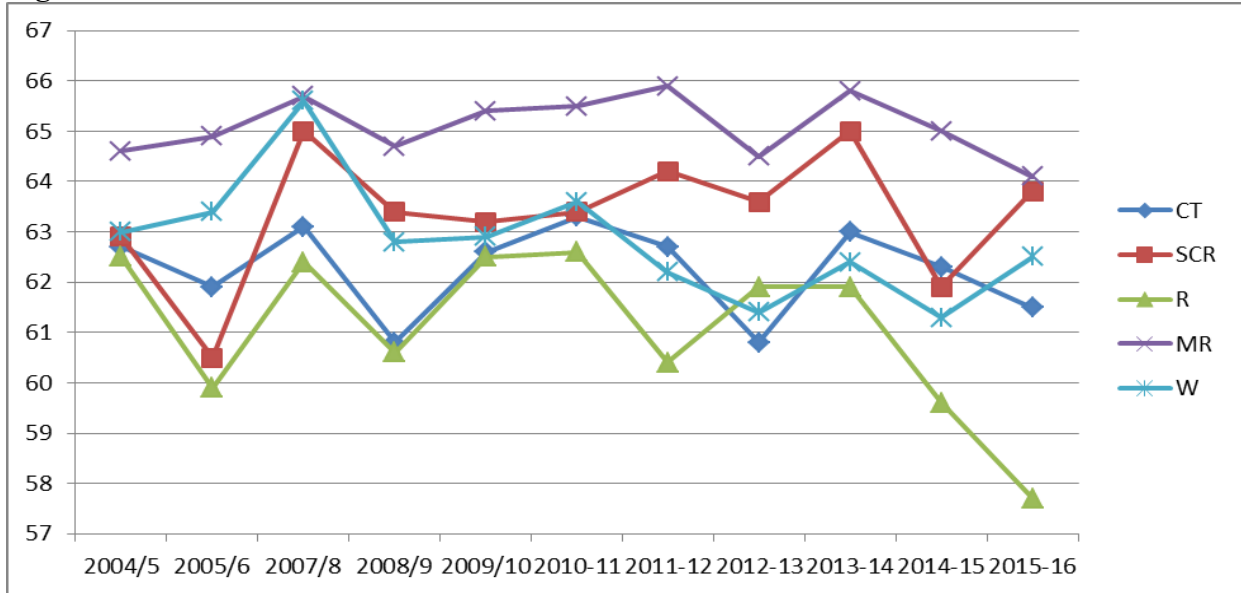


Table 3. Breakdown of CAAP Results by GPA / 2016

GPA	N	%	W		MR		R		CT		SR	
			Freq.	Avg.	Freq.	Avg.	Freq.	Avg.	Freq.	Avg.	Freq.	Avg.
< 2.00	2	1	0		2		0		2		0	
2.0-2.50	18	12	2		14	61	1		18	59	1	
2.51-3.00	43	29	7	64	30	64	3		43	60	5	62
3.01-3.50	45	31	11	61	29	64	2		45	62	5	62
≥ 3.51	33	22	5	67	18	67	0		33	64	9	67
No Response	6	4	1		2		0		6	63	3	

Results were further examined by comparing CAAP scores for students with similar GPA in both years. Table 4 reports breakdown of scores by GPA for 2012-2016. Performance slightly fluctuated over years. The ≥ 3.5 had significantly higher performance in Science Reasoning, while 2.5-3.0 had significantly better performance in Writing. Lower average groups (≤ 3.5) had lower Math Reasoning, and this could be because of lower representation of FEA as they usually do well on this component.

Table 4. Breakdown of CAAP Results by GPA 2012-2016

GPA	%					CT					SC					R					MR					W							
	16	15	14	13	12	16	15	14	13	12	16	15	14	13	12	16	15	14	#	12	16	15	14	13	12	16	15	14	13	12			
< 2.00	1	2		1	1																												
2.0-2.50	12	14	10	16	11	59	61	63	60	61											61	63	65	64	64						60	62	60
2.51-3.00	29	22	24	25	21	60	61	62	59	61	62	61	63	65		59			60		64	63	64	64	64	64	64	64	59	61	60	59	
3.01-3.50	31	35	37	32	35	62	62	62	61	63	62	61	66	63	64	60					64	66	66	65	65	61	62	63			64		
≥ 3.51	22	20	27	20	28	64	65	66	65	64	67	64	67	69	66						67	67	68	66	69	67		63	67				
No response	4	7	3	6.5	5	63	63	61	58	61			60												64								

Performance on CAAP tests was also compared by gender, major and whether English was a first language or not. With respect to gender, examining Table 5 reveals that performance was better for males on all scales. Gender results are also reported graphically in Figure 3.

Figure 2. CAAP Score Differences by GPA

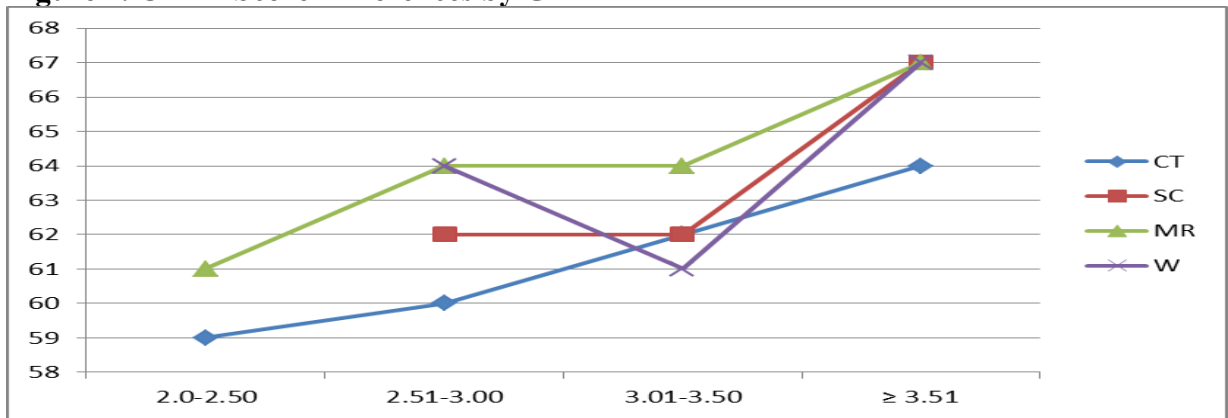
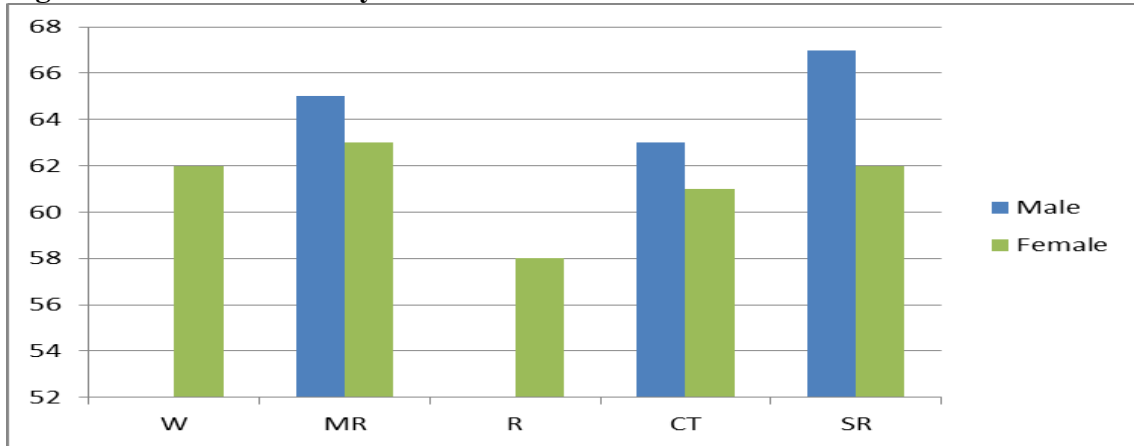


Table 5. CAAP Results by Gender

Gender	N	W	MR	R	CT	SR
Male	62		65		63	67
		N=3	N=47	N=0	N=62	N=10
Female	84	62	63	58	61	62
		N=23	N=48	N=6	N=84	N=12

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.

Figure 3. CAAP Results by Gender



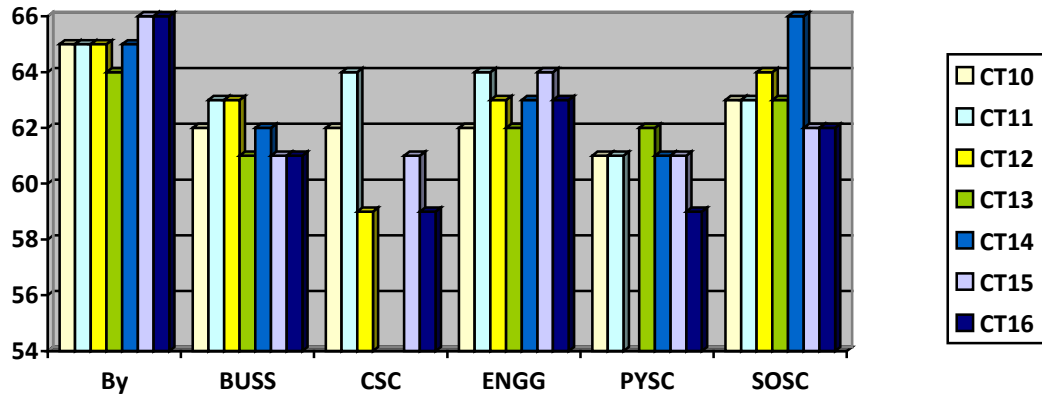
With respect to differences resulting from English being a first language or not, there were differences in Writing, as noted in Table 6, in favor of those whose English was first language, while there were significant differences in favor of those whose first language is not English on CT and SR. They were also higher in MR but not as much.

Table 6. CAAP Results by Native Language

English	N	W	MR	R	CT	SR
First Language	41	68 N=5	63 N=28	N=0	60 N=41	61 N=7
Not First Language	106	61 N=21	64 N=67	58 N=6	62 N=106	65 N=16

Differences by major were also noted; students from Engineering got highest score in MR. Biological sciences got highest scores on SCR and on CT. Table 7 presents CAAP test results by major, while figures 4-5 present differences in CT and MR by major and in comparison with 2010-16. In CT, BY, SOSC, and BUSS maintained their score this year, while other majors went down especially physical sciences. As for MR, most of the majors maintained their averages, slight drop by BUSS and SOSC.

Figure 4. CT Scores by Major, Comparison with 2010-2016



Results also revealed important information for Writing, Mathematics, and Reading in terms of sub scores. Table 8 provides sub scores for each of these tests, in addition to a comparison with national norms and with 2006-16. In Writing, AUB students consistently do better on usage/mechanics than on rhetorical writing and they are higher than the norms this year on this skill. In rhetorical writing they are higher than last year and have attained national norms for the first time. With respect to Reading, they have done equally well on both arts/literature and social science readings though they are lower than norms on both and lower than last year. With respect to math; they do very well on both sections, perform much higher than the norms, however went down from last year performance.

Figure 5. Math Reasoning by Major, Comparison with 2010-16

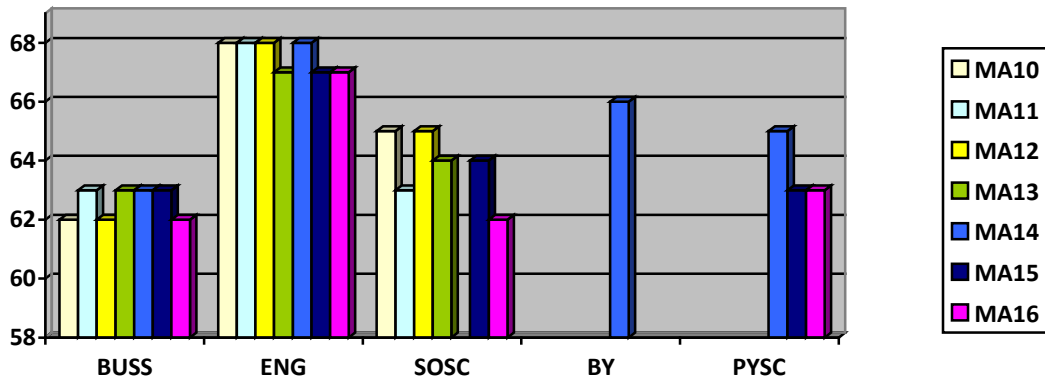


Table 7. Results by Major

Major	N	W	MR	R	CT	SR
Agriculture	2					
Architecture	2					
Biological Science	9				66	66
Business	34	64	62		61	
Communications	3					
Computer & Info Sciences	5		63		59	
Education	3					
Engineering	38		67		63	
Health Professions	2					
Home Economics	7				61	60
Letters	2					
Math	4					
Physical science	12		63		59	
Social science	16		62		62	
No response	6				58	

Table 8. Writing, Reading, and Math Sub score Results, 2006 –16

Test	N	2016	2015	2014	2013	2012	2011	2010	2009	2007	2006	Norms
Writing: Usage/Mechanics	26	17	16	17	17	17	17	17	17	18	17	16
Writing: Rhetorical	26	16	15	16	15	16	16	16	16	18	17	16
Math: Basic algebra	95	17	18	19	18	18	18	18	18	18	18	16
Math: College algebra	95	20	21	19	18	21	21	20	19	19	20	16
Reading: Arts/literature	6	14	15	16	15	15	16	16	16	16	14	15
Reading: Social sciences	6	14	15	15	17	15	17	17	15	16	16	16

Certificates of Achievement

Almost all students obtained Certificates of Achievements (94%) indicating that they achieved $\geq 50^{\text{th}}$ %ile of the normative sample. Table 9 provides the number and percentage of certificates obtained in different subjects and in comparison with 2006-16. Percentages in 2016 were lower than last year in CT and R but significantly higher in SC and in W. This could be because of the breakdown of the sample in favor of FAS and BUSS and lower percentage of FEA students. Figure 5 provides the figures graphically by subject, while Figure 6 shows development over years. Examining trend over years shows that Certificates in MR and CT have always been the highest followed by SCR.

Some students obtained certificates in one subject, others in two. Table 10 details this information in comparison with 2010-16. The percentage of students who obtained two certificates of 57% is lower than last year's of 67% and previous years, however a larger percentage of 43% obtained only one certificate. 8 students (6%) did not obtain any certificate. The highest percentage of certificates was obtained, unusually, in CT followed by Math Reasoning then Science Reasoning. Figure 7 provides graphic distribution of certificates, and this is also attributed to under representation of FEA.

Table 9. Distribution of Certificates of Achievement by Subject

Subject	N	% Certificate									
		16	15	14	13	12	11	10	9	7	6
CT	95	65	72	75	62	73	61	55	38	52	49
MR	90	95	95	97	93	97	98	97	90	100	94
SR	17	74	63	69	60	69	80	67	62	78	45
WS	13	50	39	40	39	39	50	38	47	69	55
R	1	17	45	60	55	50	63	52	32	57	33

Figure 5. Number of Certificates by Test

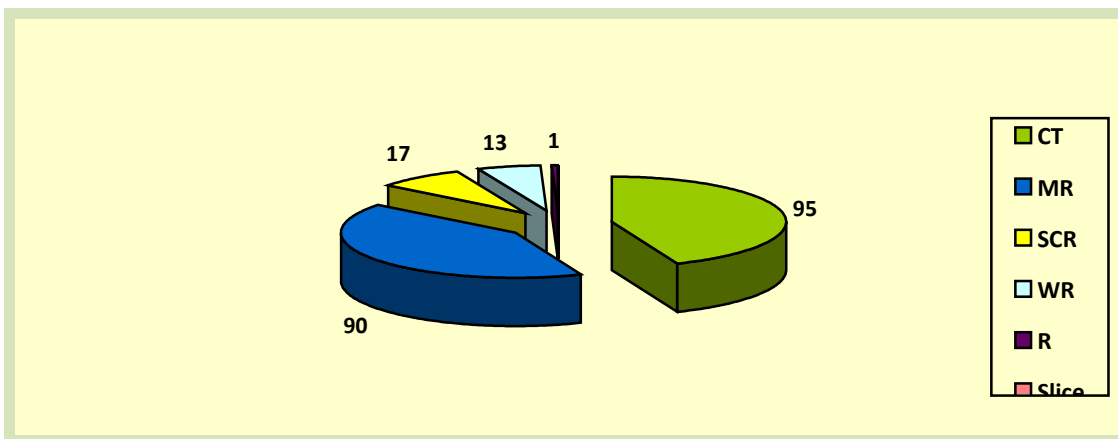


Table 10. Frequency of Number of Distributions, Comparison with 2010-16

	N	% Certificates										% Total			
	16	16	15	14	13	12	11	10	16	15	14	13	12	11	10
# who got certificates in 1 subject	60	43	33	31	38	30	38	47	41	29	28	32	27	34	44
# who got certificates in 2 subjects	79	57	67	69	62	70	62	53	54	59	62	53	63	56	49
Total	139								95	88	91	85	90	90	93

Figure 6. Distribution of Certificates of Achievement by Subject

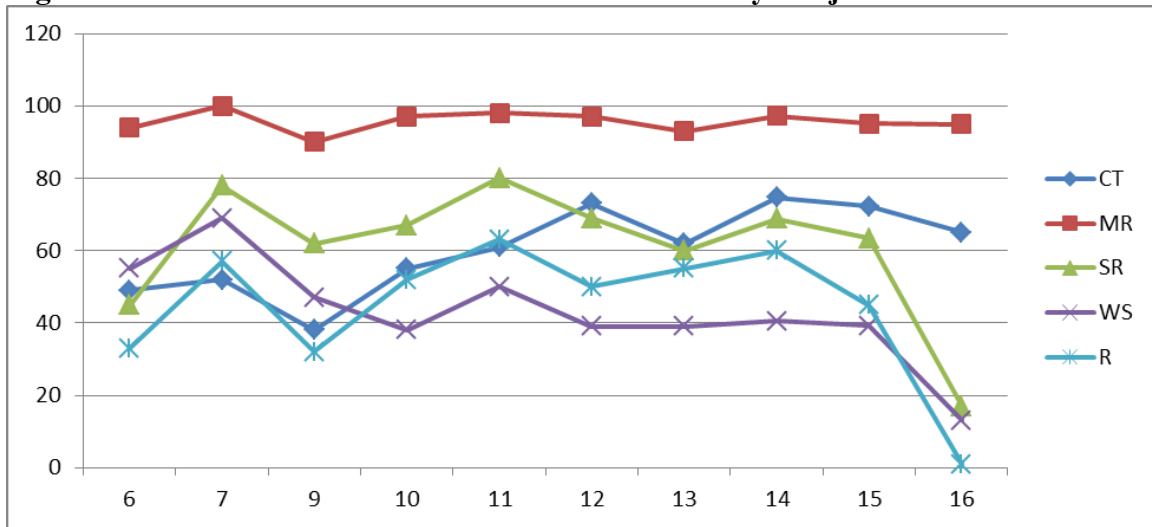
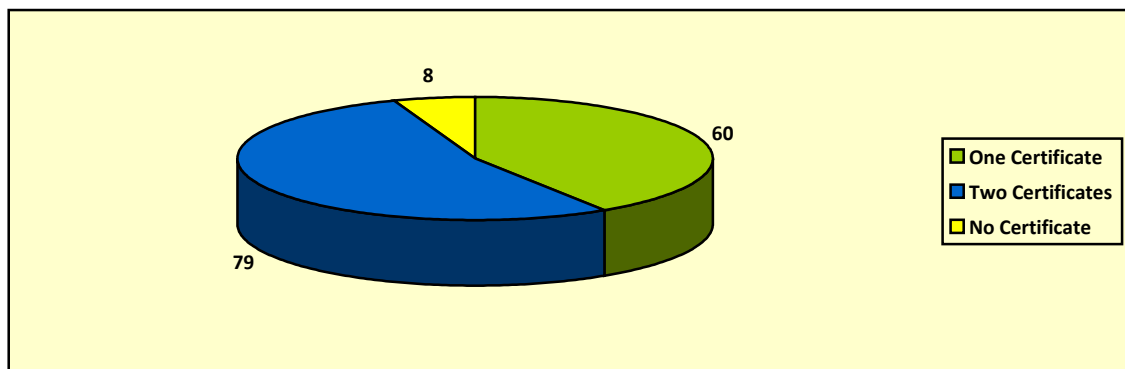


Figure 7. Distribution of Certificates



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.

Although we did not have good participation rate this year (18%), yet sample was somehow representative. We still have problems with students taking the CAAP. 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. This year's results showed different kind of performance with better performance on W and SCR, much lower performance on R and somehow lower on CT and MR. This result is despite the fact that sample is of similar ability to last years', but the composition of the sample with slight underrepresentation of FEA could have affected resulting outcomes. We need to maintain the work on the improvement in writing ability, especially rhetorical writing and on improving reading in arts and literature. Performance on math and science reasoning is good, while CT is quite stable.