

CAAP Report Spring 2016-17

Introduction

The Collegiate Assessment of Academic Proficiency (CAAP) Test was given early spring term 2016-17 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 144 of the selected 814 (18%) junior students sat for the CAAP similar to previous years’ participation. Examining the sample representativeness (Table 1), reveals that it is quite proportional to original sample with over representation of FEA like in previous years and some under representation of OSB, FAS, and FAFS. 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 2016-17

Total Population			CAAP Sample			Took CAAP		
Faculty	Count	%	Faculty	Count	%	Faculty	Count	%
AG	110	6	AG	56	7.0	AG	5	4.0
AS	627	36	AS	300	37	AS	47	33
EA	565	33	EA	296	36	EA	67	47
HS	91	5	HS	20	3	HS	4	3.0
NU	45	3.0	NU	17	2	NU	2	1
SB	296	17	SB	125	15	SB	19	13
	1734	100		814	100		144	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 higher on nearly all tests, except on Science Reasoning. With respect to norms, it is significantly lower in R though higher than last year, but higher in CT, MR and SCR, and approaching norms on Writing for the second year in a row, 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 and W. Performance on Reading has been fluctuating between average and slightly below average with a significant drop last year, while Writing has always been below norms, however in the last two years it approached average national performance. 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
2016-17	144	62.4	61.4	59.9	66.5	62.6
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		59.5	60.7	61	58.5	62.3

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 higher GPA than last year as 57% of them reported a GPA of ≥ 3.01 , vs. 53% last year, and this closer to 2014 with 64%. 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 78.8 (79.0 last year), while average of those who took it is **81.3** (higher than last year's average of 80.0) and those who did not take it is 78.2, so sample is of higher ability than 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 1. CAAP Trend Results

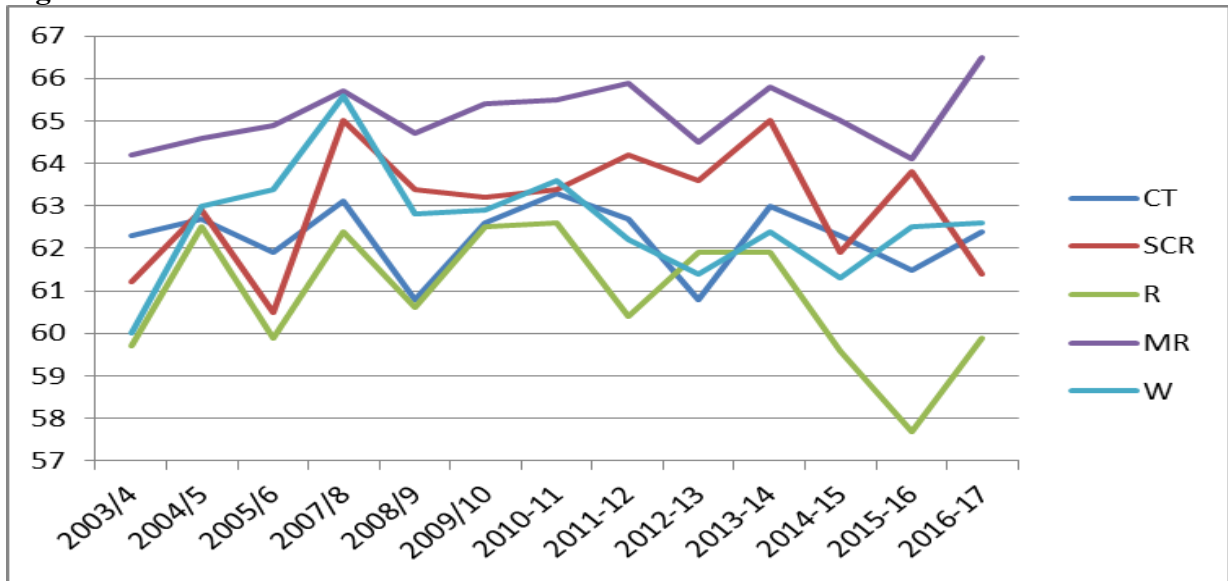


Table 3. Breakdown of CAAP Results by GPA / 2017

GPA	N	%	W		MR		R		CT		SR	
			Freq.	Avg.	Freq.	Avg.	Freq.	Avg.	Freq.	Avg.	Freq.	Avg.
< 2.00	3	2	0		3		0		3		0	
2.0-2.50	16	11	2		5	65	1		16	62	5	58
2.51-3.0	39	27	4		19	64	7	60	39	61	9	62
3.01-3.5	40	28	9	63	25	66	2		40	62	2	
≥ 3.51	42	29	1		32	68	2		42	64	8	64
No Response	4	3	1		2		0		4		1	

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 2013-2017. Performance slightly fluctuated over years. The ≥ 3.5 had significantly lower performance in Science Reasoning, while 3.0-3.5 has significantly higher performance in MR and in W, and the 2.5-3.0 maintained its scores.

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.

Table 4. Breakdown of CAAP Results by GPA 2013-2017

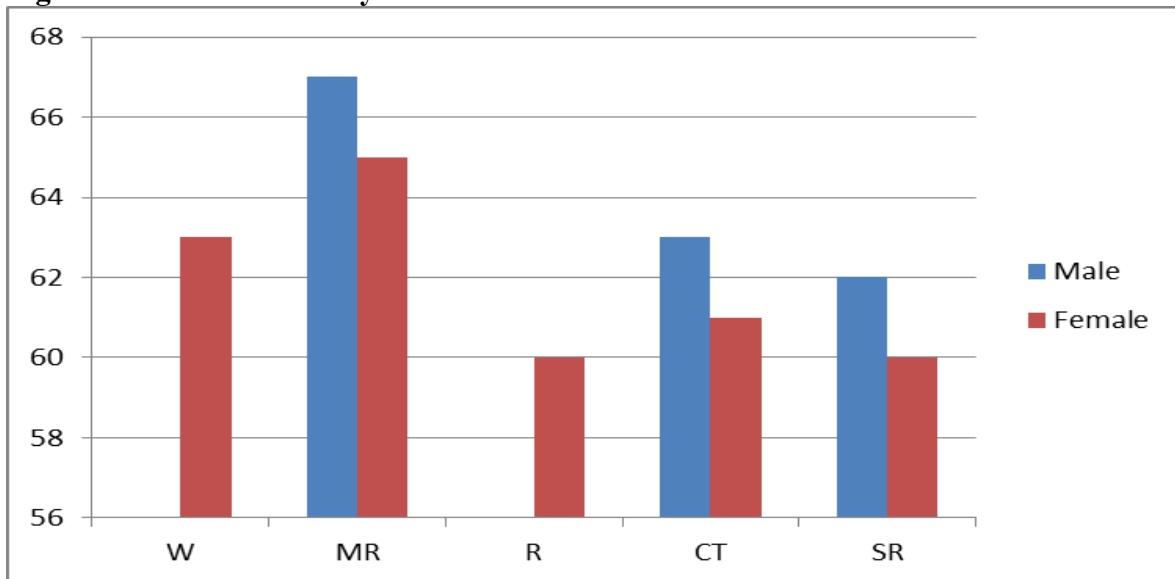
GPA	%					CT					SC					R					MR					W						
	17	16	15	14	13	17	16	15	14	13	17	16	15	14	13	17	16	15	14	13	17	16	15	14	13	17	16	15	14	13		
< 2.00	2	1	2		1																											
2.0-2.50	11	12	14	10	16	62	59	61	63	60	58										65	61	63	65	64				60	62	60	
2.51-3.00	27	29	22	24	25	61	60	61	62	59	62	62	61	63	65	60	59					64	64	63	64	64	64	59	61	60		
3.01-3.50	28	31	35	37	32	62	62	62	62	61		62	61	66	63		60				66	64	66	66	65	63	61	62	63			
≥ 3.51	29	22	20	27	20	64	64	65	66	65	64	67	64	67	69						68	67	67	68	66	67		63	67			
No response	3	4	7	3	6.5		63	63	61	58					60																	

Table 5. CAAP Results by Gender

Gender	N	W	MR	R	CT	SR
Male	73		67		63	62
		N=4	N=52	N=3	N=73	N=13
Female	71	63	65	60	61	60
		N=13	N=34	N=9	N=71	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



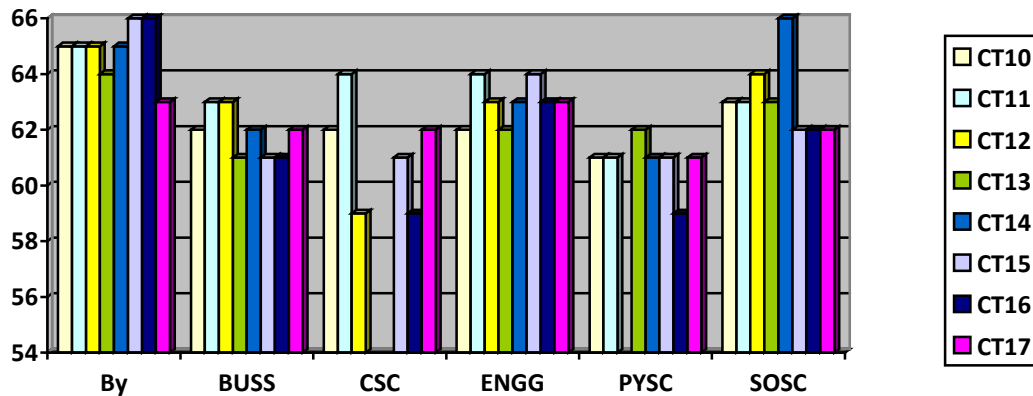
With respect to differences resulting from English being a first language or not, there were differences only in Writing, as noted in Table 6, in favor of those with English as first language, while the differences in MR were not significant, and there were no differences on CT.

Table 6. CAAP Results by Native Language

English	N	W	MR	R	CT	SR
First Language	37	64	67		62	
		N=6	N=24	N=3	N=37	N=3
Not First Language	107	62	66	59	62	62
		N=11	N=62	N=9	N=107	N=22

Differences by major were also noted; students from Engineering got highest score in MR. Biological sciences got highest scores on SCR, while on CT Communications got highest score followed by Engineering and Biological Sciences. Table 7 presents CAAP test results by major, while figures 4-5 present differences in CT and MR by major and in comparison with 2010-17. In CT, most majors maintained their score this year except for Biology which went down. As for MR, most of the majors maintained their averages, with a slight drop by BUSS.

Figure 4. CT Scores by Major, Comparison with 2010-2017



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 2005-17. 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 significant improvement over last year’s score on social sciences and have higher score than on arts/literature. They have also reached the norms on this, but are lower than norms on arts/literature. With respect to math; they do very well on both sections, though better on college algebra, performed much higher than the norms, and improved on last year’s performance.

Figure 5. Math Reasoning by Major, Comparison with 2010-17

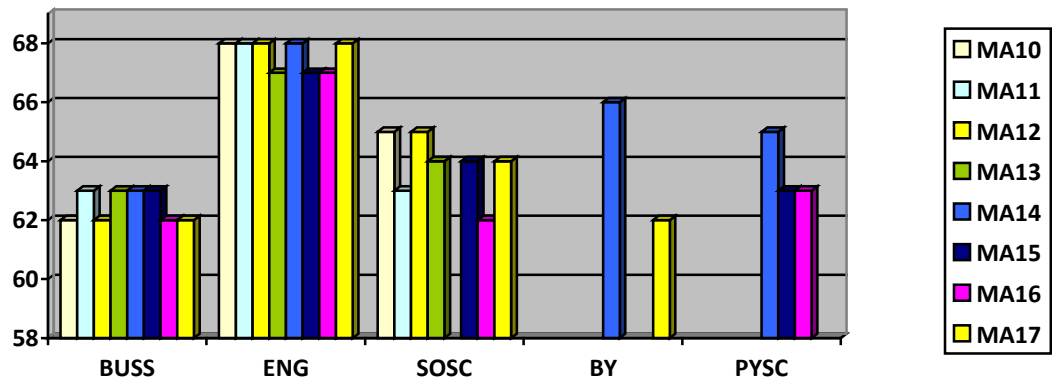


Table 7. Results by Major

Major	N	W	MR	R	CT	SR
Agriculture	6				60	
Architecture	1					
Biological Science	14		62		63	64
Business	19		62		62	
Communications	5				64	
Community Service	1					
Computer & Info Sciences	7				62	
Education	1					
Engineering	61		68		63	62
Fine and Applied Arts	1					
Health Professions	4					
Math	1					
Physical science	5				61	
Social science	12		64		62	
No response	6		68		63	

Table 8. Writing, Reading, and Math Sub score Results, 2006 –17

Test	N	2017	2016	2015	2014	2013	2012	2011	2010	2009	2007	2006	2005	Norms
Writing: Usage/Mechanics	17	16.4	16.8	16.4	16.8	16.6	16.5	17.3	17.2	17.1	18.1	16.8	17.2	16.2
Writing: Rhetorical	17	16.2	15.8	15.1	15.8	15.2	15.9	16.4	15.8	16	17.6	16.6	16	16.2
Math: Basic algebra	86	18.5	17.3	18	18.6	18.4	17.9	18.3	18.2	18	18.3	18	17.6	15.4
Math: College algebra	86	21.3	20.1	21	19.1	18	21.2	21	20.4	18.8	19.2	20.2	20.4	15.6
Reading: Arts/literature	12	13.8	13.8	14.6	16.4	14.8	15.4	15.8	15.6	15.6	16.2	14.3	15.5	14.8
Reading: Social sciences	12	16	14.2	15	15.4	16.5	14.7	16.6	16.7	15	15.9	15.5	16.5	16

Certificates of Achievement

Almost all students obtained Certificates of Achievements (93%) 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 2006-17. Percentages in 2017 were lower than last year in SR, but significantly higher in CT and in R. 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 2010-17. The percentage of students who obtained two certificates of 71% is higher than last year's score of 57% and previous five years, however a smaller percentage of 29% obtained only one certificate. 10 students (7%) did not obtain any certificate. The highest percentage of certificates was obtained in Math Reasoning followed by CT then Science Reasoning and Writing. Figure 7 provides graphic distribution of certificates by number and CT has highest number because all students have to take CT but need to choose another subject.

Table 9. Distribution of Certificates of Achievement by Subject

Subject	N	% Certificate										
		17	16	15	14	13	12	11	10	9	7	6
CT	114	79	65	72	75	62	73	61	55	38	52	49
MR	83	97	95	95	97	93	97	98	97	90	100	94
SR	12	48	74	63	69	60	69	80	67	62	78	45
WS	8	47	50	39	40	39	39	50	38	47	69	55
R	7	58	17	45	60	55	50	63	52	32	57	33
Essay	5	83										

Figure 5. Number of Certificates by Test

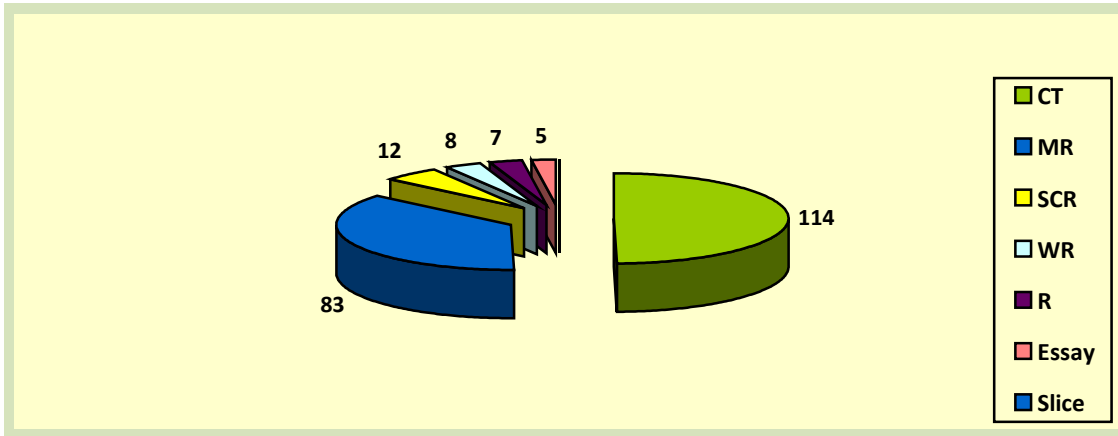


Table 10. Frequency of Number of Distributions, Comparison with 2010-16

	N	% Certificates								% Total							
		17	17	16	15	14	13	12	11	10	17	16	15	14	13	12	11
# who got in 1 subject	39	29	43	33	31	38	30	38	47	27	27	29	28	32	27	34	44
# who got in 2 subjects	95	71	57	67	69	62	70	62	53	66	65	59	62	53	63	56	49
Total	134	100	100	100	100	100	100	100	100	93	91	88	91	85	90	90	93

Figure 6. Distribution of Certificates of Achievement by Subject

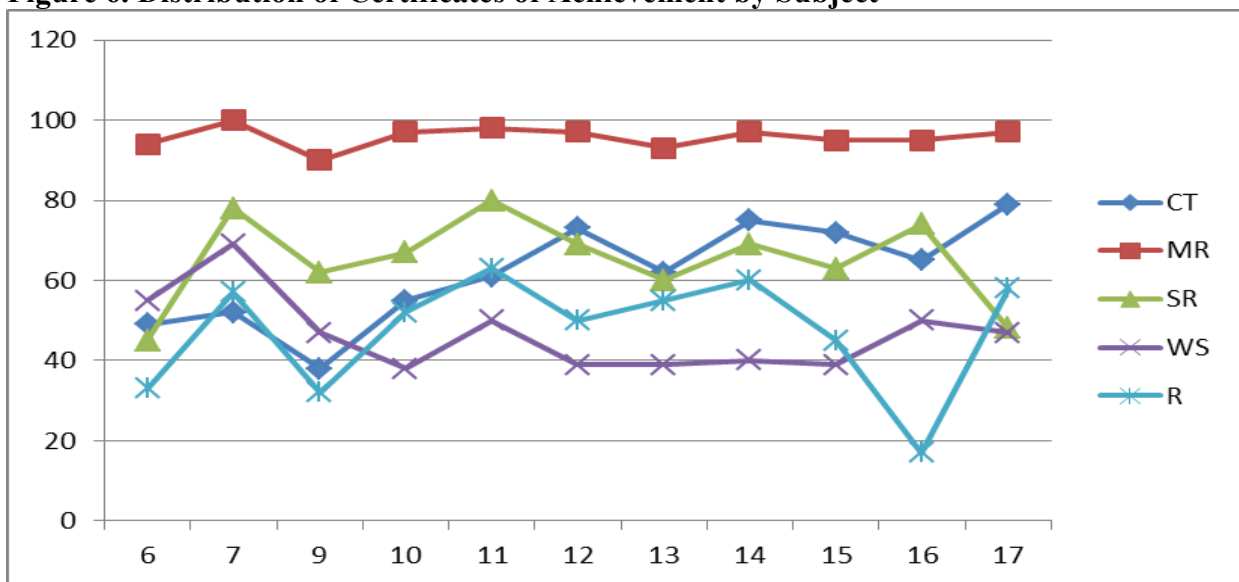
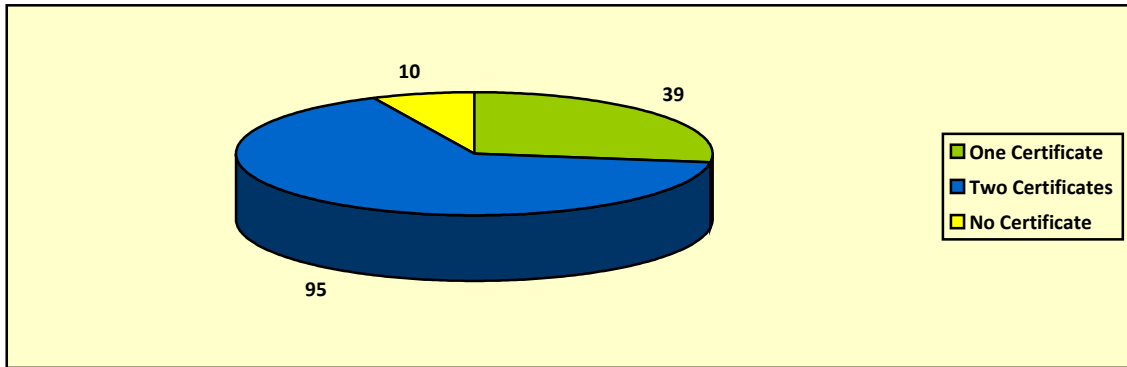


Figure 7. Distribution of Certificates



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 though with overrepresentation of FEA. 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 better performance on nearly all subjects except for SCR. AUB's performance is higher than the norms on MR, SR, and CT, approaching norms on W and lower in R. This year's improvement is partially due to the higher ability of the sample but the improvement in W and CT has been going on for the past few years. We need to maintain the work on the improvement in writing ability and on improving reading especially in arts and literature. Performance on math and science reasoning and CT is good.