COMET Spring 2017 Statistical Exploration by High School

This document is an exploration of data from the College of Micronesia-FSM spring 2017 entrance COMET with a focus on individual high school and section statistics. In this document the word "sections" refers to high school sections. The word subsection will be used to refer to the different sections of the COMET entrance instrument. This document should be construed as an occasional informal paper by a member of faculty. Any opinions expressed are solely those of the author and do not reflect an official position of the college.

Basic statistics for all candidates

The COMET consists of four subsections: a written essay, a vocabulary test, a comprehension test, and a mathematics placement test. Total possible for the essay is 50 points. The mathematics subsection has four sets of ten problems designed to help place students. The total possible for the sum of the mathematics scores is 40. There are also sections that test vocabulary and comprehension.

Statistic	Essay	Voc	Comp	m95	m96	m99	m100	msum
n	1308	1308	1308	1308	1308	1308	1307	1308
min	0	0	2	0	0	0	0	2
max	50	77	38	10	10	10	10	40
mode	50	22	16	10	6	2	2	18
median	32	23	17	8	5	4	3	20
mean	31.18	26.03	17.76	7.46	4.90	4.53	3.71	20.61
sx	12.15	11.94	7.12	2.48	2.66	2.73	2.41	8.81
cv	0.39	0.46	0.40	0.33	0.54	0.60	0.65	0.43

Correlations between sections of the test

Correlations	Essay	Voc	Comp	m95	m96	m99	m100	msum
Essay	1.00	0.51	0.62	0.44	0.46	0.39	0.29	0.46
Vocab	0.51	1.00	0.74	0.48	0.59	0.56	0.54	0.63
Comp	0.62	0.74	1.00	0.52	0.58	0.55	0.44	0.61
Math sum	0.46	0.63	0.61	0.82	0.90	0.88	0.81	1.00

The vocabulary and comprehension subsections correlate to each other more strongly than either correlates to the essay subsection. This suggests that the vocabulary and comprehension are likely to be measuring the same basic skills while the essay is providing new information on a different skill set. To the extent that this is true, there may be redundancy between the vocabulary and comprehension subsections of the COMET.

High school acronyms

hs2017	School Long	State
Berea	Berea	Chuuk
CCA	Calvary Christian Academy	Pohnpei
CHS	Chuuk High School	Chuuk
CSC	Chuuk State Campus	Chuuk
CSDA	Seventh Day Adventist Chuuk	Chuuk
Faichuuk HS	Faichuuk High School	Chuuk
FCA	Faith Christian Academy	Yap
KHS	Kosrae High School	Kosrae
KSC	Kosrae State Campus	Kosrae
MHS	Madolehnihmw High School	Pohnpei
NMHS	Nanpei Memorial High School	Pohnpei
	Nukuno High School	Chuuk
OICA	Ohwa International Christian Academy	Pohnpei
	Outer Island High School	Yap
OLMCHS	Our Lady of Mercy High School	Pohnpei
PICS	Pohnpei Islands Central School	Pohnpei
PLHA	Pentecostal Lighthouse Academy	Chuuk
PSC	Pohnpei State Campus	Pohnpei
PSDA	Seventh Day Adventist Pohnpei	Pohnpei
SCA	Saramen Chuuk Academy	Chuuk
SNHS_Fefan	Southern Noumeneas Fefan	Chuuk
SNHS_Tonoas	Southern Noumeneas Tonoas	Chuuk
Xavier	Xavier High School	Chuuk
YCHS	Yap Catholic High School	Yap
YHS	Yap High School	Yap
YSC	Yap State Campus	Yap
YSDA	Seventh Day Adventist Yap	Yap

The full name of FCA was not known to the author at the time of writing, neither Nukuno nor OIHS have results to report at the time of writing.

Overall average performance on subsection by high schools

In the following table the count is the "sample size", vocab refers to the vocabulary subsection, and comp refers to the comprehension subsection. The math column is based on the sum of the four subsections of the math component of the COMET. All values are the overall average for that school on the given subsection.

High School	Count	High School	Essay	High School	Vocab
Berea	8	YCHS	48.313	YCHS	54.00
CCA	20	Xavier	48.311	Xavier	42.73
CHS	200	CCA	47.40	CCA	41.35
CSC	47	Berea	45.00	NMHS	35.96
CSDA	7	PSDA	44.78	PSDA	34.06
Faichuuk HS	19	OLMCHS	43.40	YSDA	34.00
FCA	2	SCA	42.65	OLMCHS	33.37
KHS	124	YSDA	42.00	MHS	29.25
KSC	7	CSDA	36.71	YHS	27.20
MHS	77	OICA	35.00	Berea	26.25
NMHS	136	FCA	33.50	SCA	24.95
OICA	12	YHS	32.83	PICS	24.19
OLMCHS	30	MHS	31.94	PSC	23.51
PICS	226	YSC	31.62	YSC	23.38
PICS SE	9	KSC	31.43	CSDA	22.71
PLHA	5	PICS	31.00	KHS	22.70
PSC	97	KHS	30.98	KSC	21.29
PSDA	18	PSC	29.28	OICA	20.83
SCA	20	NMHS	28.58	CHS	19.85
SNHS_Fefan	35	CHS	28.56	Faichuuk HS	19.42
SNHS_Tonoas	18	CSC	24.15	CSC	18.81
Xavier	45	SNHS_Fefan	17.40	FCA	18.50
YCHS	16	PICS SE	15.78	PLHA	16.80
YHS	105	Faichuuk HS	15.47	SNHS_Fefan	15.51
YSC	13	PLHA	14.60	SNHS_Tonoas	14.72
YSDA	12	SNHS_Tonoas	13.78	PICS SE	14.22

High School	Vocab	High School	Comp	High School	Math
YCHS	54.00	YCHS	32.63	YCHS	34.63
Xavier	42.73	CCA	29.05	Xavier	31.38
CCA	41.35	Xavier	28.98	MHS	29.36
NMHS	35.96	PSDA	25.67	NMHS	29.32
PSDA	34.06	YSDA	23.75	OLMCHS	28.70
YSDA	34.00	OLMCHS	23.13	PSDA	26.50
OLMCHS	33.37	CSDA	19.57	CCA	23.10
MHS	29.25	YHS	19.31	KHS	21.70
YHS	27.20	KHS	19.23	PICS	21.14
Berea	26.25	MHS	18.96	YHS	20.94
SCA	24.95	SCA	18.65	YSDA	20.67
PICS	24.19	PICS	18.41	SCA	20.25
PSC	23.51	NMHS	17.28	KSC	19.57
YSC	23.38	PSC	16.55	PSC	18.80
CSDA	22.71	YSC	16.46	Berea	18.63
KHS	22.70	Berea	16.00	YSC	18.00
KSC	21.29	KSC	16.00	CSDA	17.14
OICA	20.83	OICA	15.17	OICA	16.25
CHS	19.85	Faichuuk HS	14.11	CSC	12.49
Faichuuk HS	19.42	CHS	13.58	Faichuuk HS	12.42
CSC	18.81	CSC	12.49	CHS	12.34
FCA	18.50	FCA	12.00	FCA	11.50
PLHA	16.80	PLHA	11.20	PICS SE	10.78
SNHS_Fefan	15.51	SNHS_Tonoas	10.39	PLHA	10.60
SNHS_Tonoas	14.72	PICS SE	9.56	SNHS_Tonoas	10.28
PICS SE	14.22	SNHS_Fefan	9.11	SNHS_Fefan	8.86

Small differences in the average scores are not significant.

Overall average performance on subsection by high schools with sections broken out for schools that submitted section lists

HS Section	Count	HS Section	Essay
Berea	8	YCHS	48.313
CCA	20	Xavier	48.311
CHS	156	CCA	47.40
CHS A	23	Berea	45.00
CHS B	21	PSDA	44.78
CSC	47	PICS A1	44.58
CSDA	7	OLMCHS	43.40
Faichuuk HS	19	SCA	42.65
FCA	2	Pohnpei UB	42.32
KHS	124	CHS A	42.30
KSC	7	YSDA	42.00
MHS A	19	MHS A	39.32
MHS B	20	NMHS A1	37.43
MHS C	7	CSDA	36.71
MHS D1	18	PICS A2	36.39
MHS D2	13	PICS B1	35.47
NMHS A1	28	OICA	35.00
NMHS A2	27	CHS B	34.19
NMHS B	24	FCA	33.50
NMHS U	1	YHS	32.83
NMHS VI	28	MHS B	32.30
NMHS VII	28	YSC	31.62
OICA	12	KSC	31.43
OLMCHS	30	PICS V4	31.21
PICS SE	9	NMHS U	31.00
PICS A1	33	KHS	30.98
PICS A2	28	NMHS A2	30.93
PICS A3	27	MHS D2	30.31
PICS A4	25	MHS C	29.86
PICS B1	17	PSC	29.28
PICS B2	18	PICS V1	29.04
PICS B3	19	PICS A3	28.26
PICS U	4	NMHS VI	27.82

PICS V1	24	PICS B3	27.37		
PICS V3	12	NMHS B	26.17		
PICS V4	19	CHS	25.77		
PLHA	5	MHS D1	25.72		
PSC	97	PICS V3	25.33		
PSDA	18	CSC	24.15		
SCA	20	PICS B2	23.22		
SNHS_Fefan	35	PICS U	22.50		
SNHS_Tonoas	18	PICS A4	21.12		
Xavier	45	NMHS VII	20.21		
YCHS	16	SNHS_Fefan	17.40		
YHS	105	PICS SE	15.78		
YSC	13	Faichuuk HS	15.47		
YSDA	12	PLHA	14.60		
Pohnpei UB	22	SNHS_Tonoas	13.78		

HS Section	Vocab	HS Section	Comp	HS Section	Math
YCHS	54.00	YCHS	32.63	NMHS A1	35.11
NMHS A1	52.61	CCA	29.05	MHS A	34.95
Xavier	42.73	Xavier	28.98	YCHS	34.63
CCA	41.35	PSDA	25.67	Pohnpei UB	33.73
Pohnpei UB	40.41	Pohnpei UB	24.86	NMHS A2	32.41
MHS A	39.16	NMHS A1	24.25	Xavier	31.38
NMHS A2	37.07	YSDA	23.75	MHS B	29.60
NMHS U	35.00	MHS A	23.68	OLMCHS	28.70
PSDA	34.06	PICS A1	23.36	MHS D1	28.17
YSDA	34.00	OLMCHS	23.13	NMHS U	28.00
OLMCHS	33.37	PICS A2	21.43	MHS C	27.71
NMHS VI	32.43	CHS A	19.70	NMHS B	27.58
NMHS B	31.25	CSDA	19.57	PSDA	26.50
PICS A1	31.18	YHS	19.31	PICS A1	26.00
CHS A	30.48	KHS	19.23	NMHS VII	25.93
MHS D1	27.33	SCA	18.65	PICS A2	25.79
YHS	27.20	PICS B1	18.53	NMHS VI	25.46
PICS B1	26.76	MHS B	18.50	PICS B1	24.59
MHS C	26.71	PICS V3	18.50	MHS D2	23.38
Berea	26.25	PICS A3	18.04	CCA	23.10
MHS B	26.10	NMHS U	18.00	PICS V3	22.92

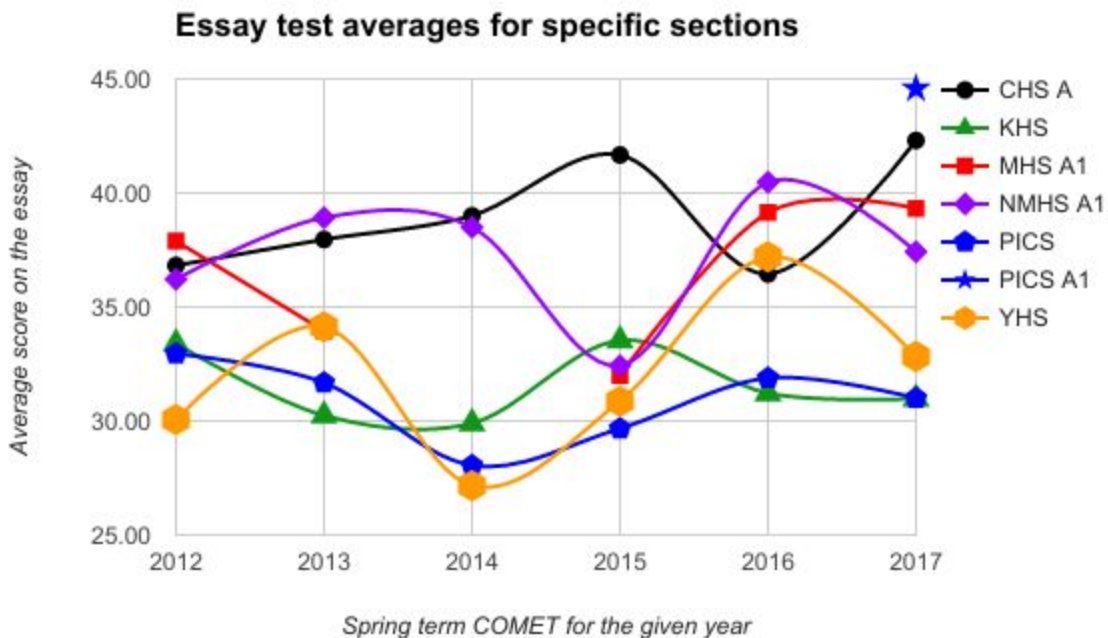|					
NMHS VII	25.82	MHS D1	17.83	KHS	21.70
PICS A2	25.07	NMHS A2	17.37	YHS	20.94
SCA	24.95	PICS A4	17.12	PICS B2	20.78
PICS V3	24.92	MHS C	17.00	PICS A3	20.67
MHS D2	23.62	PICS B2	17.00	YSDA	20.67
PSC	23.51	PICS U	16.75	SCA	20.25
YSC	23.38	PICS V4	16.58	PICS A4	19.96
PICS A3	23.11	PSC	16.55	KSC	19.57
PICS B2	22.72	YSC	16.46	PSC	18.80
CSDA	22.71	Berea	16.00	Berea	18.63
KHS	22.70	KSC	16.00	PICS V4	18.32
PICS A4	22.04	NMHS B	15.92	YSC	18.00
PICS V1	21.88	PICS V1	15.79	CSDA	17.14
PICS V4	21.58	CHS B	15.76	CHS A	17.09
CHS B	21.33	NMHS VI	15.61	PICS V1	16.63
KSC	21.29	MHS D2	15.38	OICA	16.25
OICA	20.83	OICA	15.17	PICS U	14.50
PICS B3	20.37	PICS B3	14.21	PICS B3	14.16
Faichuuk HS	19.42	Faichuuk HS	14.11	CHS B	14.14
PICS U	19.25	NMHS VII	13.04	CSC	12.49
CSC	18.81	CSC	12.49	Faichuuk HS	12.42
FCA	18.50	CHS	12.38	FCA	11.50
CHS	18.08	FCA	12.00	CHS	11.40
PLHA	16.80	PLHA	11.20	PICS SE	10.78
SNHS_Fefan	15.51	SNHS_Tonoas	10.39	PLHA	10.60
SNHS_Tonoas	14.72	PICS SE	9.56	SNHS_Tonoas	10.28
PICS SE	14.22	SNHS_Fefan	9.11	SNHS_Fefan	8.86

Note that in the above tables the Pohnpei UB students are included both in their school section and the Pohnpei UB average. The Pohnpei UB students were not disincluded from their school section. The Pohnpei UB students attend PICS, NMHS, and MHS.

Essay performance over time for high schools and selected sections

Spring: Essay	2012	2013	2014	2015	2016	2017
Berea	27.21	25.63	28.73	38.22	28.95	45.00
CCA	46.82	37.25	41.29	44.80	42.53	47.40
CHS	18.41	22.44	16.8	20.54	20.78	28.56
CHS A	36.82	37.96	39	41.67	36.44	42.30
Faichuk	4.87	4.84	1.81	12.33	7.80	15.47
KHS	33.39	30.24	29.9	33.53	31.22	30.98
MHS	29.86	30.6	30.84	28.13	32.08	31.94
MHS A1	37.89	33.95		32	39.14	39.32
MHS A2	32.11	28.57		29.3	29.29	32.30
MHS BU				28	33.90	29.86
NMHS	30.51	31.74	33.3	23.39	36.52	28.58
NMHS A1	36.22	38.92	38.5	32.43	40.47	37.43
NMHS A2	32.48	32.46	37.13	27.05	39.63	30.93
NMHS B	29.18	28.4	30.44	19.73	37.33	26.17
NMHS TIHA		29.76	31.97	15.00	30.33	27.82
NMHS AG		28.22	29.05	20.00	27.47	20.21
Nukuno	30.56		9.64	16.00	28.83	
OICA	34.17	30.7	30.55	31.24	30.27	35.00
OIHS	21.41		29.62	29.78	28.00	
OLMCHS	35.17	42.59	42.48	44.58	36.58	43.40
PICS	32.95	31.68	28.05	29.67	31.88	31.00
PICS A1						44.58
PICS A2						36.39
PLHA	27.86	21.04	16.94	26.38	20.00	14.60
SCA	32.89	36.63	33.56	37.85	37.59	42.65
SDA-C	25.62	30.7	33.6	37.38	20.00	36.71
SDA-P	43.24	39.32	41.68	39.69	41.28	44.78
SDA-Y	42.2	33.14	41.4	40.40	40.58	42.00
SNHS-Fefan	13.32	15.76	21.36	12.08	12.90	17.40
SNHS-Tonoas	7.52	12.87	12.88	12.79	13.12	13.78
Xavier	43.24	43.98	42.66	47.13	48.61	48.31
YCHS			44.67	46.50	47.31	48.31
YHS	30.06	34.13	27.16	30.86	37.20	32.83
Overall	27.54	27.6	27.06	28.28	31.72	31.18

Essay performance over time for selected public high schools and sections

Spring: Essay	2012	2013	2014	2015	2016	2017
CHS A	36.82	37.96	39.00	41.67	36.44	42.30
KHS	33.39	30.24	29.90	33.53	31.22	30.98
MHS A1	37.89	33.95		32.00	39.14	39.32
NMHS A1	36.22	38.92	38.50	32.43	40.47	37.43
PICS	32.95	31.68	28.05	29.67	31.88	31.00
PICS A1						44.58
YHS	30.06	34.13	27.16	30.86	37.20	32.83

Essay test averages for specific sections

Note that section lists for KHS and YHS were not available at the time the document was prepared. Note too that the chart's y-axis does not start at zero and the maximum possible was 50, also off the chart. This exaggerates the vertical scale but results in a more readable chart.

Placement status analysis by high schools at the section level where possible

State	High School Section	Non	Cert	ACE	Deg	Sum
Chuuk	Berea		4	1	3	8
	CHS	82	54	10	10	156
	CHS A		6	5	12	23
	CHS B	3	9	6	3	21
	CSC	29	13	4	1	47
	CSDA	2	1		4	7
	Faichuuk HS	12	3	1	3	19
	PLHA	3	1	1		5
	SCA		7	5	8	20
	SNHS_Fefan	31	4			35
	SNHS_Tonoas	16	2			18
	Xavier				45	45
Chuuk Total		**178**	**104**	**33**	**89**	**404**
Kosrae	KHS	16	33	28	47	124
	KSC	2	1	2	2	7
Kosrae Total		**18**	**34**	**30**	**49**	**131**
Pohnpei	CCA				20	20
	MHS A		2	2	15	19
	MHS B	1	10	6	3	20
	MHS C	1	5		1	7
	MHS D1	5	6	1	6	18
	MHS D2	3	6	2	2	13
	NMHS A1		4	4	20	28
	NMHS A2	4	9	6	8	27
	NMHS B	1	19	3	1	24
	NMHS U			1		1
	NMHS VI	4	17	4	3	28
	NMHS VII	13	13	1	1	28
	OICA	1	6	2	3	12
	OLMCHS		1	8	21	30
	PICS SE	6	3			9
	PICS A1		2	8	23	33

	PICS A2		8	3	17	28
	PICS A3	3	13	2	9	27
	PICS A4	9	11	1	4	25
	PICS B1	1	7	3	6	17
	PICS B2	8	4	4	2	18
	PICS B3	2	16	1		19
	PICS U	1	3			4
	PICS V1	6	12	2	4	24
	PICS V3	1	6	2	3	12
	PICS V4	3	10	3	3	19
	PSC	25	39	11	22	97
	PSDA				18	18
Pohnpei Total		**98**	**232**	**80**	**215**	**625**
Yap	FCA		2			2
	YCHS				16	16
	YHS	20	28	9	48	105
	YSC	5	1	1	6	13
	YSDA		1	1	10	12
Yap Total		**25**	**32**	**11**	**80**	**148**
Grand Total		319	402	154	433	1308

Gender differentials

Gender differentials were explored for the essay average and math sum average by state. Given the large n, differences may be significant from a frequentist statistical point of view, but the size of the effect is generally small.

Essay	Female	Male
Chuuk	28.11	30.13
Kosrae	30.61	31.47
Pohnpei	33.77	29.68
Yap	39.70	30.72
Grand Total	32.18	30.10

The largest difference in average performance on the essay was seen in Yap state, with the smallest difference seen in Kosrae.

Math Sum	Female	Male
Chuuk	14.05	15.45
Kosrae	22.75	20.22
Pohnpei	24.38	23.45
Yap	23.79	20.28
Grand Total	20.69	20.51

Differences on the math subsection were, if anything, smaller and less significant. The overall difference across all candidates was negligible.

Acknowledgements

Author and contact information

All errors are solely those of the author. This document should be construed as an occasional informal paper by a member of faculty. Any opinions expressed would be solely those of the author and do not reflect an official position of the college. Please contact Dana Lee Ling at dleeling@comfsm.fm or 691-320-2480 extension 228 if you have questions, corrections, or unmet data needs in regards the COMET instrument. If there is break-out aggregate data you require such as class level data not broken out above, please send the author a list of the names of the students/candidates and the author can generate the aggregate statistics for those students/candidates.

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