COMET Admissions Examination Statistical Summaries Spring 2010

04 April 2010 Notes:

In this statistical summary those who took the College of Micronesia-FSM Entrance Test (COMET) are referred to interchangeably as "students" and "candidates." There is no distinction intended by these two terms.

Neighboring Islands Central High School on Woleai, and Weipat high school had yet to report scores.

Basic Statistics

The COMET admissions examination consisted of four main sections. The four main sections included an essay, vocabulary, comprehension, and a math section consisting of four subsections. The basic statistics for these sections and subsections are presented in the table one below.

2010 a1	voc	comp	essay	vge	cge	95	96	99	100	msum
count	1684	1684	1669	1685	1685	1641	1642	1642	1641	1685
min	0	0	0	1.4	1.8	0	0	0	0	0
max	45	46	50	13.4	14	10	10	10	9	39
range	45	46	50	12	12.2	10	10	10	9	39
midrange	22.5	23	25	7.4	7.9	5	5	5	4.5	19.5
mode	9	17	0	3.9	7.3	9	7	2	2	20
median	11	18	25	4.4	7.8	7	6	3	3	19
mean	**12.61**	**18.74**	**24.16**	**4.94**	**7.98**	**6.88**	**5.8**	**3.46**	**2.81**	**18.46**
stdev	6.25	7.31	12.58	1.95	2.31	2.26	2.54	2.09	1.79	7.43
cv	0.5	0.39	0.52	0.4	0.29	0.33	0.44	0.6	0.64	0.4
skew	1.59	0.77	-0.21	1.96	0.66	-0.73	-0.3	0.67	0.83	-0.07
kurtosis	3.29	0.58	-0.58	4.62	-0.12	-0.03	-0.79	0.11	0.77	0.04

Table 1: Basic Statistics

Voc is the vocabulary score out of 45.
Comp is comprehension out of 48.
Essay is the essay score out of 50.
vge is the vocabulary grade level equivalent.
cge is the comprehension grade level equivalent.
95 is the first math subsection and contains ten arithmetic level problems.
96 is the second math subsection and contains ten prealgebra level problems.
99 is the third math subsection and contains ten elementary algebra problems.

100 is the fourth math subsection and contains ten college level algebra problems.
msum is the sum of the math subsections and is out of forty.

Distributions

The distribution of scores on each section is given in illustration one. The score is on the horizontal axis, the vertical axis is the number of candidates with that score.
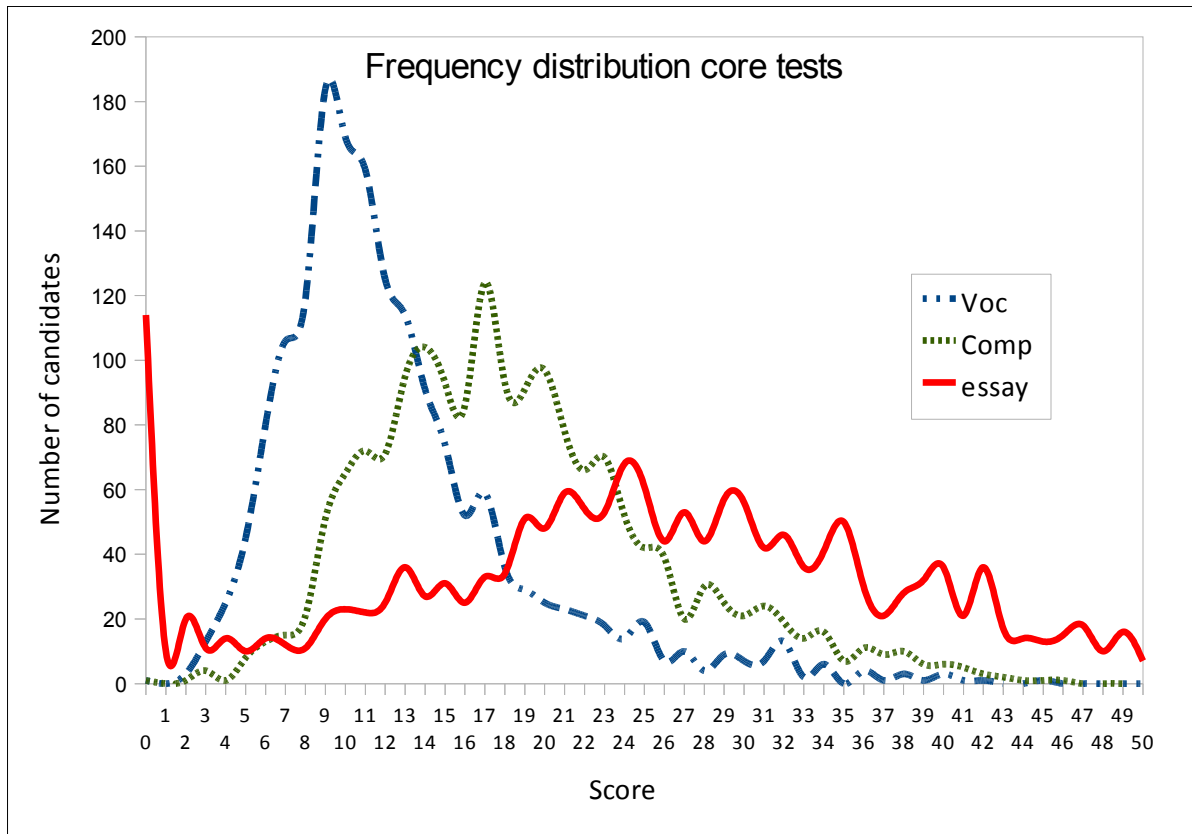
Illustration 1: Frequency distributions

With the exception of the essay section, the other sections distributed in a manner which is considered statistically reasonable. That is, the frequency (the number of students) rises with the score towards the mean, and then falls as the score continues to rise past the mean to the maximum possible score. If the distribution (the shape of the curve) is a symmetrical heap, the most common score is also the mean score as well as the median score. This distribution is sometimes called a "bell curve" and is mathematically described by the normal or student's t-distribution.

In the past, the writing section, the essay, has in performed in a statistically reasonable fashion except for the number of students who score a sum of zero. This was true again

this year with 114 scores of zero.

In the spring of 2006 there were 235 scores of zero for 1783 candidates (13%). In the spring of 2007 there were 144 scores of zero for 1608 candidates (9%). Spring 2008 there were 163 scores of zero for 1815 candidates (9%).

Spring 2009 the scoring rubric was altered in the way scores of zero are generated. In the past an off-topic paper was awarded a zero. The essay readers were instructed to mark off-topic papers for grammar and vocabulary, which greatly reduced the number of essays scoring a zero to 85 out of 1713 (5.0%).

Spring of 2010 there were 114 scores of zero for 1669 essays written (6.8%). Only seven essays attained a perfect score of 50. The increase of the number of perfect papers two years ago raised concerns that the rubric might need adjusting. The past two years, however, suggest that the rubric remains appropriate at the "top end."

Graders did raise questions on whether individual essay prompts behaved in a statistically equivalent manner. The lack of machine coding of the essay prompts and scores precluded analyzing the performance of individual prompts.

Year-to-Year Mean Scores by Section

The following table provides the mean score by entrance test subsection. Note that use of the reading section was discontinued in 2006. The grammar section was discontinued in 2007. A vocabulary and comprehension section based on the Gates-MacGinitie Level AR reading tests was added in 2008. The essay section was worth only 40 points in 2006, starting in 2007 the essay section was worth 50 points. Spring 2009 the mathematics section of the COMET was completely rewritten. The statistics are provided only for the spring runs of the COMET.

Section	2006	Section	2007	Section	2008	2009	2010
Reading	14.81						
Grammar	37.04	Grammar	34.87				
Essay (40)	20.69	Essay (50)	22.03	Essay (50)	23.87	23.21	24.16
				Vocabulary	12.23	12.74	12.61
				Voc grade eqv			4.94
				Comprehension	18.33	19.09	18.74
				Comp grade eq			7.98
Math subsect one	6.69		6.63		6.83	6.97	6.88
Math subsect two	3.69		4.04		4.60	5.73	5.80
Math subsect three	3.51		3.40		3.60	3.53	3.46
Math subsect four	2.43		2.49		2.55	2.98	2.81
Math sum	16.21		16.44		17.50	19.14	18.46

Table 2: Year-to-year averages

The college might consider broadening the content scope of the COMET to provide an impetus for schools to improve in areas beyond English and Mathematics. The natural and social sciences are areas that might be explored for content oriented sections of the COMET.

Confidence Intervals

Four confidence interval charts for the means of four tests are presented below. The vertical bars show the extent of the 95% confidence interval for the mean score on the particular test. Where a bar for one school overlaps the mean for another school, the former is not statistically separated from the mean of the later. The mean is marked by the horizontal line at the midpoint of the vertical bar. The means are listed in descending order by high school. Breakouts include those sections for which the author had class lists, and those TRIO programs which provided student lists.

Comments follow the four charts. The comments are intentionally briefer than those offered in past years. For those familiar with these charts, the charts tell their own story of academic success and failure as measured by the narrow measure of the instruments used to determine college admissions placement. Readers who have questions should direct them to the author, contact information is provided at the end of this document.
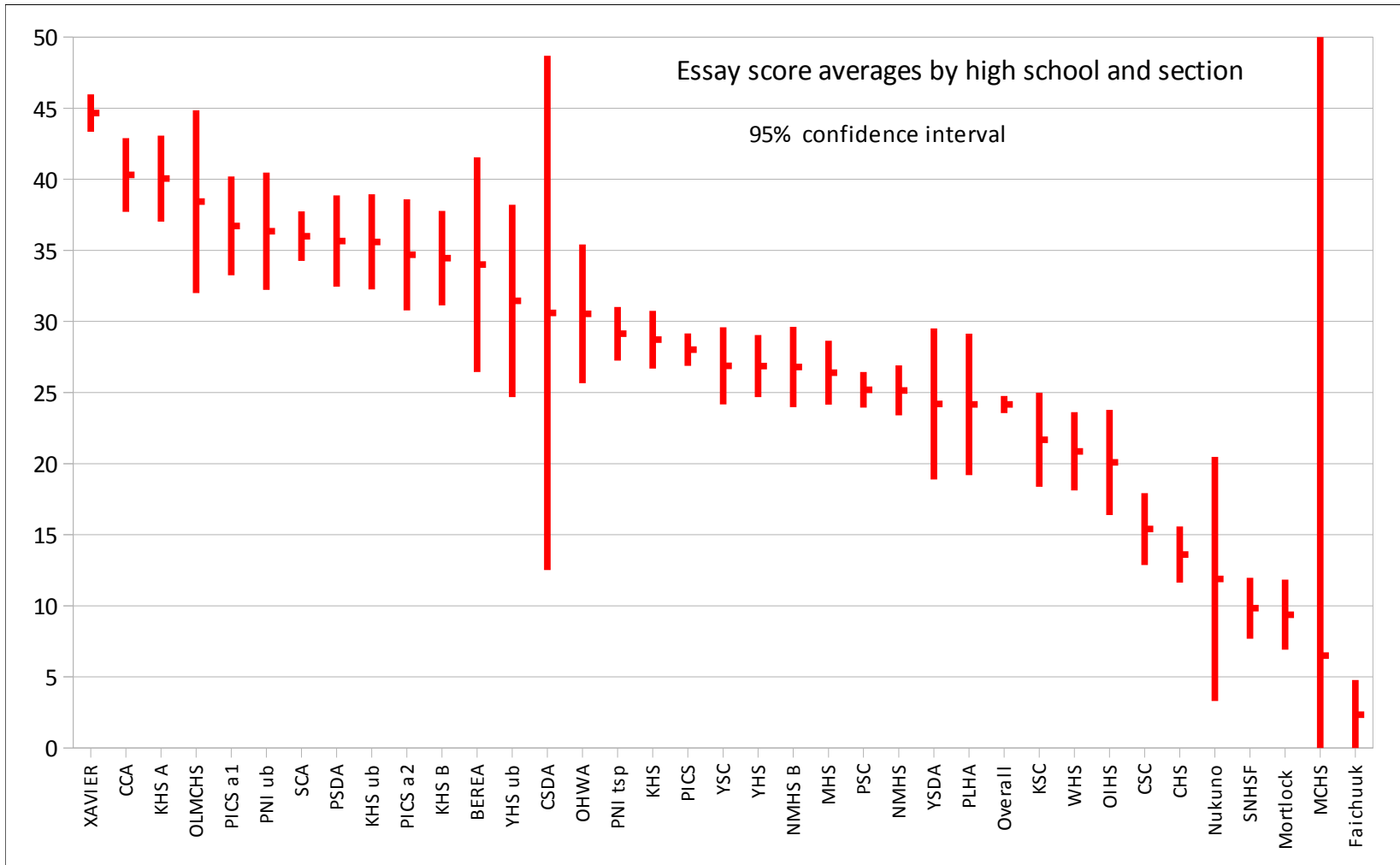
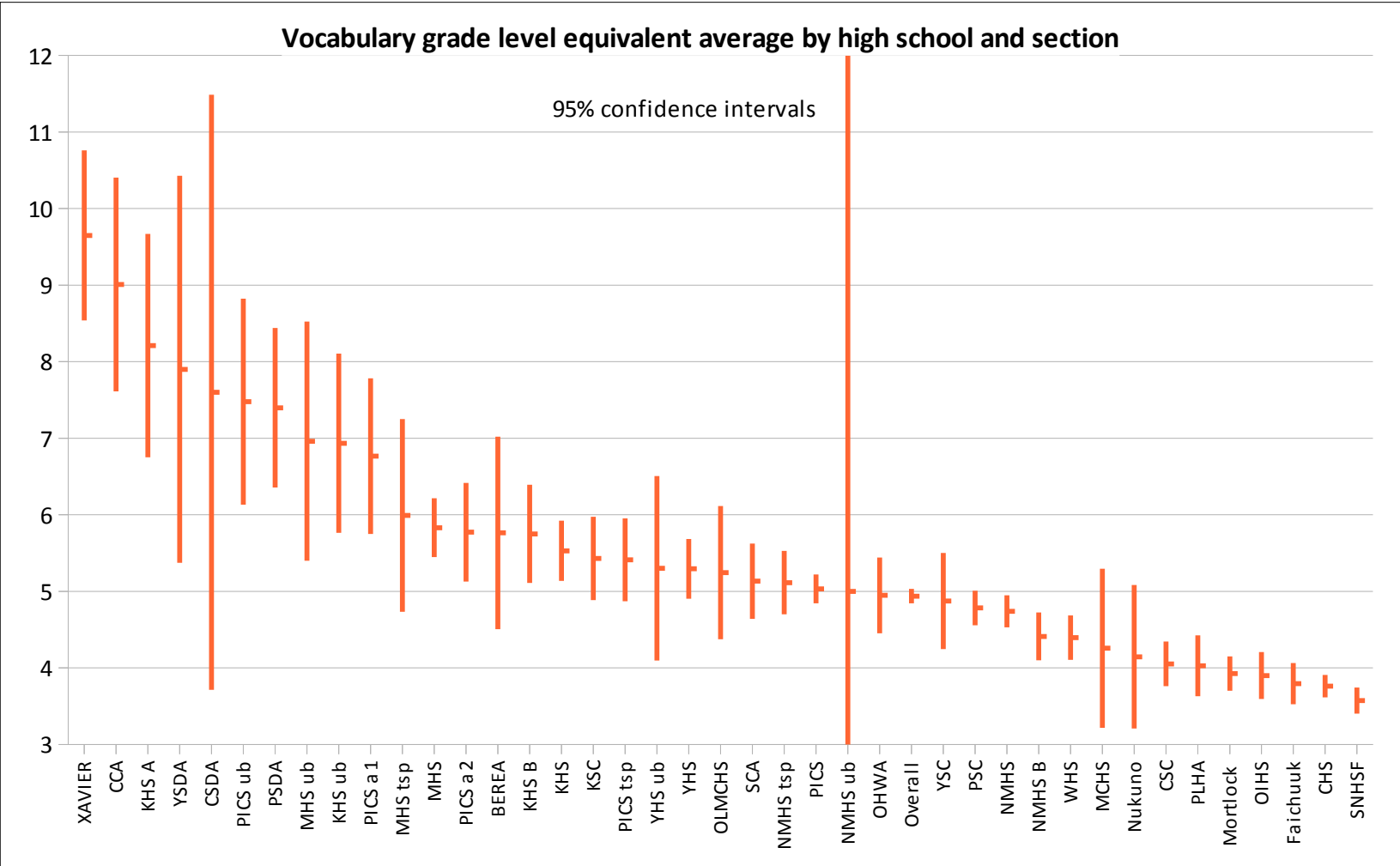*Illustration 2: Essay test 95% confidence intervals, essay maximum is 50.*

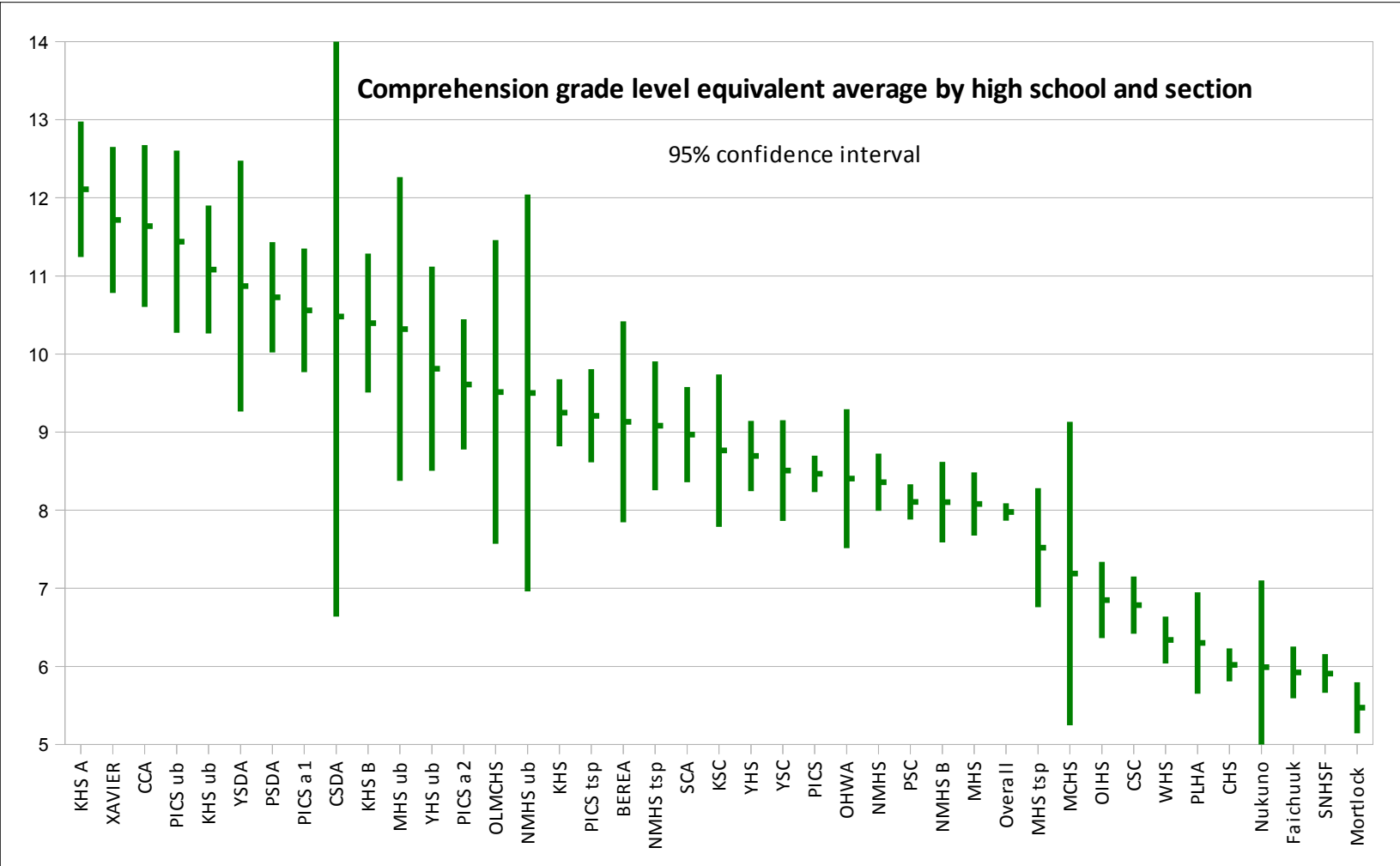*Illustration 3: Vocabulary grade level equivalent 95% confidence intervals*

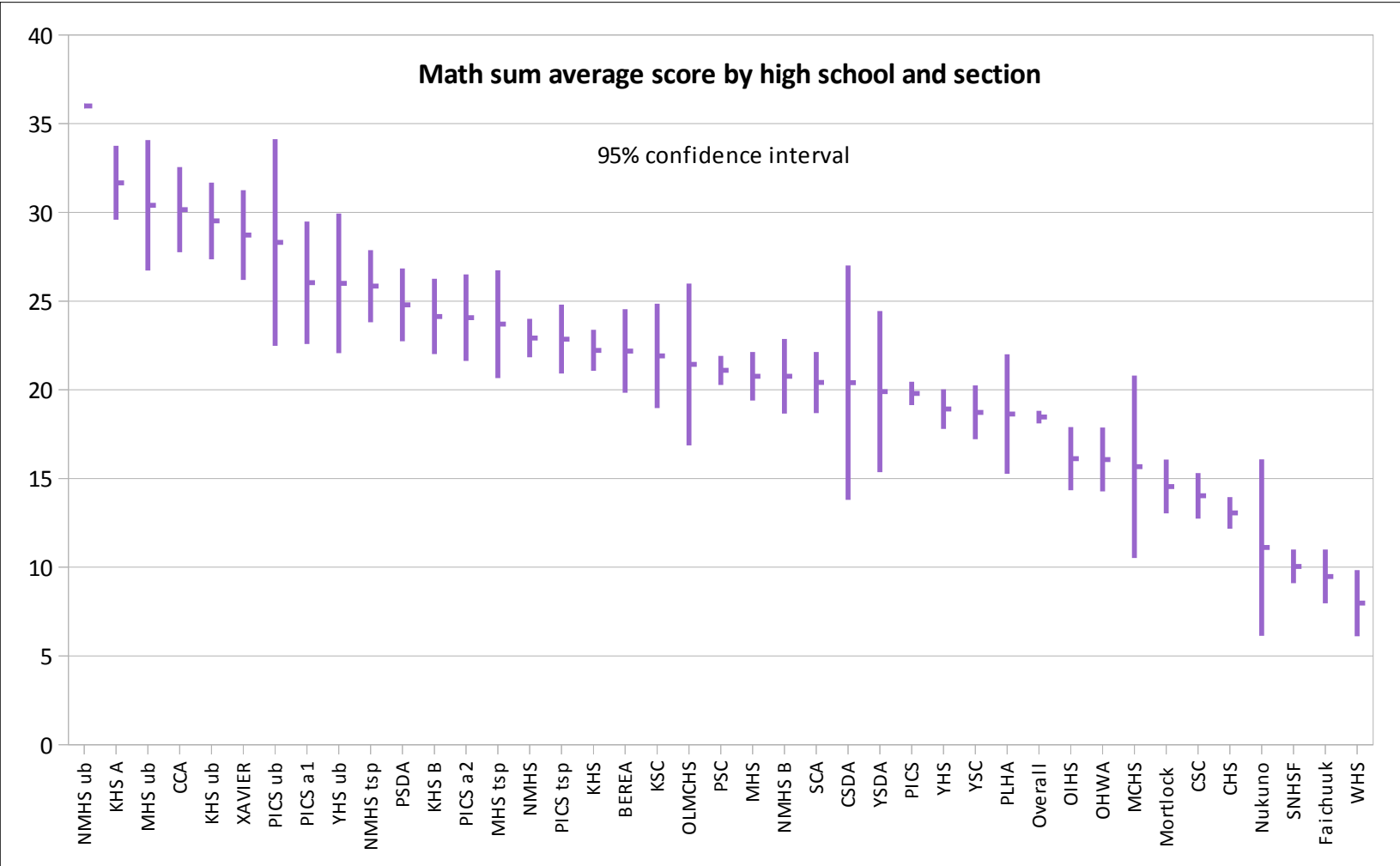*Illustration 4: Comprehension grade level equivalent 95% confidence intervals*

Illustration 5: Math sum average score 95% confidence intervals

Comments

The writing (essay) section is considered by both the language and literature division and by those from other divisions who mark this section to possibly be singularly indicative of the capacity of students to academically succeed at the college – if there is such a thing as a single indicator. The maximum possible score is a fifty. Scores of twenty and under are considered to be significantly weak and raise questions as to whether these students can tackle any program that requires the ability to communicate in written English.

An average of 20 on the essay section is the equivalent result of two essay readers rating the essay as being two in all categories. Averages below 10 would be the result of being awarded a one in all categories. Below 10, the essay has errors of grammar that are so severe as to make comprehension virtually impossible, the vocabulary is limited and misused, and the answer bears little relation to the task set by the essay question. The rubric is included at the end of this report.

While some fields such as science have significant support costs, English language and literature is likely the least expensive program on a per student basis. This is not likely a failure due to a lack of funding alone.

The grade-level equivalent charts are new. The national vocabulary average is equivalent to fifth grade-level equivalent as measured by the Gates-McGinitie vocabulary test used by the college. The range for the averages is from third grade to ninth grade-level equivalent. The national reading comprehension average is roughly eighth grade-level equivalent. The range for comprehension is from fifth grade to twelfth grade-level equivalent.

The sum of the four math subsections presents an overall indicator of math performance on the COMET. A candidate ready for college level mathematics should score on the order of 30 or higher on this section of the test. Thus an average of 30 might be some assurance that roughly 50% of the students in a high school might be college ready. Due to potential skew in the data, the arithmetic mean might not be at the 50th percentile for the number of candidates from a particular school. With that proviso, however, an average of 30 for academic section students would be a worthy goal.

Changes in essay performance 2007, 2008, 2009, and 2010

With the essay marked against the same rubric in 2007, 2008, 2009, and 2010, year-to-year differences can be determined. Small differences are not statistically significant.

Spring 2007		Spring 2008		Spring 2009		Spring 2010	
HS essay	mean	HS essay	mean	HS essay	mean	HS essay	Mean
Berea	15.7	BEREA	26.73	Berea	23.33	BEREA	34
CCA	42	CCA PNI	39.25	CCA	45.3	CCA	40.31
CHS	9.97	CHS	17.04	CHS	15.32	CHS	13.61
CSDA	20.8	CSDA	28.38	CSDA	32.19	CSDA	30.6
Faichuk	4.95	FHS	6.18	Faichuk	5.57	Faichuuk	2.35
KHS	26.91	KHS	25.99			KHS	28.72
				KHS non-a	25.24		
KHS adv	37.27	KHS a1	40.71	KHS advanced	32.71	KHS A	40.05
KHS a2	38.31	KHS a2	29.23	KHS a2	26.76	KHS B	34.45
Mizpah	21.05	MCHS	20.1	Mizpah	22.91	MCHS	6.5
Mado HS	26.36	MHS	24.59	MHS	20.62	MHS	26.4
Mortlocks			9.77			Mortlock	9.38
NICHS	19.58	NICHS	13.98				
NMS	27.75	NMHS	22.58	NMHS	25.07	NMHS	25.15
NMS a	36.74	NMHS a1	30.95				
		NMHS a2	22.43				
NMS b	23.74	NMHS b	20.2			NMHS B	26.8
NMS v1	19	NMHS h	18.85				
NMS v2	20.91	NMHS v	18.81				
Nukuno	12.91					Nukuno	11.89
Ohwa	23.33	OCHS	16.17	Ohwa	26	OHWA	30.54
OIHS	21.3	OIHS	18.87	OIHS	18.15	OIHS	20.09
		OLMVTS	33.56	OLMS	27.33	OLMCHS	38.43
PICS	25.16	PICS	28.73	PICS	27.44	PICS	28.02
PICS a1	34.48					PICS a1	36.72
						PICS a2	34.69
PICS aca	28.68						
PICS bus	26.91						
PICS voc	19.26						
PLHA	14.69	PLHA	18.67	PLHA	17.42	PLHA	24.17
PSDA	37.22	SDA PNI	41	PSDA	38.63	PSDA	35.66
Saramen	28.69	SARAM	37	Saramen	22.7	SCA	36
SNHS	14.05	SNHS	8.02				
				SNHST	10.18		

Spring 2007		Spring 2008		Spring 2009		Spring 2010	
HS essay	mean	HS essay	mean	HS essay	mean	HS essay	Mean
		SNHS-F	9.18	SNHSF	8.61	SNHSF	9.83
Weipat			5.59				
Weno	14.81	WHS	17.65	Weno	14.57	WHS	20.87
Xavier	40.27	XHS	43.63	Xavier	44.65	XAVIER	44.66
YSDA	40.44	SDA (YAP)	30	YSDA	28.2	YSDA	24.2
YHS	23.86	YHS	28.99	YHS	29.33	YHS	26.86
Overall	22.03	Overall	24.35	Overall	23.21	Overall	24.16

Note

In past years this report has included information on the numbers of students gaining admissions to associate and certificate level programs along with break-out reports on diversity and admissions data by high school. That work is now being done separately by a recruiting, admissions, and retention team at the college.

Author and contact information:

All errors are solely those of the author. 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 test. If there is break-out aggregate data you require such as section level data not broken out above, please simply send me a list of the names of the candidates and I can generate the aggregate statistics for those candidates.

Appendix A.

	COMET Sub-Test 3 (Writing) Analytic Scale [Essay rubric]
	Syntax
5	Grammar and word order nearly perfect.
4	Some errors of grammar or word order but communication not impaired.
3	Errors of grammar or word order fairly frequent; occasional re-reading necessary for full comprehension.
2	Errors of grammar or word order frequent; efforts of interpretation sometimes required on reader's part.
1	Errors of grammar or word order very frequent; reader often has to rely on own interpretation.
0	Errors of grammar or word order so severe as to make comprehension virtually impossible.
	Vocabulary
5	Wide and correctly used vocabulary.
4	Occasionally uses inappropriate terms or relies on circumlocution; expression of ideas not impaired.
3	Uses wrong or inappropriate words fairly frequently; expression of ideas may be limited because of inadequate vocabulary.
2	Limited vocabulary and frequent errors clearly hinder expression of ideas.
1	Vocabulary so limited and so frequently misused that reader must often rely on own interpretation.
0	Vocabulary limitations so extreme as to make comprehension virtually impossible.
	Organization
5	Extremely well organized.
4	Material fairly well organized; links could occasionally be clearer but communication not impaired.
3	Some lack of organization; re-reading required for clarification of ideas.
2	Little or no attempt at connectivity, though reader can deduce some organization.
1	Individual ideas may be clear, but very difficult to deduce connection between them.
0	Lack of organization so severe that communication is seriously impaired.
	Cohesion
5	Strong cohesion with smooth transitions both within and between paragraphs.
4	Occasional lack of consistency in choice of cohesive structures and vocabulary but overall ease of communication not impaired.
3	'Patchy', with some cohesive structures or vocabulary items noticeably inappropriate to general style.
2	Cohesive structures or vocabulary items sometimes not only inappropriate but also misused; little sense of ease of communication.
1	Communication often impaired by completely inappropriate or misused cohesive structures or vocabulary items.
0	A 'hotchpotch' of half-learned misused cohesive structures and vocabulary items rendering communication almost impossible.

	Content
5	Full and complete answer, inclusive of all parts of the task.
4	Relevant and adequate answer to the task set.
3	For the most part answers the task set, though there may be some gaps or redundant information.
2	Answer of limited relevance to the task set. Possibly major gaps in treatment of topic and/or pointless repetition.
1	Answer bears little relation to the task set.
0	No evidence of assigned task. (If it is obvious that the student wrote on an unrelated topic give a zero for the content but mark the essay for syntax, vocabulary, cohesion, and organization. If there is found to be evidence that the essay is a "canned" or "memorized" essay, then the essay receives a zero on all metrics.)