Greetings

As many of you know, the Assessment Committee continues with its efforts to measure our student's learning, satisfaction, and demographics. Recently, we completed the collection of data from our measure of quantitative reasoning and have started with the analyses. In the coming weeks we will be measuring student satisfaction and requesting information regarding the assessment program and your needs for information.

I would like to share with each of you some of the information that has been garnered from the Quantitative Reasoning Assessment that was recently distributed. Below is the description that was developed to define the quantitative reasoning competency:

Students who demonstrate quantitative reasoning skills will be able to:

- *Calculate: Identify relevant mathematical information, and select appropriate methods to answer questions of a numerical nature.*
- *Connect: Express and/or evaluate quantitative relationships using graphs, charts, or formulas.*
- *Conclude: Evaluate representations and inferences that are based on quantitative information, and recognize questionable values or assertions.*

The measure that was established was designed to assess these competencies. We are well aware that the instruments we utilize are not perfect measures of the competencies we are assessing; however, given the time constraints that we face in conducting the assessment and minimizing the impact on faculty and classes, the measure does provide an indication as to the competencies of our students. Further, given that the samples are $n > 400$, one could surmise that since we are not measuring individual student competencies or gains in competencies, but more so measuring our student body's competency, the measure is of significant value (i.e. a sample of $n = 1$ with 10 questions/items may be statistically unsound ; however, taking 450 samples of $n=1$ is far more valid). This serves as the guide for our sampling strategies.

Below is a summary of the demographics of those students who were included in this measure. Next week, after the Assessment Committee Reviews the analyses, we will begin to share the findings.

Stats of the Week – Sample Demographics

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 or less	125	27.4	27.5	27.5
	21 - 24	127	27.8	27.9	55.4
	25 - 29	76	16.6	16.7	72.1
	30 - 34	42	9.2	9.2	81.3
	35 - 39	32	7.0	7.0	88.4
	40+	53	11.6	11.6	100.0
	Total	455	99.6	100.0	
Missing	System	2	.4		
Total		457	100.0		

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	200	43.8	43.8	43.8
	Female	257	56.2	56.2	100.0
	Total	457	100.0	100.0	

Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	342	74.8	75.5	75.5
	Married	111	24.3	24.5	100.0
	Total	453	99.1	100.0	
Missing	System	4	.9		
Total		457	100.0		

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	White	263	57.5	58.6	58.6
	Black	86	18.8	19.2	77.7
	Hispanic	31	6.8	6.9	84.6
	Asian	13	2.8	2.9	87.5
	Indian	33	7.2	7.3	94.9
	Other	23	5.0	5.1	100.0
	Total	449	98.2	100.0	
Missing	System	8	1.8		
Total		457	100.0		

HS Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	GED	29	6.3	6.4	6.4
	Diploma	415	90.8	91.4	97.8
	Neither	10	2.2	2.2	100.0
	Total	454	99.3	100.0	
Missing	System	3	.7		
Total		457	100.0		

Major Division

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BIT	123	26.9	27.2	27.2
	ES	61	13.3	13.5	40.6
	HU	36	7.9	7.9	48.6
	SS	78	17.1	17.2	65.8
	HS	125	27.4	27.6	93.4
	Unknown	30	6.6	6.6	100.0
	Total	453	99.1	100.0	
Missing	System	4	.9		
Total		457	100.0		

Hours Compl.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	31	6.8	6.8	6.8
	1 - 15	106	23.2	23.4	30.2
	16 - 30	88	19.3	19.4	49.7
	31 - 45	68	14.9	15.0	64.7
	46 - 60	65	14.2	14.3	79.0
	61 or more	95	20.8	21.0	100.0
	Total	453	99.1	100.0	
Missing	System	4	.9		
Total		457	100.0		

Grad Date

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Cur Sem	71	15.5	15.7	15.7
	Next Sem	70	15.3	15.5	31.3
	1 - 2 yrs	167	36.5	37.0	68.3
	2 - 3 yrs	78	17.1	17.3	85.6
	more than 3	13	2.8	2.9	88.5
	Uncertain	52	11.4	11.5	100.0
	Total	451	98.7	100.0	
Missing	System	6	1.3		
Total		457	100.0		

Highest Math

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Pre-Alg	54	11.8	12.0	12.0
	Elem Alg	70	15.3	15.6	27.6
	HS Geom	30	6.6	6.7	34.3
	Interm Alg	89	19.5	19.8	54.1
	Alg	128	28.0	28.5	82.6
	Trig	20	4.4	4.5	87.1
	Calc	58	12.7	12.9	100.0
	Total	449	98.2	100.0	
Missing	System	8	1.8		
Total		457	100.0		

Class Taken

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BIT	75	16.4	16.4	16.4
	Math	92	20.1	20.2	36.6
	Other ES	58	12.7	12.7	49.3
	HS	47	10.3	10.3	59.6
	Eng/Read	30	6.6	6.6	66.2
	Other HU	61	13.3	13.4	79.6
	Hist/Govt	12	2.6	2.6	82.2
	Other SS	81	17.7	17.8	100.0
	Total	456	99.8	100.0	
Missing	System	1	.2		
Total		457	100.0		

Remedial?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	46	10.1	10.1	10.1
	No	411	89.9	89.9	100.0
	Total	457	100.0	100.0	

Calculator

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	149	32.6	35.3	35.3
	No	273	59.7	64.7	100.0
	Total	422	92.3	100.0	
Missing	System	35	7.7		
Total		457	100.0		

QUANTITATIVE REASONING
STATS OF THE WEEK – Level I Analysis
April 7, 2014

As most of you are aware, we recently completed our first measure of our student's quantitative reasoning competency. This core competency replaced Quantitative Literacy from previous years. As you may recall, the Assessment Committee established the following description for Quantitative Reasoning (QR):

> Students who demonstrate quantitative reasoning skills will be able to:
>
> - Calculate: Identify relevant mathematical information, and select appropriate methods to answer questions of a numerical nature.
> - Connect: Express and/or evaluate quantitative relationships using graphs, charts, or formulas.
> - Conclude: Evaluate representations and inferences that are based on quantitative information, and recognize questionable values or assertions.

The focus of this competency is directed toward the use and application of quantitative information, along with its derivation. As it relates to our General Education at Rose State College, it was felt that this description was an accurate reflection of our minimum expectation for our graduates across all divisions. The sub-committee did an outstanding job of developing an instrument that would be useful and not terribly intrusive into our courses.

Factor Analysis

For the mere enjoyment of it, I took the opportunity to analyze the instrument to determine how effectively the questions correlated to the factors they were designed to measure. The instrument consisted of eleven questions, which is a shortfall, but given our restrictions it was about as many items as we could use. Recall, there were three factors/components that made up QR: calculate, connect, and conclude. Questions 1-3 were designed to measure Conclude, 4-8 Calculate, and 9-11 Connect. Factor analysis first identifies how many different factors are being measured, and how well the items/questions correlate to these factors (i.e. are the questions measuring the same factor, and at least partially, how well).

Below you will see the Component Matrix:

Rotated Component Matrix[a]

	Component		
	1	2	3
Q1	.041	.083	.555

Q2	.351	.058	.421
Q3	-.207	-.160	.569
Q4	.016	.728	-.091
Q5	.123	.666	-.040
Q6	.001	.483	.285
Q7	.126	.505	.348
Q8	.176	.303	.482
Q9	.709	.162	.057
Q10	.768	.191	.021
Q11	.597	-.091	.004

Comment: First, the analysis (using SPSS) determined that there were three different components being measured (as hoped and planned). Second, using the general rule that those correlations of .6 or greater are generally grouped together (or select the highest correlations for each question), it can be determined which questions are measuring the same factors (hence the name factor analysis). The results were very profound and impressive. Component 1 (SPSS does not name the components) indicated that questions 9, 10, and 11 were measuring the same component (aka Connect), questions 4, 5, 6, and 7 were closely tied the Component 2 (Calculate), and questions 1, 2, 3, and 8 appeared to be measuring Component 3 (Conclude). Question 8 was more correlated to Conclude than to Calculate, but given the complexity of the question, it was understandable. For the sake of the analyses, we included 8 with its intended Component 2 – Calculate for future application.

In summary, the instrument was designed to measure three components/factors, and it did, and the questions designed to measure the different components appeared to have done so. I know you are equally impressed.

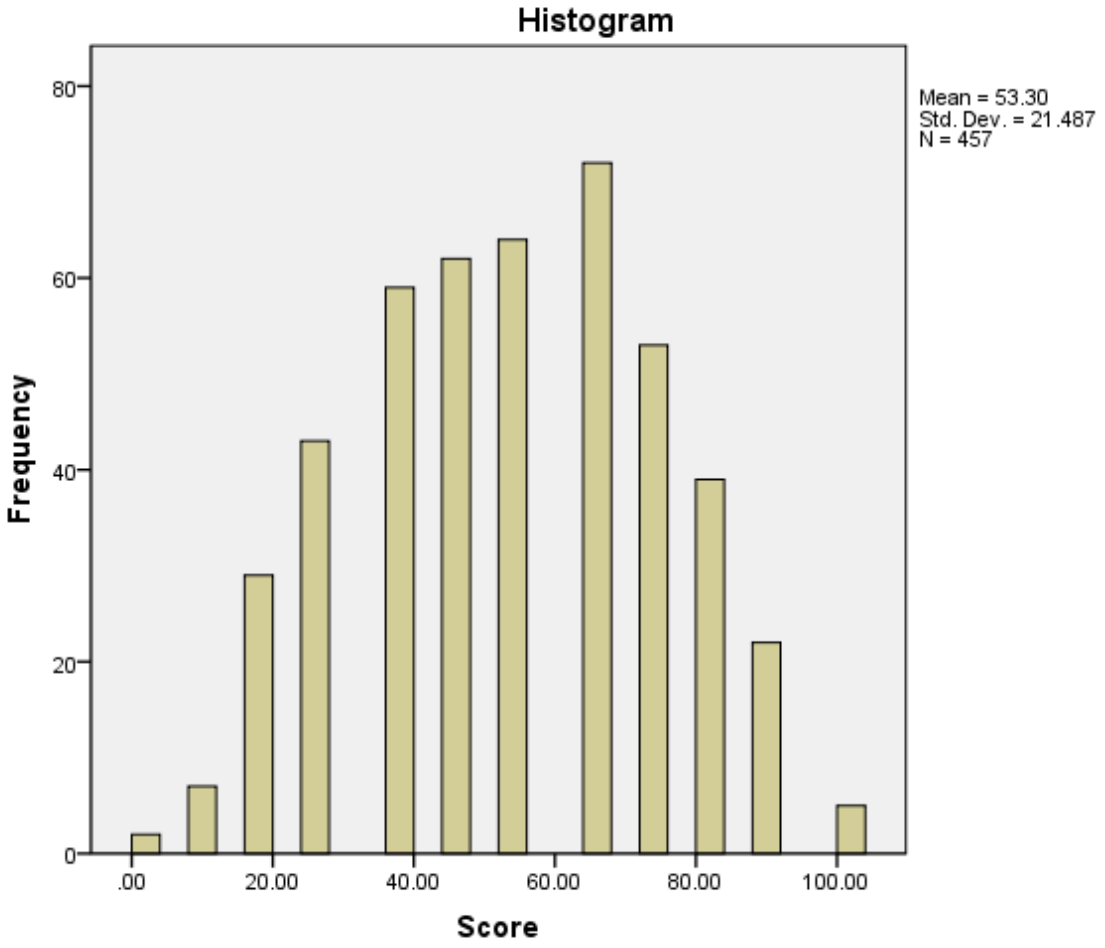
Central Tendency

We must all remember that these measures are designed to assess all students' competency in relation to what is being measured. Further, we must remember that these students lack the motivation to put forth maximum effort. With this understanding, the descriptive statistics for the sample in relation to Quantitative Reasoning is below. The histogram illustrating the distribution of grades follows.

Descriptives

			Statistic	Std. Error
Score	Mean		53.2976	1.00510
	95% Confidence Interval for Mean	Lower Bound	51.3224	
		Upper Bound	55.2728	

	5% Trimmed Mean	53.2953	
	Median	55.0000	
	Variance	461.670	
	Std. Deviation	21.48651	
	Minimum	.00	
	Maximum	100.00	
	Range	100.00	
	Interquartile Range	37.00	
	Skewness	-.046	.114
	Kurtosis	-.748	.228



Comment: One will notice that the distribution is not perfectly symmetrical, and given the relation of the mean, median, and mode, it is slightly left/negatively skewed. Also, this measure assesses all students without regard to age, credit hours completed, major, etc. Thus, it is a

measure of our students QR skills at this point in time. I will differentiate across many demographic variables in future reports.

Further, calculating the scores for the various components being measured shows the following:

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ConcludeSc	457	0	100	48.50	29.917
CalcSc	457	0	100	50.77	28.800
ConnectSc	457	0	100	62.22	33.872
Valid N (listwise)	457				

Comment: We can determine that based upon this measure, our students' ability to Connect was the highest, and ability to Conclude was the lowest. One should understand that these scores were ascertained from relatively few items on an instrument, but we should also recognize that 457 subjects were included, so the sampling distribution would likely be a good representation of the population (flipping a coin two times is poor, but 457 people flipping it two times and averaging their findings is more accurate). The major shortcoming is that each of the complex components are measured by a relatively few items. It is extremely difficult to measure any complex aptitude with a large number of questions, much less a small number.

Conclusion

What do we take from this? One, we have a benchmark that we can use for future comparisons. Two, we need to focus on, in all classes, the importance of quantitative reasoning skills. The two most commonly mentioned shortcomings of all college students are (1) they cannot write, and (2) they cannot understand and use quantitative data.

We should recognize 26% of the students scored 70% or higher on the measure. Our goal is to improve these scores over time. We must emphasize the importance of these abilities in all of our courses at every opportunity. As I heard mentioned last semester, it is not the sole responsibility of our Humanities Division to teach Effective Written Communication skills, nor is it the sole responsibility of Engineering Science to teach Quantitative Reasoning skills to our students. We must mention them at every opportunity in all of our courses, stress their importance on all student work, and eventually, when students believe there is value in effort, scores will improve.

Next week, we will address scores on this measure across several demographic variables. Many thanks to the committee who assisted in the development of this measure and the many faculty who provided class time to take the measure.

The student satisfaction measure will be distributed beginning next week. If one of your sections is selected, thank you in advance for your help….if you were left out of this one, there is always another one on the horizon.

QUANTITATIVE REASONING
STATS OF THE WEEK – Level II Analysis
April 16, 2014

This week's edition will focus on the comparison of QR scores across several demographic variables. There were several interesting differences, and interestingly, there were some interesting similarities.

Overall Scores

Descriptives

			Statistic	Std. Error
Score	Mean		53.2976	1.00510
	95% Confidence Interval for Mean	Lower Bound	51.3224	
		Upper Bound	55.2728	
	5% Trimmed Mean		53.2953	
	Median		55.0000	
	Variance		461.670	
	Std. Deviation		21.48651	
	Minimum		.00	
	Maximum		100.00	
	Range		100.00	
	Interquartile Range		37.00	
	Skewness		-.046	.114
	Kurtosis		-.748	.228

Comment: As noted last week, the overall mean score (N = 457) was relatively low, and the median score was only slightly higher, indicating a left skewness. As noted below, the frequency of scores indicated a similar slight lack of symmetry. Since there were eleven questions on the measure, there were only 12 scores possible (% correct). The questions were equally weighted. A large body of students scored between 36 and 73, and a respectable portion above 73. The extremely low scores and concentrations skewed the mean to the lower end of the distribution.

Frequencies

Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	2	.4	.4	.4
	9.00	7	1.5	1.5	2.0
	18.00	29	6.3	6.3	8.3
	27.00	43	9.4	9.4	17.7
	36.00	59	12.9	12.9	30.6
	45.00	62	13.6	13.6	44.2
	55.00	64	14.0	14.0	58.2
	64.00	72	15.8	15.8	74.0
	73.00	53	11.6	11.6	85.6
	82.00	39	8.5	8.5	94.1
	91.00	22	4.8	4.8	98.9
	100.00	5	1.1	1.1	100.0
	Total	457	100.0	100.0	

Score by Age

		Score			
		Mean	Median	Standard Deviation	Valid N
Age	20 or less	54.26	55.00	20.54	125
	21 - 24	53.78	55.00	21.33	127
	25 - 29	56.66	55.00	19.36	76
	30 - 34	61.62	64.00	20.99	42
	35 - 39	39.69	36.00	18.92	32
	40+	48.02	45.00	23.67	53

Comment: As noted above, there are no meaningful differences between the first three age groups. However, the 30 – 34 age group's' scores do rise considerably and are the highest. Then, the next age group's scores decline, and are the lowest. Those 40+ rose slightly, but remain relatively low. Again, motivational factors may be an explanation for some of this. The

younger students may be less motivated and the middle age group taking it more seriously. We should also recognize that the assessment focused on reasoning, and some logical analysis. It could be argued that the older students have a wider array of experiences and potentially, logical reasoning abilities, BUT that does not explain the decline for the 35+ age groups. Interesting…

Score by Gender

		Score			
		Mean	Median	Standard Deviation	Valid N
Gender	Male	55.21	55.00	21.31	200
	Female	51.81	55.00	21.55	257

Comment: The comparisons of males versus females resulted in a difference that may, or may not be worth investigating. At the risk of creating a furor, I will mention that the gender and aptitude comparisons have been scrutinized and analyzed since statistical analyses began. To further risk life and limb, it should be noted that the scores on the Effective Writing Outcomes Assessment were m = 43.9 for males, and 56.1 for females. Why is there a difference? Sampling error? Possible…but, if a difference exists, why, and what can be done about it?

Now, I know some of you are clamoring for a statistical comparison. Below are the scores from a simple independent sample t-test. I am not proclaiming that the sampling technique guaranteed a representative sample and can be generalized to the population, but the sections were randomly sample which leads me to believe that the analysis is valid. See below:

T-Test

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Score	Male	200	55.2100	21.31142	1.50695
	Female	257	51.8093	21.54571	1.34398

		t	df	Sig. (2-tailed)	Std. Error Difference
Score	Equal variances assumed	1.682	455	.093	2.02196
	Equal variances not assumed	1.684	430.000	.093	2.01920

Hmmm….so, what does this tell us? A teaching moment is emerging…the top scores describe the two independent samples, males and females. They are independent samples because the scores of one male student is unrelated to any of the female scores, and vice versa (as compared to a dependent sample where you measure a particular student at two points; here, their second score would be related to/effected by their first score)

The bottom table indicates that although a difference does exist between the two groups, the difference is not significant (p = .093). This p-value would need to be below .05 to lead us to state the difference is significant. So, finally, statistically speaking, the hypothesis that there is no difference between males and females on this assessment is retained because the differences are not large enough to state that they could not have occurred by random chance. This is not to say a difference does not exist, just that this test does not indicate such. That was fun….

Score by Marital Status

		Score			
		Mean	Median	Standard Deviation	Valid N
Marital Status	Single	53.53	55.00	21.71	342
	Married	52.46	55.00	20.97	111

Comment: Surprisingly, there was not a large difference here, and more surprisingly, the single students scored slightly higher. In most measures I have been involved with, the married students have always scored at least slightly higher than the single. Married students tend to do better…not because they are married, but because of the other factors related to marital status – age, sense of responsibility, financial investment in the course, etc. That said, do not inform your students that getting married will improve their grades.

Score by Race and by Race & Gender

		Score			
		Mean	Median	Standard Deviation	Valid N
Race	White	58.03	64.00	20.20	263
	Black	43.59	45.00	20.41	86
	Hispanic	51.29	45.00	19.91	31
	Asian	55.31	55.00	28.05	13
	Indian	49.48	45.00	21.78	33
	Other	44.91	36.00	24.13	23

				Score			
				Mean	Median	Standard Deviation	Valid N
Race	White	Gender	Male	61.54	64.00	19.79	112
			Female	55.42	55.00	20.17	151
	Black	Gender	Male	47.06	45.00	18.49	34
			Female	41.33	36.00	21.44	52
	Hispanic	Gender	Male	57.00	55.00	20.35	15
			Female	45.94	45.00	18.53	16
	Asian	Gender	Male	36.33	31.50	19.36	6
			Female	71.57	82.00	24.36	7
	Indian	Gender	Male	49.21	45.00	19.67	14
			Female	49.68	45.00	23.74	19
	Other	Gender	Male	40.38	36.00	25.73	13
			Female	50.80	45.00	21.75	10

Comment: As noted in the first table, whites scored the highest, with blacks and other races scoring the lowest. The sample sizes were small for some races, which is problematic. Again, this emphasizes the importance of our understanding of the secondary education exposure of many students as it relates to quantitative reasoning. Some groups may place greater value in mathematics and quantitative analysis, and their high school experience likely influenced their QR abilities. We must recognize this and do what we can to emphasize its importance and support all groups.

The second table breaks down the scores by race and gender. Historically, the black male student has scored the lowest on many measures. Not here. As noted, the black males scored higher than the black females, with the Asian females scoring the highest and the Asian males scoring the lowest (note small n). This is very interesting. Whites males scored higher than white females, as did black males, and Hispanic males; however, Asian females, Native American females and Other females score higher than their respective males. We should note that gender and race does appear to have a mixed effect on QR literacy. I know the Math Department is thinking about how to use this…

Conclusion

Next week, I will continue with more group comparisons. We will compare scores across high school status, division major, hours completed, expected graduation date, highest math completed, class measure was taken in, and course level (remedial or not).

Finally, remember that improving Quantitative Reasoning ability is an outcome we should emphasize in all courses and talk favorably of at every opportunity. Clearly differences exist across groups. Understanding these and discussion ways to support them should be a goal.

If anyone would like access to additional information or data, or has a need for further analysis, call or come by. I love to talk statistics.

Until next time…

JCaldwell

QUANTITATIVE REASONING
STATS OF THE WEEK – Level IIb Analysis
April 24, 2014

This week's edition will conclude the discussion comparing the Quantitative Reasoning scores for factors that were observed across subjects (aka students).

Scores by High School Status

		Score		
		Mean	Standard Deviation	Total N
HS Status	GED	44.21	19.63	29
	Diploma	54.00	21.57	415
	Neither	56.30	16.81	10

Comment: The table summarize the differences among those students who received a GED, graduated high school and received a diploma, and those who have neither (assumed to be concurrent students). As would be expected, those students who received their high school diploma scored much higher than those with a GED. Interestingly, the concurrent students scored the highest (this provides greater validity to the argument that the "neither" category are the concurrent students). An analysis of differences for gender and race across HS status did not result in any differences worth noting, which was surprising. Further, I found it interesting that the GED Total N was as low as it was.

Scores by Major Division

		Score		
		Mean	Standard Deviation	Total N
Major Division	BIT	56.54	21.35	123
	ES	55.80	21.08	61
	HU	59.89	23.52	36
	SS	46.69	22.07	78
	HS	52.75	20.21	125
	Unknown	46.00	19.60	30

Comment: These comparisons resulted in some differences that were totally unexpected. It is true to say that the measure was distributed across all courses and divisions; however, this comparison consists of the division associated with the student's major (i.e. Accounting = BIT; History = SS; Engineering = ES; etc.). One might expect that those students who are majoring in an ES degree would score the highest on a Quantitative Reasoning Assessment. However, we should also remember that this assessment measured "reasoning" ability, and not "computational/literacy" ability. That said, as noted, the highest scores in QR were derived from the HU majors, with BIT and ES next highest, HS next, SS next, and Unknown the lowest. True, the samples are not conclusive, but this should bring to our attention the potential differences that may exist. For this reason, we should make certain that we stress the importance of QR skills in all areas and to all majors, as a difference does appear to exist across divisions. Just as a side note, years ago I completed a study of the predictors of a student's success in math courses as it related to Compass Scores and found that their English and Reading scores were very good predictors of success in math classes (high correlations)…almost as good as their math compass scores. Wow!!

Scores by Credit Hours Completed

		Score		
		Mean	Standard Deviation	Total N
Hours Compl.	0	44.48	18.62	31
	1 - 15	49.01	20.01	106
	16 - 30	50.72	22.21	88
	31 - 45	59.62	19.87	68
	46 - 60	57.71	21.69	65
	61 or more	56.14	22.56	95

Comment: The above data compares student QR scores across the total number of college credit hours the student has completed. Not surprisingly, as the student's hours completed rises, their QR competency rises…to a point, and then declines slightly. At first glance, we may be lead to believe that this gain is solely a result of their learning in college and our efforts, which is good. While this is in part a correct conclusion, in my view, we should also be aware that some of the less capable students never make it to the upper hours' categories, so they are not measured. This only leaves the higher achieving students in the higher categories, which naturally, would raise the scores. How much? Who knows? We can and should attribute some of this gain from credit hours completed to student learning in the courses we teach. Good job!!

Scores by Expected Graduation Date

		Score		
		Mean	Standard Deviation	Total N
Grad Date	Cur Sem	59.79	21.93	71
	Next Sem	55.63	22.86	70
	1 - 2 yrs	54.31	20.93	167
	2 - 3 yrs	47.86	18.16	78
	more than 3	48.15	23.18	13
	Uncertain	47.15	22.18	52

Comment: Again, these data seem to follow a natural and expected pattern. The data summarizes the QR scores according to when the student expects to graduate from RSC (these data will also serve as our graduate data). Those students who expect to graduate in the current semester scored the highest in QR, and the further the student is removed from the current semester, the lower their scores. As stated previously, this difference may partly be attributed to their gains in competency due to learning over time. Our current graduates have been exposed to the most instruction, and their QR competencies SHOULD be the highest. As before, some of this gain is due to attrition. The current semester students are the survivors, with the highest aptitudes. Those in the 2 – 3 year category, consist of many students who cannot or will not choose to graduate. Again, we should claim credit for some of this gain.

Scores by Highest Math Course Completed

		Score		
		Mean	Standard Deviation	Total N
Highest Math	Pre-Alg	42.48	21.58	54
	Elem Alg	48.17	21.56	70
	HS Geom	45.07	18.48	30
	Interm Alg	56.43	19.74	89
	Alg	56.54	19.95	128
	Trig	51.40	22.12	20
	Calc	64.09	22.13	58

Comment: These data follow a very natural pattern. Students who have completed a higher-level math course with a C or better, for the most part, displayed a greater QR competency. The Trig course fell out of the expected pattern, but that is likely attributed to the small sample size. Maybe… So, as one would expect, and hope, students who have completed a higher level math course seem to display a higher QR competency with the students who have completed calculus scoring the highest. Some of the same logic as used previously may be used to explain some of this…but, some must be attributed to learning.

It may be worth noting that there was no difference between the Intermediate Algebra and the College Algebra scores. What does this tell us about the courses, and/or the learning? Something to think about….

Score by Class Administered

		Score		
		Mean	Standard Deviation	Valid N
Class Taken	BIT	60.83	19.03	75
	Math	54.90	20.21	92
	Other ES	53.31	24.65	58
	HS	62.98	20.54	47
	Eng/Read	44.80	22.33	30
	Other HU	52.64	19.16	61
	Hist/Govt	41.33	10.67	12
	Other SS	44.73	20.85	81

Comment: This table summarizes the scores for the students grouped by the course the assessment was administered. The courses were categorized into various division subgroups. ES, HU, and SS courses were split into Math/Other ES, English and Reading/Other HU, and History and Government/Other SS. This may provide some indication as to the various motivational effects of courses. Remember, an earlier comparison summarized differences among majors, which indicated some differences. This summary just illustrates the differences by the course the assessment was administered. This measure was not planned. I did it simply out of curiosity.

As noted, those assessments given in HS showed the highest quantitative literacy competency, followed closely by BIT, and then there was a large drop to Math, Other ES, and Other HU, and another drop to Eng/Reading, Other SS, and Hist/Govt.

Again, these students are a cross section of our student body. The English/Reading and Hist/Govt students are most likely younger and having completed less hours, which indicated a positive relation to QR competency (as age and college experience rises, so does QR competency

scores). The HS students may have been sampled from higher level courses which would be expected to positively impact scores. This is interesting. I am open to interpretations…

Scores by Course Level

		Score		
		Mean	Standard Deviation	Valid N
Remedial?	Yes	52.39	23.46	46
	No	53.40	21.28	411

Comment: This table summarizes the scores of students according to the level of course. In past assessments, we have omitted the remedial courses from being sampled (math, English, reading); however, in this measure, we felt that it would be worthwhile to compare the remedial course students' scores to the non-remedial. Alas, it was worthwhile. As noted above, the scores of those students who took the measure in remedial courses were only slightly lower than those taken in a non-remedial course. Given that the majority of the remedial courses that were selected were mathematics, I expected there to be a large difference in QR reasoning here. It is true to say that many of the students selected from non-remedial courses may actually be enrolled in remedial courses – they just did not take the measure in the remedial course. For this reason, I see no reason to exclude remedial courses in any future measures.

Conclusion, and Wrap-UP

I would like to express my gratitude to everyone who contributed to this assessment, and all assessments completed this year. We have learned much about our students, and should be better able to meet their needs. Further, the Assessment Committee has learned much about assessing our students and their learning and characteristics. We are better than we were 10 years ago, and better than we were just last year.

I will be reporting the student satisfaction data later in May/June. I am looking forward to summarizing the data, and comparing it to last year. Now, we start the really good stuff…longitudinal comparisons. What fun!!

Next year, we will be embarking on some new adventures. While in the fall we will again be measuring Student Demographics, and in the spring we will be looking at Student Satisfaction, we will likely be measuring a new general education outcome (competency) in the spring of next year. We must first decide what it is we feel is the next important outcome we expect from our general education courses. Another task is at hand, starting next year – program and course level assessment is looming. Also, much greater focus will be placed on Remedial Education Assessment. We will discuss these in more detail in the fall.

Understand, what we are doing regarding assessment is required by HLC, and will be reported in our next visit. However, even without such requirements, I believe the information is worthwhile and should be done regardless. It is true to say that we are providing more information than required, but, we are enjoying ourselves.

Please, do not forget to emphasize the importance of writing well, and quantitative reasoning competency in all your classes. Impress this upon your students by expecting them to exhibit these skills, grading them, and giving them the opportunity to practice at every turn.

Thanks again….until next time.