

Mathematical Reasoning Competency

Assessment Update, Draft Spring 2015

Prepared by:

Faculty Senate Academic Outcomes Assessment Committee
Planning, Assessment & Analysis

How we assess the Mathematical Reasoning competency?

Indirect Evidence



During the current school year, about how often have you done the following?

	Very often	Often	Sometimes	Never
Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used numerical information to examine a real-world problem or issue (unemployment, climate change, public health, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluated what others have concluded from numerical information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?

	Very much	Quite a bit	Some	Very little
Analyzing numerical and statistical information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Direct Evidence



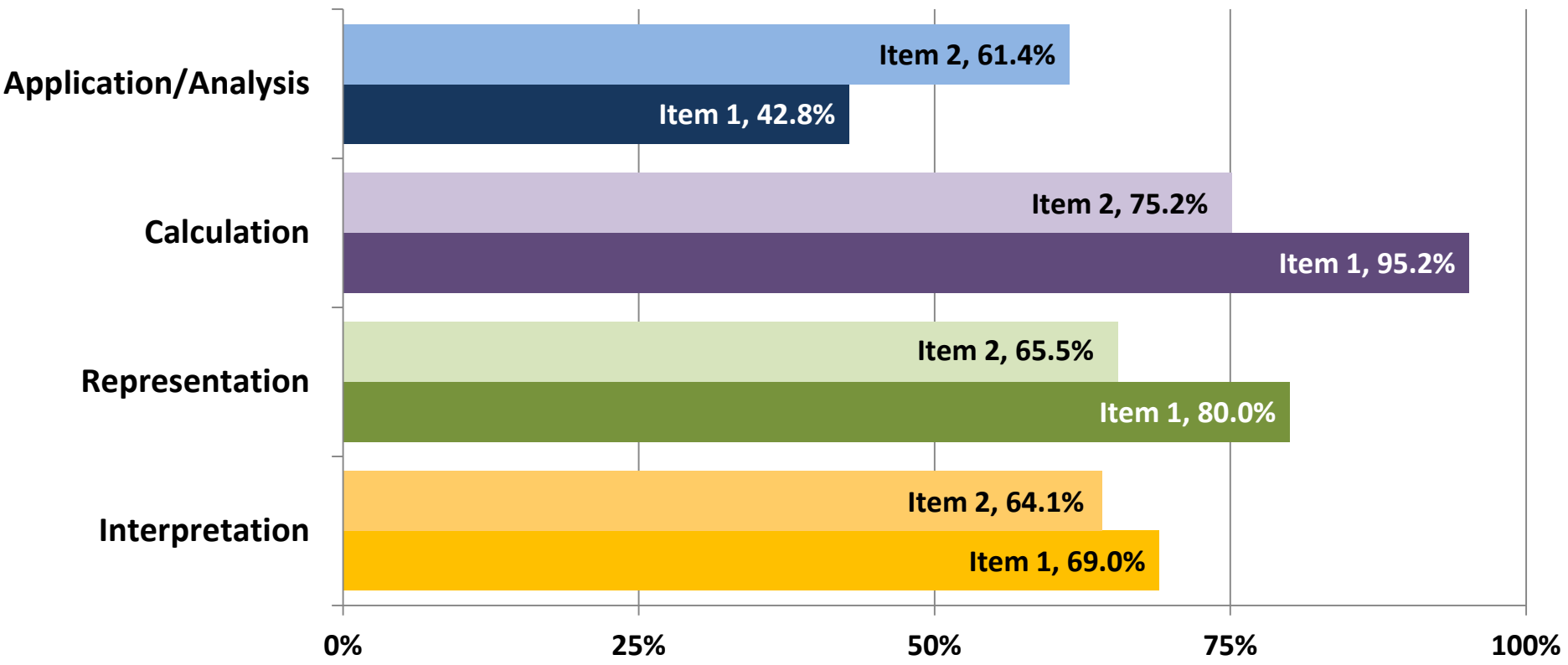
Quantitative Literacy Rubric

Millersville's Embedded Exam Questions aligned with competency elements; embedded in Foundation math course(s)



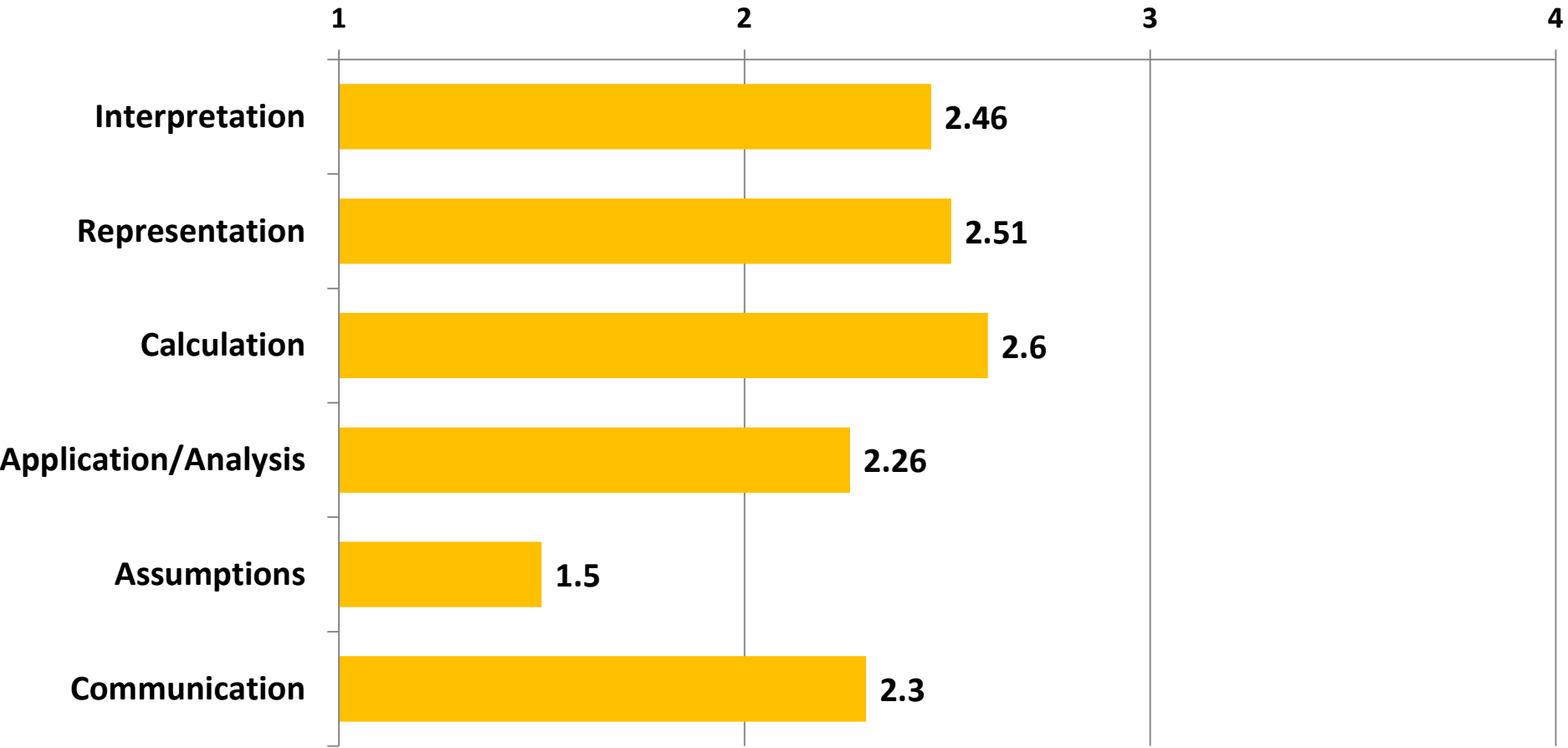
Embedded Exam Questions Assessment (Spring 2014)

Percent Correct by Item within Dimension



AACU Quantitative Literacy Rubric Assessment (2011)

Overall score: 2.28



AACU Quantitative Literacy Rubric Assessment (2011)

Overall score: 2.28

	Course Level			
	100	200	300	400
Interpretation	2.43	2.48	2.40	2.76
Representation	2.53	2.38	2.57	2.57
Calculation	2.43	2.60	2.72	2.42
Application/Analysis	2.27	2.20	2.24	2.45
Assumptions	1.81	1.59	1.24	2.05
Communication	2.25	2.27	2.30	2.50
Overall	2.29	2.25	2.25	2.46

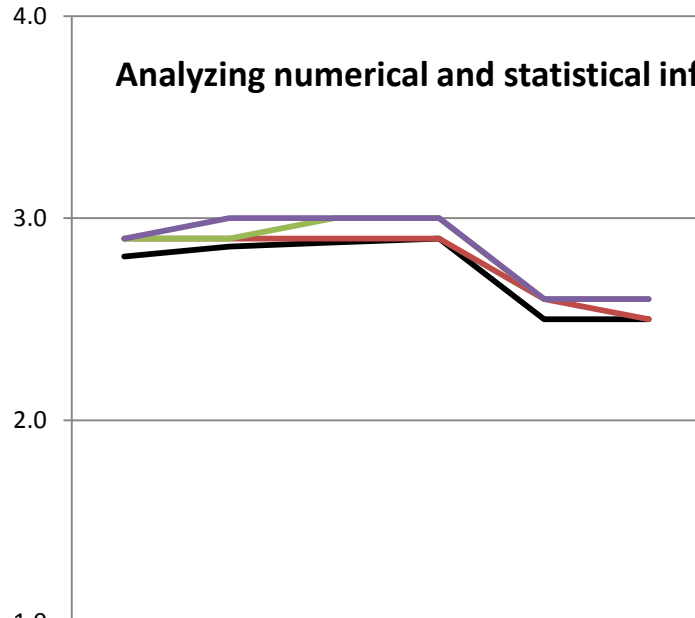
	Number of Courses Used at Each Course Level Within Quantitative Literacy			
	100	200	300	400
# of courses	2	4	3	4



How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas? (1=Very little, 2=Some, 3=Quite a bit, 4=Very much)

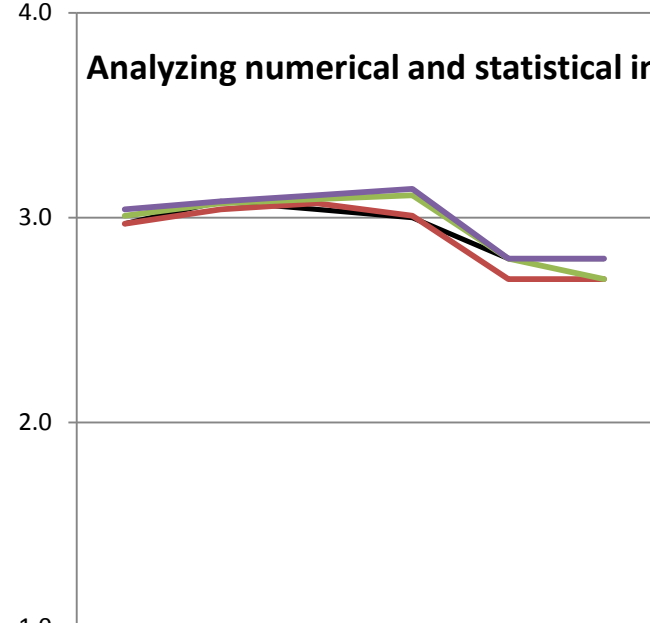
NSSE

Analyzing numerical and statistical info



Freshmen

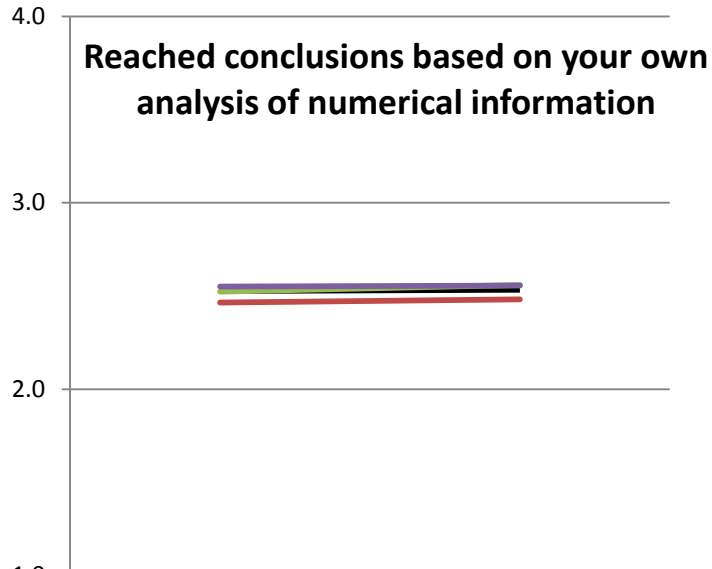
Analyzing numerical and statistical info



Seniors

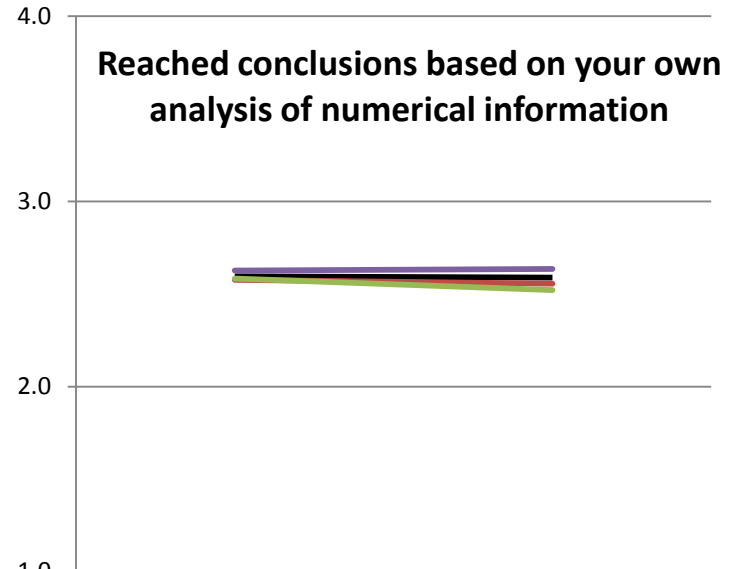
During the current school year, about how often have you done the following? (1=Never, 2=Sometimes, 3=Often, 4=Very often)

NSSE



	2013	2014
— MU	2.5	2.5
— PASSHE	2.5	2.5
— Master's	2.5	2.6
— NSSE All	2.6	2.6

Freshmen

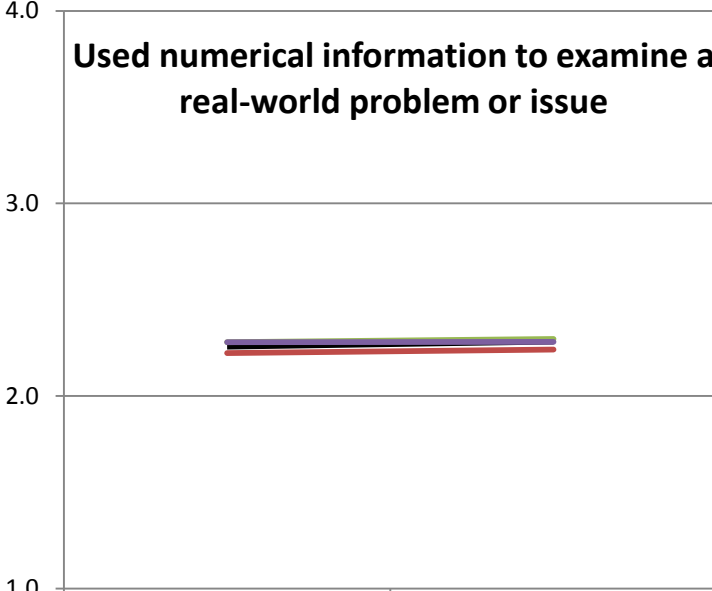


	2013	2014
— MU	2.6	2.6
— PASSHE	2.6	2.6
— Master's	2.6	2.5
— NSSE All	2.6	2.6

Seniors

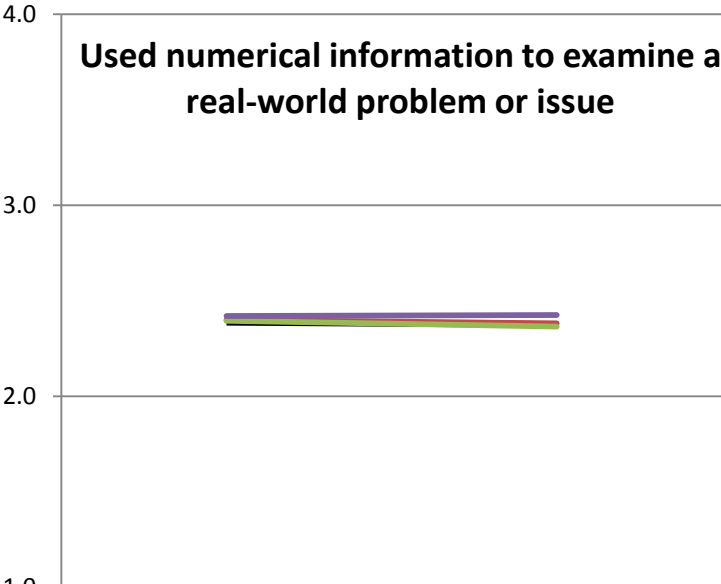
During the current school year, about how often have you done the following? (1=Never, 2=Sometimes, 3=Often, 4=Very often)

NSSE



	2013	2014
MU	2.3	2.3
PASSHE	2.2	2.2
Master's	2.3	2.3
NSSE All	2.3	2.3

Freshmen

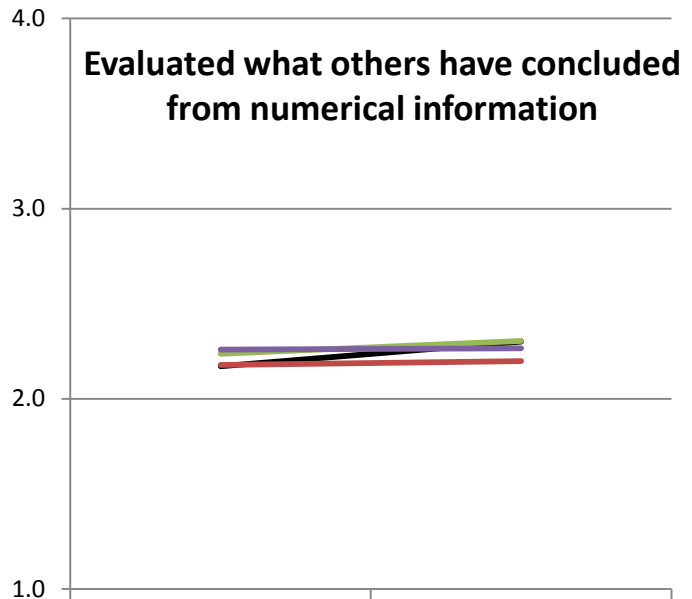


	2013	2014
MU	2.4	2.4
PASSHE	2.4	2.4
Master's	2.4	2.4
NSSE All	2.4	2.4

Seniors

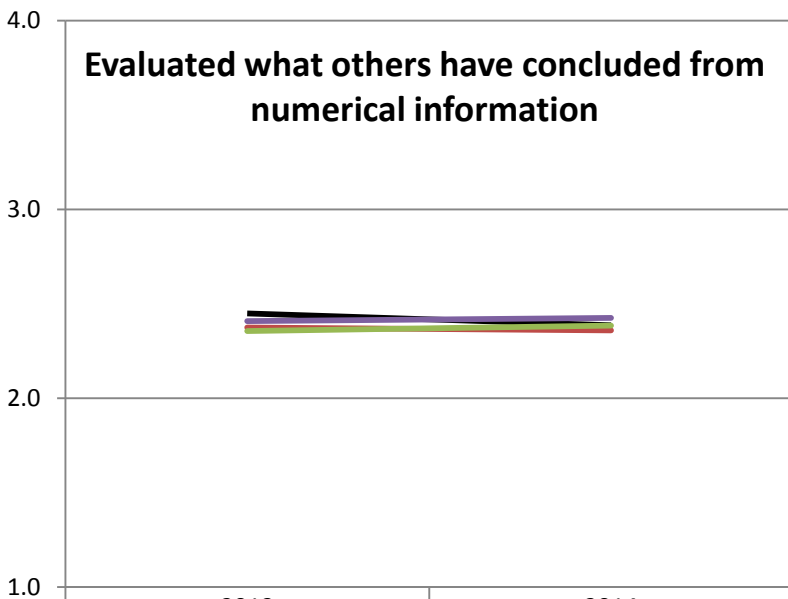
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PASSHE	2.2	2.2
Master's	2.2	2.3
NSSE All	2.3	2.3

Freshmen



	2013	2014
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PASSHE	2.4	2.4
Master's	2.4	2.4
NSSE All	2.4	2.4

Seniors