Numeracy Infusion Course for Higher Education

Esther Isabelle Wilder, Lehman College
Elin Waring, Lehman College
Frank Wang, LaGuardia Community College
Dene Hurley, Lehman College

Overview

- What is NICHE?
- The development of NICHE
- Results from the summer 2013 course
- Concluding thoughts

Source: Helen Musselwhite,
http://www.helenmusselwhite.co.uk/

What is NICHE?

- *Numeracy Infusion Course for Higher Education*
- A predominantly online course that is delivered through Blackboard
- A complement to the NICHE website, a repository of resources for quantitative reasoning instruction

http://serc.carleton.edu/NICHE/index.html

www.teachqr.com/

Development of NICHE

- Teaching QR is the responsibility of all faculty.

  "Like learning to write well or speaking a foreign language, numeracy is not something mastered in a single course. . . . Quantitative material needs to permeate the curriculum, not only in the sciences but also in the social sciences and, in appropriate cases, in the humanities. . . ." (Bok 2006: 104)

- QR skills deficits exist among students everywhere, but especially at CUNY.

- NICHE builds on a QR faculty development program initiated at Lehman College in the fall of 2010.

NICHE Goals

- Provide instruction on best practices for teaching QR. Engage faculty in activities, learning exercises and discussions that promote a better understanding of how to teach QR.
- Foster the development of instructional materials that make use of effective strategies for teaching QR and that ultimately improve students' understanding of QR.
- Infuse QR into a wide range of disciplines and CUNY institutions.
- Increase faculty interest and comfort in teaching QR. Strengthen participants' QR skills, if necessary.
- Establish a network of CUNY faculty who are committed to improving the QR skills of our students.

Best Practices for Teaching QR

- Use real-world applications and active learning, including discovery methods.
- Pair QR instruction with writing, storytelling and critical reading.
- Use technology, including computers, appropriately.
- Engage in collaborative instruction and group work.
- Be sensitive to differences in culture and learning styles.
- Scaffold the learning process. Provide feedback and opportunities for revision.

NICHE Content

Welcome to NICHE
1. QR: Making Numbers Meaningful
2. QR Learning Objectives
3. The Brain, Cognition and QR
4. QR and Writing
5. Discovery Methods
6. Representations of Data
7. QR Assessment
8. QR Stereotypes and Culture

Bringing Everything Together

Numeracy Infusion Course for Higher Education

NICHE 2013

11 CUNY Campuses

4 Community Colleges
Bronx Community College (2),
LaGuardia Community College (3),
New Community College (2),
Queensborough Community College (1)

7 Senior Colleges
Baruch College (1)
Brooklyn College (1)
Hunter College (1)
Lehman College (5)
Medgar Evers College (2)
Queens College (1)
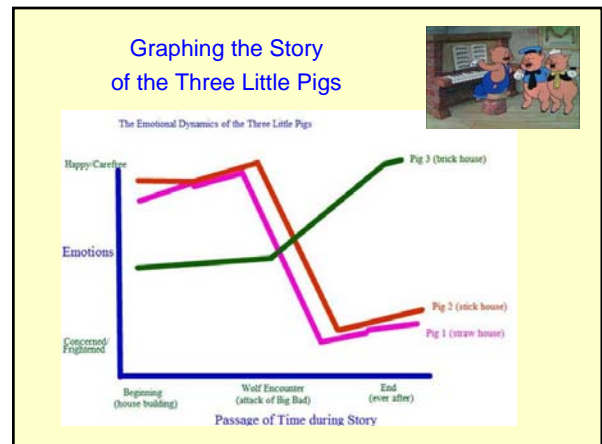
Disciplinary Affiliations

African American Studies (1)
Biology (4)
Economics (1)
Mathematics (7)
Political Science (1)
Psychology (2)
Public Affairs (1)
Sociology (3)
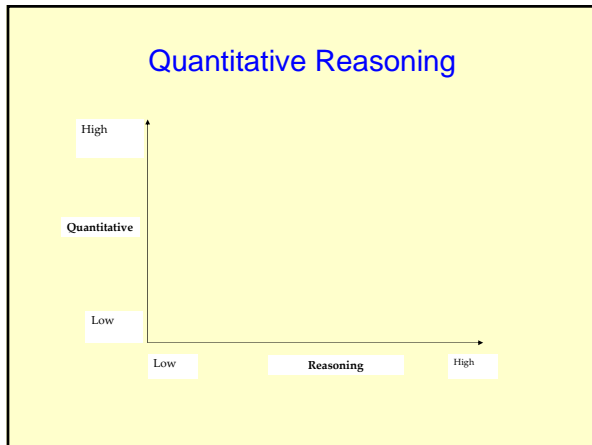
Quantitative Reasoning

Quantitative Reasoning

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Writing and Quantitative Reasoning

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Graphing the Story of the Three Little Pigs

The Emotional Dynamics of the Three Little Pigs
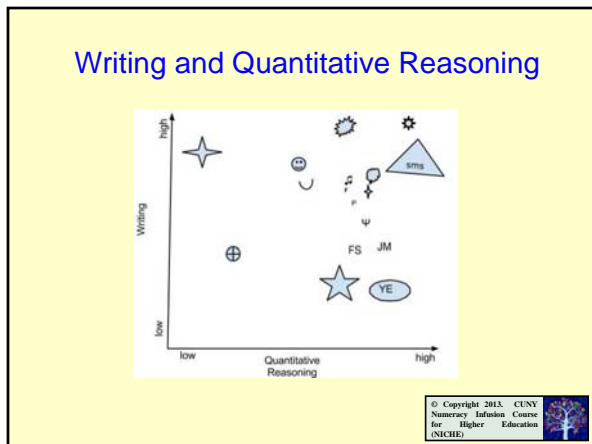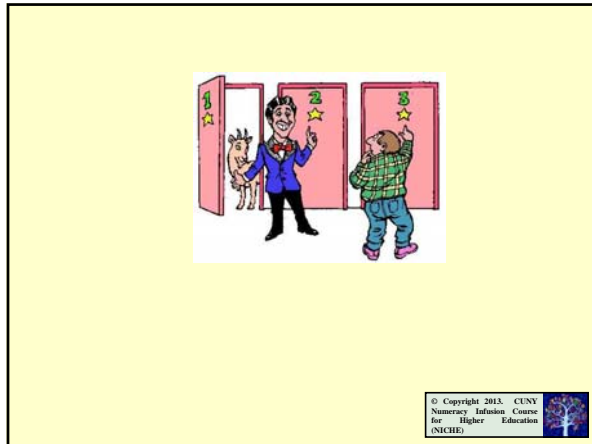
The Monty Hall Problem

- The Monty Hall Problem Explained
- Let's enter our data here

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Monty Hall Problem

File Edit View Insert Format Data Tools Help   All changes saved in Drive

fx | Number of times Losing when switching

	A	B	C	D	E	F	G
1							
2	Your name	Rebecca W.	Prabha Bletne	Dene Hurley	Yasmin Edwards	Frank Wang	Eduardo Vianna
3	Number of times Switching	30	14	10	10	20	10
4	Number of times winning when switching	18	11	7	6	15	6
5	Number of times Losing when switching	12	3	3	4	5	4
6							
7	Number of times Staying	30	12	10	10	20	11
8	Number of times winning when staying	11	4	6	3	8	3
9	Number of times Losing when staying	19	8	4	7	12	8
10							
11							

Concluding Thoughts

- Successes
  - Interactive and dynamic discussions about readings, course materials, exercises, etc.

    NICHE has caused faculty to rethink their pedagogy.

  - A wide array of high-quality instructional materials that address critical QR skills

  - A sense of community, with faculty working collaboratively to help one another

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Concluding Thoughts

- Challenges
  - Technology
  - Faculty with lower levels of commitment to NICHE