

Quantitative Literacy: Best Practices

Developing an Agenda for San
Jose State University

What is Quantitative Literacy?

- Ability to use and understand numbers
- Ability to apply math, statistics, & technology
- Understanding the limitations of their use

Institutional Best Practices

Single-level program

- Requirements:
 - Test (such as SAT or AP score)
 - Successful completion of identified course
 - Credit-hours in Qualitative Literacy
 - Non-credit tutorial program
- Common topics:
 - Numerical Relationships
 - Statistical Relationships
 - Algebraic Relationships
 - Logical Relationships

EXAMPLES:

Indiana State University
Oberlin College
Hamilton College
Trinity College
Daemen College
Dickinson College
University of Washington

- Practice exam: <http://mathrc.indstate.edu/qltest05/TestMain.aspx>

Institutional Best Practices

Multiple-level program

- 2+ course sequence in Qualitative Literacy
 - Introduction
 - Upper-Division
- Qualitative Literacy test or foundation course followed by discipline-specific Qualitative Literacy course

EXAMPLES:

Temple University
Lewis & Clark University
Alverno College
Hollins University
Skidmore College
University of Illinois at Chicago & Urbana-Champaign
Simon Fraser University

Institutional Best Practices

Resource Programs

Quantitative Literacy Center *Hamilton College*
Quantitative Skills Center *University of Washington*
Mathematics Center *Trinity College*
Q-Skills Program *Bowdoin College*
Q-Center *DePauw University*
QR-Center *Hollins University*

Common Services:

Tutors, Study Groups, Test Administration, Qualitative Literacy Courses, Resources for Faculty & Course Development

Some QL Course Examples

- "Quantitative Problem Solving"
 - S/U grading, problem solving, reasoning, mathematical communication, Valparaiso University
- "Case Studies in Quantitative Reasoning"
 - Interdisciplinary, team-taught, focus on reasoning & evaluation, Mount Holyoke
- "Core Competency in Mathematics"
 - Use of mathematical thinking as an educated person, Northern Illinois University
- "Chance"
 - QL course focused on news stories using probability & statistics, Dartmouth College
- "Integrating Reading, Writing & Quantitative Literacies"
 - Focuses on reading, writing, computer & quantitative skills necessary for success, Alverno College

Good Ideas for Teaching Mathematical Concepts

(Jennifer Wenner and Heather McDonald: <http://serc.carleton.edu/quantskills/>)

- Place concepts in context
 - (e.g., use practical, everyday examples)
- Use multiple representations
 - (e.g., symbols, numbers, & words)
- Use appropriate technology
 - (e.g., spreadsheets and calculators)
- Group assignments
- Use "in-depth" problems that last more than one day

