

Developing a QL Program: Do's and Don'ts

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Components of Trinity's QL Program

1. **QL Requirement** instituted by faculty vote in 1986
2. **Math Center Advisory Committee** of nine faculty from across campus, including one (other) member of the Math Department, and Associate Dean of Faculty

3. **Assessment of all incoming students** in four areas:

Numerical Relationships

proportions, percents, estimation

Statistical Relationships

data analysis, elementary probability

Algebraic Relationships

modeling, functions, algebra

Logical Relationships

fallacies, arguments, counterexamples

4. Foundation Courses and Quantitative Support

peer tutoring center

Contemporary Applications: Math for the 21st Century

Cityscape: Analyzing Urban Data

Earth Algebra: Modeling the Environment

Hartford Current Issues: Logic in the Media

5. Other QL courses:

Fallacies for Fun and Profit (First-year Seminar)

Mathematics of Equity (Math Distribution & QL Credit)

Skepticism and Belief (Science Distribution & QL Credit)

Visually Displaying Data: Graphical Literacy

(Math Distribution & QL Credit)

Mathematics of Patterns (Math Distribution & QL Credit)

Geometry in Art and Architecture (Math Dist.& QL Credit)

6. QL-enriched courses:

Labs and Literacy Program

two dozen courses in humanities and social sciences incorporating math/science laboratories, funded by almost half a million \$ in NSF and NEH grants.

(late 1990s)

QL Across the Curriculum course development supported by grants from the Dean of Faculty's office and the [NNN](#):

Introduction to Earth Science

Adjustment and Transition: The Political Economy of Sub-Saharan Africa

Introduction to Environmental Science

Math, Disease, Race and Colonialism in the Americas (history)

Introduction to Health and Human Rights

Introduction to American Public Policy

Foundations of Modern Science (First Year Seminar)

Math as Music, Music as Math (Tutorial College)

World Population (Sociology)

7. Presentations in other non-mathematics courses:

Art and History in Venice

Dante Seminar

Symmetry & Patterns in Science, Art, Math and Music

Colonialism in Latin America

Interdisciplinary Science Seminar (with Barbara Walden)
one week's work on math and physics of quasicrystals

8. College and Area Presentations

Tutorial College - Mathematics in *Arcadia*

College wide and public lecture: *The Art and Geometry of Italian Pavements*

Diaspora series, Trinity. *Cultural Manifestations of Mathematical Patterns: from Moorish Ornament to Escher's Prints*

9. Interaction with colleagues in other institutions

MAA SIGMAA

NECQL (NE Consortium for Quantitative Literacy)
10th annual meeting April 29 2006 [Amherst College](#)

AAC&U Peer Review- meeting February 2005, Fall 2005 Issue
on QL

NNN first meeting June 2005,
second meeting summer 2007

10. Professional Development

QL PREP Workshops 2002, 2003, 2004
MAC 2005 2006

QL Panel at Math Fest in August 2006 in Louisville

QL Contributed paper session at January 2007 combined
math meetings in New Orleans

11. QL Program Assessment

Along with other NNN sites Hollins University and The Washington Center, Trinity participated in a small NSF QL assessment grant in 2004.

This is an area where there is much to be done!

What is the essential ingredient of a
successful QL Program?

(in my humble opinion)



Community buy-in !

How do you achieve community buy-in?

Money

Administrative Support

Fiat

Existing support in faculty culture
?

(these are not mutually exclusive!)

Money:

Trinity - \$500,000 grant (1997) from Aetna Insurance to build Math Center, \$500,000 for Laboratories and Literacy program, \$30,000 to Math Center from NNN

Wellesley - Hughes Curriculum Development Grant to support courses related to QR Requirement, \$3,000,000 grant from alumna last year to make sure QR has a permanent place in the curriculum, another \$200,000 from an alumna to have workshops for faculty to incorporate QR in their courses.

Macalester - grant from FIPSE and the NSF to establish program : Quantitative Methods in Public Policy

Carleton - QUIRK Initiative (Quantitative Inquiry, Reasoning and Knowledge) - FIPSE grant to provide stipends for development of FY Seminars incorporating QL, together with many other QL programs.

Harvard, Yale - silver spoon

Administrative Support

Wellesley (was willing to include the QR program in their capital campaign)

Fiat

Washington State University and other schools in the state system

Hollins College

Trinity

Existing Support in Faculty Culture

Evidenced, at least initially, by faculty voting to require some sort of QL requirement (Trinity, Wellesley, Skidmore, Umass Boston, Harvard, Bates)

What can go wrong?

(These are in the nature of "don'ts")

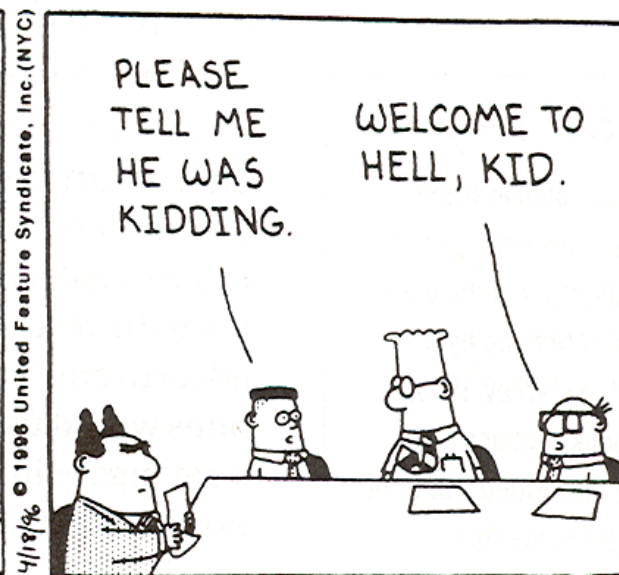
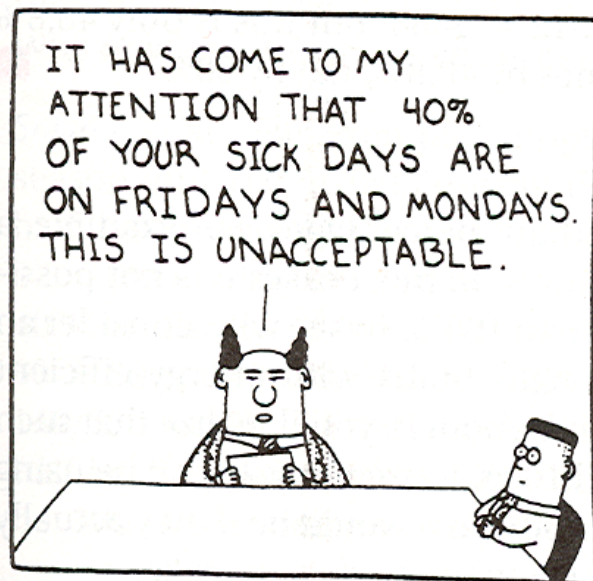
The money runs out and the program is too expensive to be continued by the home institution. (Trinity's Labs and Literacy program is a sad example.)

Colleagues do not support (or hatchet) program.
(Macalester, Trinity)

School administration changes and changes, and changes, and changes. (Trinity)

Program depends on a few individuals who become exhausted and burned out (NECQL was started, in part, to help alleviate this.)





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Printed information - a flyer and a more detailed 4-page handout detailing Trinity's operation, is available at the front.

Plea:

Please send any information about *your* QL program, course, efforts, whatever, to

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Table 1.1. *Hispaniola's estimated native population*

Source	Year	Estimate
Verlinden (1973)	1492	60,000
Amiama (1959)	1492	100,000
Rosenblat (1959, 1976)	1492	100,000
Lipschutz (1966)	1492	100,000–500,000
Moya Pons (1987)	1494	377,559
Cordova (1968)	1492	500,000
N. D. Cook (1993)	1492	500,000–750,000
Moya Pons (1971)	1492	600,000
Zambardino (1978)	1492	1,000,000
Denevan (1992)	1492	1,000,000
Guerra (1988)	1492	1,100,000
Denevan (1976)	1492	1,950,000
Watts (1987)	1492	3,000,000–4,000,000
Borah & Cook (1971)	1492	7,975,000

Note: From Noble David Cook, "Disease and Depopulation of Hispaniola, 1492–1518," *Colonial Latin American Review* 2 (1993):215.