Teaching Quantitative Literacy/ Quantitative Reasoning (QL/QR) Skills: A Numeracy Infusion Course for Higher Education (NICHE)

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Table and Figure Handouts

Table 1: Sociodemographic Characteristics of CUNY Students, 2009–10

	Minority[1]	Female	Low inc.[2]	First gen.[3]	Prov. care[4]	Work 21+[5]	SAT rdng.[6]	SAT math[7]
Senior colls.	46	60	46	39	61	23	—	—
Baruch	28	51	43	40	57	26	545	605
Brooklyn	41	60	50	38	59	17	500	535
City	60	52	57	33	59	21	480	495
Hunter	33	67	44	34	62	27	530	550
Lehman	83	70	51	49	63	35	445	450
Queens	28	59	38	38	59	18	500	530
York	74	66	48	52	70	24	415	430
Comp. colls.	57	57	49	46	62	26	—	—
John Jay	67	57	49	41	68	29	460	465
M. Evers	97	74	66	59	76	25	—	—
NYC Tech.	67	48	56	49	59	23	—	—
Staten Isl.	26	57	32	41	52	27	500	510
Comm. colls.	66	58	63	48	58	24	—	—
Bronx	94	60	75	48	55	26	—	—
Hostos	90	69	72	58	64	20	—	—
Kingsbor.	49	55	66	45	69	27	—	—
LaGuardia	59	59	65	44	57	24	—	—
Manhattan	71	59	63	49	49	23	—	—
Queensbor.	53	55	46	50	60	21	—	—
Total, CUNY	57	59	54	44	60	24	—	—

Sources: City University of New York (2010), Grove (2010).

[1] Includes American Indian, Alaska Native, Black (not of Hispanic origin), and Hispanic.

[2] Percentage with household incomes of less than $30,000.

[3] Percentage in the first generation of their family to attend college.

[4] Percentage providing care to another person; refers only to full-time students.

[5] Percentage working for pay 21 or more hours per week; refers only to full-time students.

[6] Estimated median SAT Critical Reading score, 2008. The SAT is required only of incoming first-year students. At some CUNY senior colleges, the majority of students are transfer students.

[7] Estimated median SAT Math score, 2008.

Table 2: Faculty's Reasons for Participating in the QR Workshop, 2011 and 2012

Please indicate the importance of the following factors in your reason(s) for attending the QR workshop. (Percentage selecting each response.)

	Very imp.	Some-what imp.	Not very imp.	Un-imp.	NR
Interest in workshop topic, 2011	100	0	0	0	0
Interest in workshop topic, 2012	100	0	0	0	0
Concern for students, 2011	90	10	0	0	0
Concern for students, 2012	100	0	0	0	0
Faculty networking, 2011	30	50	20	0	0
Faculty networking, 2012	57	43	0	0	0
Convenient time, 2011	30	30	0	0	0
Convenient time, 2012	14	43	57	0	0
Financial incentive, 2011[1]	30	20	30	0	20
Financial incentive, 2012[1]	0	57	29	14	0

Source: QR workshop questionnaire administered during the final sessions of the 2010–11 and 2011–12 QR workshops.

[1] Of the ten 2011–12 respondents, seven were paid. Among the seven paid respondents, the majority (72%) indicated that the financial incentive was either *very important* (43%) or *somewhat important* (29%).

Table 3: Faculty's Attitudes Toward Quantitative Reasoning, 2011 and 2012
(Percentage selecting each response.)

	Agree strongly	Agree somewhat	Neither agree nor disagree	Disagree somewhat	Disagree strongly
I have a good understanding of what Quantitative Reasoning is.					
STEM, 2011	29	57	14	0	0
STEM, 2012	83	17	0	0	0
Arts and humanities, 2011	0	0	0	100	0
Arts and humanities, 2012	100	0	0	0	0
Total, 2011	20	40	10	30	0
Total, 2012	90	10	0	0	0
I feel confident in my Quantitative Reasoning skills.					
STEM, 2011	43	43	14	0	0
STEM, 2012	100	0	0	0	0
Arts and humanities, 2011	0	67	0	33	0
Arts and humanities, 2012	25	75	0	0	0
Total, 2011	30	50	10	10	0
Total, 2012	70	30	0	0	0
I place a heavy emphasis on QR in my course instruction.					
STEM, 2011	14	43	14	14	14
STEM, 2012	67	33	0	0	0
Arts and humanities, 2011	0	0	33	33	33
Arts and humanities, 2012	25	25	25	25	0
Total, 2011	10	30	20	20	20
Total, 2012	50	30	10	10	0
QR has strong relevance to my discipline.					
STEM, 2011	100	0	0	0	0
STEM, 2012	100	0	0	0	0
Arts and humanities, 2011	33	33	0	33	0
Arts and humanities, 2012	50	0	25	25	0
Total, 2011	80	10	0	10	0
Total, 2012	80	0	10	10	0
QR is an important component of general education.					
STEM, 2011	100	0	0	0	0
STEM, 2012	83	17	0	0	0
Arts and humanities, 2011	100	0	0	0	0
Arts and humanities, 2012	100	0	0	0	0
Total, 2011	100	0	0	0	0
Total, 2012	90	10	0	0	0
Quantitative Reasoning is a fun skill to teach.[1]					
STEM, 2011	43	43	0	14	0
STEM, 2012	50	33	0	17	0
Arts and humanities, 2011	50	0	50	0	0
Arts and humanities, 2012	25	50	0	25	0
Total, 2011	44	33	11	11	0
Total, 2012	40	40	0	20	0

Source: QR workshop questionnaire administered during the first and last sessions of 2011–12.

[1] At the first 2011–2011 QR workshop, one faculty member in the humanities indicated "don't know" in response to this statement. That response is not included in these tabulations.

Table 4: Faculty's Views on the Importance and Likelihood of Using Various Strategies for QR Instruction, 2011 and 2012

Please rate what you perceive to be the importance of each of the following for teaching QR to Lehman to students and indicate your likelihood of using each approach. (Percentage selecting each response.)

Importance for Lehman College students	Very imp.	Some-what imp.	Un-certain or neutral	Some-what un-imp.	Very un-imp.
Active engagement in data analysis, 2011	80	20	0	0	0
Active engagement in data analysis, 2012	100	0	0	0	0
Pairing QR w/ writing/crit. reading, 2011	80	20	0	0	0
Pairing QR w/ writing/crit. reading, 2012	86	14	0	0	0
Revision of QR assignments, 2011	60	40	0	0	0
Revision of QR assignments, 2012	71	29	0	0	0
Assessment of QR learning, 2011	70	30	0	0	0
Assessment of QR learning, 2012	86	0	14	0	0
Computer software programs, 2011	40	50	10	0	0
Computer software programs, 2012	43	43	14	0	0
Collaborative student QR work, 2011	30	40	30	0	0
Collaborative student QR work, 2012	71	29	0	0	0
Using media sources to do QR, 2011	40	40	20	0	0
Using media sources to do QR, 2012	71	14	14	0	0
Web-based data analysis tools , 2011	30	20	50	0	0
Web-based data analysis tools, 2012	14	57	29	0	0
Audience response system (clickers), 2011	10	10	60	10	10
Audience response system (clickers), 2012	29	43	29	0	0
Likelihood of using in my own instruction	Very likely	Some-what likely	Un-certain or neutral	Some-what un-likely	Very un-likely
Active engagement in data analysis, 2011	78	22	0	0	0
Active engagement in data analysis, 2012	100	0	0	0	0
Assessment of QR learning, 2011	89	11	0	0	0
Assessment of QR learning, 2012	100	0	0	0	0
Pairing QR w/ writing/crit. reading, 2011	78	22	0	0	0
Pairing QR w/ writing/crit. reading, 2012	86	14	0	0	0
Collaborative student QR work, 2011	33	56	11	0	0
Collaborative student QR work, 2012	86	14	0	0	0
Revision of QR assignments, 2011	44	44	11	0	0
Revision of QR assignments, 2012	71	29	0	0	0
Using media sources to do QR, 2011	56	22	11	11	0
Using media sources to do QR, 2012	71	29	0	0	0
Computer software programs, 2011	56	22	22	0	0
Computer software programs, 2012	29	29	43	0	0
Web-based data analysis tools, 2011	33	33	11	22	0
Web-based data analysis tools, 2012	0	43	71	0	0
Audience response system (clickers), 2011	0	11	56	11	22
Audience response system (clickers), 2012	43	29	14	14	0

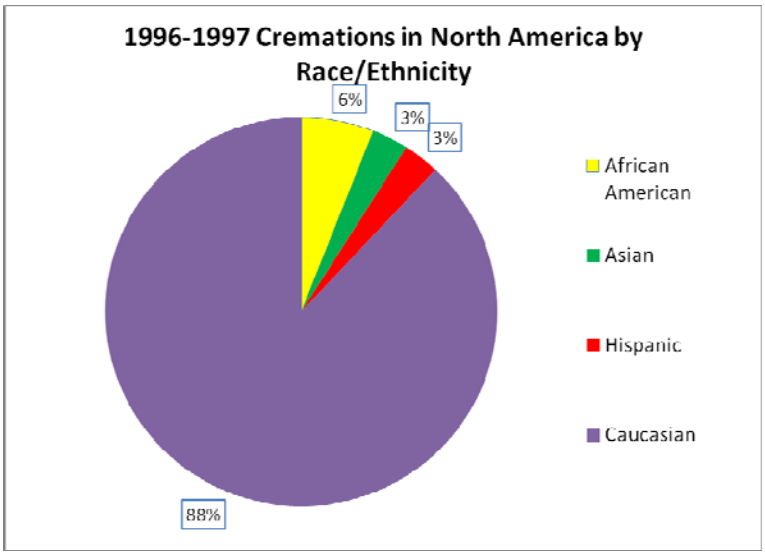
Source: QR workshop questionnaire administered during the final sessions of the 2010–11 and 2011–12 QR workshops.

Table 5: Faculty Views on the Importance of
Various Approaches to Teaching Quantitative Reasoning, 2011 and 2012

[These] QR initiatives . . . have been implemented at many different colleges and universities. Please indicate what you perceive to be the importance of each of the following here at Lehman College. (Percentage selecting each response.)

Importance for Lehman College students	Very imp.	Some-what imp.	Un-certain or neutral	Some-what un-imp.	Very un-imp.
Active engagement in data analysis, 2011	80	20	0	0	0
Active engagement in data analysis, 2012	100	0	0	0	0
Wide & multi-disciplinary participation, 2011	80	0	0	20	0
Wide & multi-disciplinary participation, 2012	86	14	0	0	0
QR and writing (blended) requirement, 2011	80	10	0	0	10
QR and writing (blended) requirement, 2012	71	29	0	0	0
Screening test that assesses QR skills, 2011	80	0	10	10	0
Screening test that assesses QR skills, 2012	71	29	0	0	0
QR tutoring center, 2011	70	10	20	0	0
QR tutoring center, 2012	71	14	14	0	0
Regular assessment of student learning, 2011	80	20	0	0	0
Regular assessment of student learning, 2012	57	43	0	0	0
Standard set of QR learning objectives, 2011	60	40	0	0	0
Standard set of QR learning objectives, 2012	71	29	0	0	0
Foundational QR course, 2011	70	20	0	10	0
Foundational QR course, 2012	57	29	14	0	0
Discipline-specific QR learng. objectives, 2011	40	30	30	0	0
Discipline-specific QR learng. objectives, 2012	57	43	0	0	0
Different tiers of QR across the curric., 2011	30	40	20	10	0
Different tiers of QR across the curric., 2012	43	57	0	0	0
QR courses with lab components, 2011	40	60	0	0	0
QR courses with lab components, 2012	29	57	14	0	0

Source: QR workshop questionnaire administered during the final sessions of the 2010–11 and 2011–12 QR workshops.

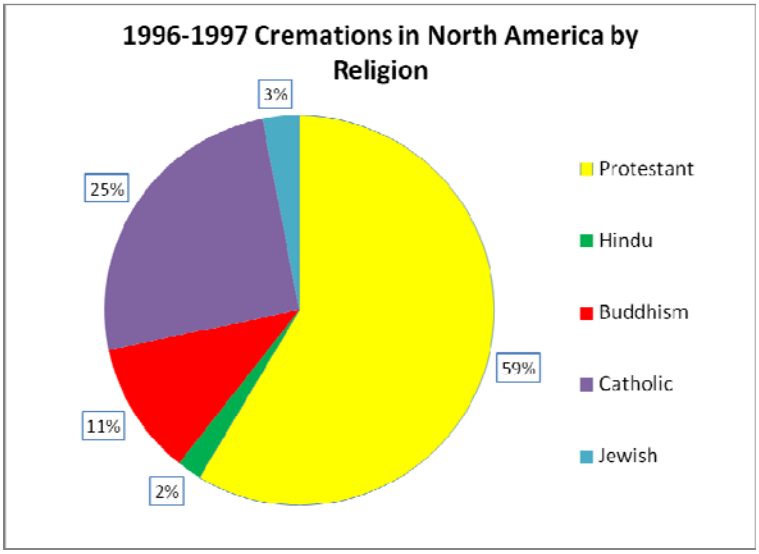


Source: Cremation Association of North America, 1999.

Based on the chart, which of the following is true?
(Faculty responses are in parentheses. Correct answer is in bold.)

(a) African Americans were twice as likely to be cremated than Asians (n=0; 0%)
(b) Asians and Hispanics were equally likely to be cremated? (n=0; 0%)
(c) **On average, 3 out of every 100 cremations were among Hispanics. (n=5; 50%)**
(d) Both (a) and (b) (n=0; 0%)
(e) All of the above (n=5; 50%)

Figure 1: Assessment of Faculty Performance on the QR Pretest Question; n=10 (7 in the sciences, 3 in the humanities).



Source: Cremation Association of North America, 1999.

Based on the chart, which of the following is true?
(Faculty responses are in parentheses. Correct answer is in bold.)

(a) Jews are slightly more likely to get cremated than Hindus. (n=0; 0%)
(b) Protestants are the religious group most likely to get cremated. (n=2; 20%)
(c) 3% of Jews chose to get cremated. (n=1; 10%).
(d) All of the above (n=0; 0%)
(e) None of the above (n=7; 70%)

Figure 2: Assessment of Faculty Performance on the QR Posttest Question; n=10 (7 in the sciences, 3 in the humanities).