

Incorporating Quantitative Literacy into the Research Writing Classroom

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Our Research Project

- Trained English 201: Research Writing Instructors in Four Workshops
 - Focus of 201 class is to incorporate primary and secondary research into writing
 - Students often collect their own data
 - Students often integrate quantitative information into writing

Our goal was to help teachers and students integrate QL effectively

Quantitative Literacy

- QL is not only quantitative symbolic reasoning—it is more than that. QL may be very simple mathematics that requires critical thinking, interpretation of real world contexts that the average citizen encounters in their daily lives. Quantitative symbolic reasoning is simply one of the rudimentary tools used in QL.

Sample of Student Writing

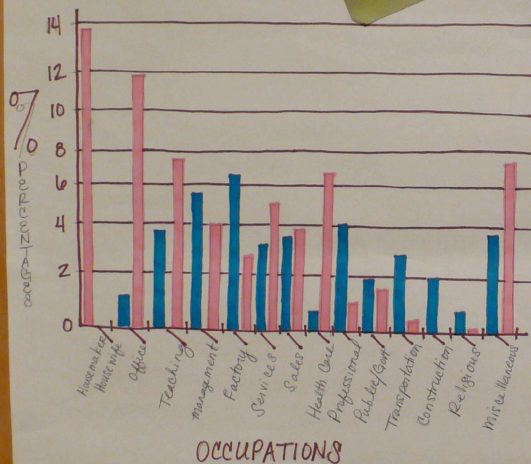
“The difference between men and women in the economic market has always been a major issue in our country. The gender of a person can play heavily into the choice an employer makes on who they hire. This sexist point of view has hindered many women from working on a fair level with men and making equal salary. The wages are skewed and the poverty rates are very far apart for men and women. Irene Browne, Department of Sociology at Emory University, notes that in 2002, 12.5 percent of women lived in poverty while only 9.9 percent of men did (Browne 238). Men have a major advantage in the workforce right now with better jobs and higher pay, making them economically superior as a whole over women. According to the Census, in 2006, the average annual income for a man in America was \$42,210 while the average annual income for women was only \$32,649 (Webster 22). This is the defining statistic that shows the problems between women and men in the workforce and that women are not making a fair amount of money.”

CADAVERIC DONORS



STIFF

INTERESTING FACTS



* Average Age of Donating:
= 70.4 years old

* Between 1978-1973:

MALE applicants = 38%

FEMALE applicants = 62%

* Highest Level of Education Completed:

MALES = 13.5 years on average

FEMALES = 12.9 years on average

APPLICANTS BY RACE:

asian = .08% white = 94%

hispanic = .16% black = 2.29%

Other = 2.9% american Indian = .24%

Nickel and Dimed Passage

- “In Portland, Maine, I came closest to achieving a decent fit between income and expenses, but only because I worked seven days a week. Between my two jobs, I was earning approximately \$300 a week after taxes and paying \$480 a month in rent, or a manageable 40 percent of my earnings. . . . If I had stayed until June 2000 I would have faced the Blue Haven’s summer rent of \$390 a week, which would of course been out of the question” (Ehrenreich 197).

Monthly Expenses → Where ↓	Rent	Food, Transport	Other Expenses	Left Over	Total Expenses	Earnings
Key West	400	517		22	939	1039
Maine*	480					1200
Minneapolis*	800		20			1120

* Utilities included in rent

Characteristics Needed to Represent Data Well

List generated by instructors at second workshop from *Stiff* poster:

- Title
- Source
- Labeling—Date, Time, Location
- How data [was] compiled
- Who compiled data
- Scale with explanation
- Best graphic for data
- Visuals must match numbers OR offer explanation
- Graphically as simple as possible
- How was data collected?
- Integrate into text or argument
- Number of respondents
- What conclusions to be drawn
- Location of graphic within text
- Use of color

Adrienne's Project

- Students turned in statistics from their book
- Instructor presented one statistic from each group
 - From *Savage Inequalities*-- “Of every 100 children recently surveyed in East St. Louis, 55 were incompletely immunized for polio, diphtheria, measles and whooping cough”
 - Instructor: “When presented to you in this way, what else do you need to know in order for this statistic to make sense? What other questions does it raise?”
 - ? – Age of children
 - ? – Year of survey
 - ? – Cost of immunizations
 - ? – Which schools
 - ? – Qualify the word “incompletely”
 - ? – Why these kids
 - ? – What immunizations are required

Instructors' Observed Results

- Adrienne
 - Students put fewer statistics in their next paper
 - Students' use of data was better
- Gayle
 - Students generated a list similar to the instructors'
 - Need ways to help students integrate data into their writing
- Further Training
 - Need writing samples that incorporate QL effectively to compare with initial QL writing samples

Instructors' Final Exit Comments

What helped

- Combination of English and mathematics
- Hands-on approach of workshop
- Brainstorming and group discussion
- Time to develop activities for their own classes

Recommendations for change or additions

- Adrienne & Gayle--More specific ways of presenting QL
- Gayle—more on compiling raw data into visuals
- Burt—Programmatic changes
 - Need to do this with more writing classes
 - Put into the 201 rubric

QL Connections to Writing

- Introducing sources
- Questioning sources/biases of researcher
- Integrating support into an argument
- Careful attention to detail (citing, graph labeling, etc.)
- Questioning which piece of evidence best fits into an argument
- Incorporating primary research

Program Implications

- Programs need to include support for faculty to integrate QL
- Teachers now have additional tools to improve research writing
- Teaching can be more interdisciplinary—in a way that still helps improve students' understanding of both disciplines

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