

Preamble: Economic justice must be included in discussions of sustainability and it is in this sense that my work teaching Arguments and Quantitative Reasoning connects to issues of sustainability. The notes to follow come from a course in Understanding Arguments, in which students are asked to pay attention to the form in which quantitative data is presented in arguments about issues of economic justice, in order to better understand the arguments of others, and in order to make better choices in creating their own arguments.
Marilyn Frankenstein

WHAT DO THE NUMBERS MEAN?

UNDERSTANDING QUANTITATIVE ARGUMENTS

SYLLABUS OUTLINE----- FALL 2002

Morning Day/Time Mondays 11:30pm-2:00pm Room W-1-052

Evening Day/Time Mondays 7:00pm-9:30pm Room W-1-053

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INTRODUCTION: Arguments about public and community service policy issues, like those on the op-ed page (i.e., the page opposite the editorial page of a newspaper), are not physical fights or personal shouting quarrels. Nevertheless, as this cartoon jokes, people can get very upset about opinions with which they disagree.



“You know the doctor told you no more op-ed.”

Arguments like those on op-ed pages are the heart of academic work. In college, you learn more than just the facts of situations. Instead, the focus of your learning is on the arguments that you can make, and the claims you come to believe, reasoning with those facts. Academic writing is mostly about using the knowledge you gain through readings, discussions, experiences and other studies, to formulate your opinions about particular issues and to construct arguments that support your opinions through logical reasoning

and evidence. Hopefully, the motivation to write comes from the fact that you have something you want to contribute to ongoing debates about the issues you are studying.

ARGUMENTS: Arguments try to persuade an audience to believe and/or act in certain ways. The main structural elements to consider when trying to understand an argument are:

- **The Main Claim**—what the author wants you to believe and/or do
- **The Supports for the Main Claim**—why the reader/listener should support the author’s main claim (i.e., the “believe me because” statements) which involve:
 - | **Evidence**—the facts, often quantitative, or the beliefs that support the reasoning of the author
 - | **Reasoning**—how the evidence presented by the author and the author’s beliefs logically lead to the author’s main claim
- **The Counter-Arguments**—opposing claims/objections to the author’s claim that reader’s might have, presented and responded to by the author
- **The Presentation**—the choices of language, visual images, and quantitative forms
- **The Purpose**—who the author wants to convince (i.e., the audience) and why
- **The Context**—the larger debate into which the author’s arguments fits
- **The Publication**—the general perspectives/biases of the articles that usually appear in that publication
- **The Author**—who is the author in terms of his/her interests/biases
- **The Unstated Assumptions**—“taken-for-granted” values or world-views/theoretical perspectives that underpin the author’s argument, unstated because the author assumes they are commonly shared

GOALS OF THE COURSE:

- To help you prepare to demonstrate the Understanding Arguments competency
- To help you develop a foundation for work on the Level 2 Quantitative Reasoning competency
- To help you develop academic study skills, focusing on managing time, dialogic listening and questioning, note-taking and note re-taking, reading critically, and learning as review and revision
- To increase your general knowledge of various public and community service issues, thereby sharpening the kinds of questions you can formulate, and possibly provoking your curiosity about new ideas that you might investigate in your other work at CPCS.

CONTENT OF THE COURSE: This course will address these goals through a focus on understanding various arguments about public and community service issues. We will concentrate on arguments that include numerical data and quantitative words like “minority.” We will also consider arguments about the nature and importance of using quantitative reasoning.

We will examine arguments in a variety of forms (e.g., written, visual, oral), from a variety of media (e.g., newspapers, magazines, CPCS course materials, billboards). In all cases, we will focus on understanding the structure of the argument:

In addition, we will discuss common logical errors in reasoning. We will compare the strengths and weaknesses of arguments with opposing claims about the same topic. We will also compare different presentations of arguments with the same claim. Finally, we will discuss your opinions about the issues.

Weekly Discussion and Assignment Topics
 (also since classes end May 14, this schedule allows for two weeks of review and/or individual meetings)

Date	Topic	Competency Criteria Addressed in Assignment given
Week 1: Jan 29	Course Overview; Placement Exercise	Review Syllabus and Competency Statement
Week 2: Feb 5	Overview—The Structural Elements of Arguments	Assignment 1 given-- Criteria #1, 2
Week 3: Feb 12	Main Claim, Supports, and Counter-Argument	Related Readings for Assignment 1
Week 4: Feb 19	Main Claim, Supports, and Counter-Argument	Revision of Assignment 1 given
Week 5: Feb 26	Presentation of Arguments: Language, quantitative forms, visual images	Assignment 2 given-- Criteria #1, 2, 4
Week 6: Mar 5	Presentation of Arguments: Language, quantitative forms, visual images	Related Readings for Assignment 2
Week 7: Mar 12	Presentation of Arguments: Language, quantitative forms, visual images	Revision of Assignment 2 given
Mar 19	Spring Break	
Week 8: Mar 26	Comparing Arguments	Assignment 3 given-- Criteria #1, 2, 3, 4
Week 9: April 2	Evaluating Arguments: Evaluating Evidence	Related Readings for Assignment 3
Week 10: April 9	Evaluating Arguments: Evaluating Reasoning	Revision of Assignment 3 given
Week11: April 16	Evaluating Arguments: Author and Publication Biases; Unstated, Underlying Assumptions	Assignment 4 given-- Criteria #1, 2, 3, 4,5, 6
Week12: April 22	Evaluating Arguments: Author and Publication Biases; Unstated, Underlying Assumptions	Revision of Assignment 4 given
Week13: April 30	Evaluating Arguments: Purpose and Context	Hand in all work for the competency evaluation

METHODOLOGY (how the class will work): The way to learn to understand arguments is to develop experience reading and “re-writing” arguments.

During the class meetings, we will gain these experiences, working together on understanding the structure of various arguments. We will also discuss some general principles for determining the various parts of arguments. Further, we will discuss some mathematical concepts that you will need to understand in order to understand quantitative supports for arguments. Finally, in each class we will practice and analyze relevant academic study skills.

Each week you will be given a detailed listing of the topics and learning activities for that week, and the assignments due the next week. You are expected to complete the work for the following class meeting on time, be ready to discuss aspects of it in class, and to ask questions about anything related to the assignment that you would like to explore further. You are also expected to turn in a legible, preferably word-processed, clearly organized packet of materials.

There will be four main cycles of “new” assignments. For each of the first three cycles:

- | You will be given the new assignment in the first meeting of that cycle.
- | The assignment will be due in the second meeting of that cycle.
- | The homework given during that second meeting will involve various background readings, either about the public and community service arguments we are discussing, or about aspects of arguments, or about the quantitative concepts we are using in our discussions, or about relevant study skills. There will not be any formal written assignment on this material; instead, during the third meeting of the cycle, we will review the readings through class discussions and/or through an open-book reading comprehension quiz.
- | Part of the classwork during the second meeting will be a review of the assignment.
- | During the third meeting of that cycle, I will return your papers with my comments, and we will complete the review of the arguments on that assignment that we began during the second class meeting.
- | The homework given during that third meeting will be to revise the assignment that we reviewed during that class meeting.
- | In the last part of the cycle, the fourth meeting, I will return your revisions with additional comments and suggestions for individual office meetings if further revisions are necessary. During this fourth meeting, you will also be given the next new assignment.

Between the second and third cycles I will schedule individual meetings to review your work. During the fourth cycle, you will be asked to review and revise your work from my comments, without class review. The fourth assignment may be given as in-school work during the final class meeting.

THE COMPETENCY DEMONSTRATION: In order to demonstrate the Understanding Arguments competency through this course, you will have to satisfactorily complete work in a portfolio consisting of:

- A brief summary and discussion of your class and other notes (e.g., notes you may have taken on the class hand-outs and/or assigned readings) reviewing the main ideas you learned about understanding arguments, quantitative reasoning, and academic studying. You will be asked to reflect on your most and least successful study habits and understandings, as well as on questions for further study. This will be part of your fourth assignment.
- The initial drafts and the final revisions of the four competency assignments.
- If you missed handing in more than one draft assignment on time, you may be asked to complete a different assignment in addition to the four competency assignments in your packet of materials.

STUDYING SUPPORTS: The important thing is *not how quickly* you understand the arguments. The important thing is that you *study until you do understand* the arguments. Further, it is recommended that you study the assignments with others. There are a variety of options for doing this:

- My office hours—Tuesdays noon-2:00pm; Wednesdays 5:00pm-6:00pm; and, other times by appointment, in Room W-3-154-20; 617-287-7144; marilyn.frankenstein@umb.edu
- I will ask you for your email address and form a list for the class. I will send you all the list, so that you can communicate with each other, and ask me any clarifying or other important questions between class meetings.
- For information on Peer Tutors contact Amelia Onorato. In particular, some of you may need to sharpen your writing skills, and work with a peer tutor will help you accomplish this. Let me know who you are working with so that I can inform your tutor about my goals for this class.
- You are encouraged to discuss your out-of-class assignments with others in the class and with anyone in your life who will listen! It is not cheating to do this—on the contrary, this is what learning/studying is. You should then, *on your own*, write the understandings you gained from your own reflections and from these discussions. In this way, you will have a chance to solidify and deepen your understandings, or reveal new questions and/or confusions which you can then explore through further discussions. It is cheating yourself, as well as plagiarizing, if you just copy someone else's writing. It is cheating yourself, as well as plagiarizing, if you just write down what someone else says without asking questions and repeating it in your own words until you understand the material yourself.

MY UNDERLYING PHILOSOPHY (Why I think it is so important to understand quantitative arguments): In "Scenes from the Inferno" (*The Nation*, April 17, 1989), Alexander Cockburn wrote about some of the realities behind the so-called triumph of capitalism world-wide. One of his illustrations is particularly relevant to understanding the passion driving my wanting people to understand quantitative arguments. He relates how in some neighborhoods of Santiago, Chile, "the diet of 77 to 80 percent of the people does not have sufficient calories and proteins, by internationally established standards, to sustain life." Under Pinochet, the dictator of Chile during that country's period of 'triumphant capitalism,' malnutrition was measured in relation to a person's weight and height, in contrast to the usual comparison of weight and age. "So a stunted child is not counted as malnourished, and thus is not eligible for food supplements, because her weight falls within an acceptable range for her height." The overarching goal underlying my educational work is to foster an exploration of the connections between understanding the political and moral outrageousness of collecting statistics in those ways, and acting to change the outrageousness of those conditions.