

Format:

First choice: 50 minutes

Second choice: two-hour PC workshop.

 1. Title of Presentation (LIMITED TO 70 CHARACTERS, INCLUDING SPACES):

Statistical Literacy: A New On-Line Gen Ed course for Math Teachers [67 characters]

2) 50-Word summary of your presentation for the program. Use 2nd or 3rd person grammar; do not use "I" or "we" in your description. This is the only information that will be printed in the program book to describe your presentation, so be descriptive but concise. Use complete sentences. Do not exceed 50 words.

Statistical Literacy is a cutting-edge combination of quantitative literacy, statistics and critical thinking. Statistical Literacy focuses on how everyday numbers are influenced by context (ratios, models and confounding), social construction (definition, presentation), randomness, and bias. See www.StatLit.org. Introduces statistical literacy and the new web-based teacher-training course offered by Augsburg College. [50 words]

3. List the goals or outcomes for your presentation.

To introduce math teachers to statistical literacy as a new course for general education, and to a new on-line, college-credit course for those who may want to teach this course to students in non-quantitative majors.

4. How can the information in your presentation help or be used by mathematics faculty? (Do not exceed 100 words.)

In the 2008 AMATYC survey, teachers indicated a desire for web-based continuing education on statistics (40%) and quantitative literacy (35%). This presentation introduces a web-based college-credit course that provides college teachers with the training needed to teach a statistical literacy course. Attendees will leave with a basic understanding of statistical literacy and how it compares with traditional statistics and quantitative literacy. They will understand the complexity involved in using ordinary English to describe rates, percentages and associations in tables and graphs. They will be able to decide whether they want to take the college-credit on-line course. [98 words]

5. Brief description of presentation style: AMATYC encourages presentations that model a variety of instructional strategies (e.g. group learning, discovery methods, active learning), interactive uses of technology, or other methods that actively involve the audience.

Presentation involves the use of clickers for audience response

6. Describe the scope and nature of your presentation. (Do not exceed 400 words.)

This presentation introduces the basic elements of a new college course in Statistical Literacy designed for and limited to college teachers. This web-based course is offered in June for college credit through Augsburg College as a part of the W. M. Keck Statistical Literacy Project. In this course, teachers do the student activities and then evaluate these activities from their own perspectives. This presentation includes extracts from the textbook, examples of the on-line homework using Moodle, examples of the on-line program that reads ordinary English and examples of how students analyze news stories that use numbers as evidence.

Statistical Literacy combines quantitative literacy, statistics and critical thinking using ordinary English and graphs. Statistical Literacy is quite different from a statistics course using Moore's "Statistics: Concepts and Controversies" or a QR course using "For All

Practical Purposes" or the Bennet-Briggs "Using and Understanding Mathematics: A Quantitative Reasoning Approach."

Statistical Literacy is consumer oriented -- reading and interpreting numbers in the everyday media. It focuses more on using ordinary English to express mathematical relationships (e.g., Men have a 25% higher risk of accidental death than women). The percentage of women who are runners is not the same as the percentage of women among runners. They use a cutting-edge web program that presents users with rates and percentages in graphs, tables and statements. Users enter their description or comparison of the data. The program decodes the user's statement and gives appropriate feedback on the mistakes. This program is highly appreciated by students who are weak in English grammar.

Statistical Literacy focuses on everyday numbers in the news. Students learn that deaths due to obesity, second-hand smoke, eating animal products, the gap in medical health care and radon are not causes certified by a coroner. These are statistical deaths -- deaths generated by a simple epidemiological model of association.

Statistical Literacy uses a new graphical technique to take into account the influence of a confounder so students can work problems. Students work problems to see how the numbers of statistical deaths can change by taking into account the influence of a confounder. Students work problems to see how a statistically significant difference in state NAEP scores can become statistically insignificant after taking into account the influence of student access to the Internet.

**This course has been taken by over a thousand students in non-quantitative majors.
[391 words]**

7. Brief resume for presenter (to be used by the presider to introduce the presenter). Resume should be written in narrative form.

Dr. Milo Schield is the director of the W. M. Keck Statistical Literacy Project at Augsburg College where he teaches critical thinking, traditional statistics and statistical literacy. Milo is the vice President of the National Numeracy Network and the web master of the StatLit.org web site. He has given talks on statistical literacy in more than a dozen countries including China, Japan and Australia. His articles have appeared in the AACU Peer Review magazine, in the ASA's STATS magazine and in the MAA's 2008 publication: "Calculation vs. Context: Quantitative Literacy and Its Implications for Teacher Education" edited by Lynn Steen and Bernie Madison. He has taught Statistical Literacy for over 10 years. Dr. Schield is a Professor at Augsburg College and earned his Ph.D. from Rice University. In Joel Best' book, "More Damned Lies and Statistics," Milo was cited as "the movement's leading voice."

8. Comments:

I don't know how many teachers might be interested in this subject. If I knew I could fill a workshop, I'd prefer the two-hour computer lab. But since I'm uncertain, I selected a 50 minute presentation as my first choice.

OUTCOME: "We regret that we did not have sufficient space to include your proposed presentation in the conference program." 4/6/2009