

SIGMAA-QL NEWSLETTER

THREE YEARS OF *NUMERACY*

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With the appearance of volume 3, issue 2 last month (July 1), *Numeracy* completed its first three years of publication. We have published a total of 50 papers: 7 editorials, 25 articles, 6 perspectives, 7 book reviews and 5 columns. We are becoming increasingly voluminous: 15 papers in 2008, 16 papers in 2009, and 19 papers in 2010. Ten of the 25 articles appeared in 2010, with five in each issue; no earlier issue had more than four.

SIGMAA-QL authors have played a vital role. By my count, and not counting the managing editors, at least 11 different SIGMAA-QL authors have contributed (“at least” because I don’t know for sure whether some of the mathematician-authors are members). Some SIGMAA-QL authors have contributed multiple papers (Bernie Madison, Semra Kiliç-Bahi, Gizem Karaali, Eric Gaze, Michael Catalano, Lynn Steen). I know that more SIGMAA-QL authors are preparing manuscripts for the next issue.

It is certainly exciting that *Numeracy* has been adopted as the vehicle of dissemination for scholarly work by the SIGMAA-QL community. One particular development, in my opinion, is especially noteworthy: Rick Gillman’s perspective piece “Re-organizing school mathematics for quantitative literacy.” This paper, I believe, is a breakthrough event in the history of *Numeracy* publication. The reason I say that is that the paper is a direct outgrowth of a conversation on your listserve. Many of you will remember the conversation, and you all will see future conversations about issues involving QL. When you do, please consider what Rick did: he fleshed out his comments into a perspective piece for *Numeracy*. This is important because it gets the QL issue, and Rick’s considered thoughts on it, out beyond the listserve – not only to QL-interested mathematicians who are not members of the SIGMAA, but also out to the non-mathematician part of the QL community.

While it’s great that *Numeracy* is becoming the SIGMAA-QL’s scholarly journal, the ultimate success of QL and *Numeracy* requires us to reach beyond mathematicians. I look forward to the time when (1) there are more than twice as many papers from SIGMAA-QL members as there are now, and (2) that that number of papers would not be the majority of QL papers in the journal. With some notable exceptions, progress on getting papers from outside the mathematics community has been slow, particularly in science. As noted by Gerry Meisels in the current issue, science literacy and QL have much in common. So, let me ask you: if you have colleagues outside your mathematics department who are doing scholarly, education-oriented work at the intersection of mathematics and their field, and if you as a QL person find their work interesting, please tell them that *Numeracy* would also find their work interesting. Perhaps consider collaborating with them on the paper.

Numeracy papers are being read. Or at least they are being downloaded. In the edi-

OCTOBER 2010



LETTER FROM THE CHAIR

STUART BOERSMA, CENTRAL WASHINGTON UNIVERSITY

SIGMAA-QL has continued to have an active presence at all national meetings of the MAA. Last year at the Joint Mathematics Meeting in San Francisco we teamed up with SIGMAA-EM to sponsor a contributed paper session on Quantitative Reasoning and the Environment. Special thanks to Maura Mast, Karen Bolinger, and Cinnamon Hillyard for organizing this paper session. The MAA has talked to them about compiling a Notes on QR and the Environment. In August of this year at Mathfest, Cinnamon Hillyard and Stuart Boersma organized a panel discussion entitled “Mathematics in Interdisciplinary Survey Courses”. Panelists Mike Pinter, Robert Root, Maura Mast, and Alexandre Barchecheat provided important and useful information on integrating quantitative reasoning into introductory college courses. The conversation spilled over to a nearby pub where SIGMAA-QL sponsored a well-attended reception. Also at the Joint Meetings, Milo Schield presented the results of the 2009 SIGMAA-QL survey of quantitative graduation requirements. A copy of the results can be found on the StatLit website at <http://www.statlit.org/pdf/2010SchieldJMM.pdf>.

SIGMAA-QL has two great events planned for the upcoming Joint Mathematics Meetings in New Orleans, January 6-9, 2011. The first event is the AMS-MAA-MER Special Session on Mathematics and Education Reform. The topic of this panel discussion is “The Role of Quantitative Literacy in the High School Mathematics Curriculum” and will feature panelists Cathy Seeley (NCTM president, 2004-2006), Rick Gillman (first SIGMAA-QL chair), Deborah Hughes-Hallett (leader in QR and calculus reform), and Corrine Taylor (president of the National Numeracy Network). This promises to be a very thought provoking and important discussion on how quantitative literacy at the introductory undergraduate level aligns with similar efforts in secondary education. In addition to this panel discussion, SIGMAA-QL is also recognizing the 10th anniversary of the publication *Mathematics and Democracy* by organizing a special reception and discussion session to immediately follow our Business Meeting in New Orleans. We expect to have several of the original contributing authors (including executive editor Lynn Steen) of this groundbreaking collection on hand to offer their views of how quantitative literacy has or has not been addressed since 2001. Please plan on attending the Business Meeting as well as the following discussion and reception.

SIGMAA-QL ELECTIONS:

VOTE AT <[HTTP://WWW.MAA.ORG/VOTING/SIGMAA_QL/](http://www.maa.org/voting/sigmaa_ql/)>

We have two vacant positions this year. There is one candidate for each of the positions. Their biographies are included here. When voting opens, a message will be sent to the list-serve.

CHAIR-ELECT

Semra Kilic-Bahi received her Ph.D. in Functional Analysis from University of New Hampshire in 1994. She taught at Simon's Rock College of Bard, Colby College, Cambridge School of Weston, and Emmanuel College before she started to teach at Colby-Sawyer College in 2003.

Her interest in QL was awakened by "Mathematics and Democracy: The case for Quantitative Literacy", and strengthened by two PREP Workshops,

- "Quantitative Literacy Across the Curriculum: Everybody's Project," Washington, 2004,
- "Creating and Strengthening Interdisciplinary Programs in Quantitative Literacy," Macalester College, 2005.

An NSF funded project "Spreadsheets Across the Curriculum," was quite instrumental in involving Colby-Sawyer faculty in QL and eventually receiving an NSF Title I (#063313) grant "QL Across the Curriculum." Through this support, Dr. Kilic-Bahi, as PI, organized several faculty development workshops, minicourses, and conferences on QL <<http://www.colby-sawyer.edu/academics/experience/quantitative/index.html>>.

She served as secretary/treasurer for SIGMAA-QL from February 2007 to 2009. Most recently, through a supplemental NSF Title I grant (#1035492), she organized two faculty development workshops on "Sustainability, Climate Change, and QL."

She has co-authored two *Numeracy* journals summarizing QL efforts at Colby-Sawyer College.

- "Quantitative Literacy Across the Curriculum: A Case Study," by Benjamin Steele and Semra Kiliç-Bahi, *Numeracy*: Vol. 1: Iss. 2, Article 3 <<http://services.bepress.com/numeracy/vol1/iss2/art3>>
- "Quantitative Literacy: Does it Work? Evaluation of Student Outcomes at Colby-Sawyer College," by Benjamin Steele and Semra Kiliç-Bahi, *Numeracy*, Volume 3: Issue 2, Article 3 <<http://services.bepress.com/numeracy/vol3/iss2/art3>>

CREDITS

SIGMAA-QL officers went out and collected the information for this Newsletter and sent the items to Aaron Montgomery who used Adobe's InDesign to lay out the material. The fonts used are 10 point Times for the regular text and 12 point Charlemagne for the titles. Feel free to send in photos, stories or leads and we will try to fit them into the newsletter. This year we are a little short and having more people work on it would certainly help us get back up to the almost epic size of the 2008 Newsletter.

WEBMASTER

Robert Root is an associate professor of mathematics at Lafayette College in Easton, Pennsylvania. He is an applied mathematician and a teacher of mathematics and statistics. His research focuses on mathematical physiology, developing models incorporating differential equations, numerical analysis, and statistics. These are useful in a variety of biological inquiries, especially the study of undulatory locomotion in fish.

Rob is also interested in pedagogical issues involving experiential learning. Specifically, he is engaged in using community-based research to teach statistics more effectively, and service-learning to convey the importance of quantitative literacy for active and informed citizenship. He has written about employing community-based projects to teach applied statistics, a technique he has applied to statistics classes at different levels. He developed a writing course that investigates connections between mathematics and social justice. This course explores the value of quantitative literacy in delineating and remedying issues of social justice.

CONTRIBUTE!

Tell us what you have done or are doing and we'll include it in the *SIGMAA-QL Newsletter* (email submissions to the Chair). We are also looking for photographs for the website and the newsletter. We are hoping to be able to compose the Newsletter shortly after MathFest and send it out in September so submitting prior to the end of August would be ideal. Items for the Newsletter should be of a "newsy" nature whereas authors of more scholarly contributions should Consider *Numeracy* (published by the National Numeracy Network) for their inclusion.

CURRENT OFFICERS

Chair-Elect: Eric Gaze, Bowdoin College

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Chair: Stuart Boersma, Central Washington University

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Past Chair: Cinnamon Hillyard, University of Washington, Bothell

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Secretary/Treasurer: Gizem Karaali, Pomona College

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Webmaster: Aaron Montgomery, Central Washington University

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As one of the editors of a new journal, Journal of Humanistic Mathematics, I would like to suggest that some of the SIGMAA-QL members might be interested in it both as a possible outlet for some of their work and also as an interesting journal to follow. You may or may not have heard of humanistic mathematics before, but in short it is our coin term for the human face of mathematics. If you want to take a deeper look, we have a preliminary website up at <http://journal-of-humanistic-mathematics.org> and will have a paper session on humanistic mathematics at the joint meetings in New Orleans.

I believe that most of the major conversations about QL that we are having on these lists would fall under the scope of humanistic mathematics.

NUMERACY

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torial for the first issue of 2010, I reported that there had been 5000 full text downloads of papers as of October 20, 2009, and I made various projections for the 10,000 mark (October 3, 2010; January, 9, 2011; March 2, 2011). We crossed the 6000 mark in mid-January; 7000 in early May; and 8000 in late June. Now (mid-August), we are at 8,275.

Numeracy papers will be read more thanks to some recent developments. *Numeracy* is now indexed in the Directory of Open Access Journals, and all of our papers have digital object identifiers (DOIs). You may have noticed the DOI numbers in the recommended citation and on the PDFs. The value of DOIs can be illustrated by the Madison and Steen paper on the evolution of numeracy. It has DOI: 10.5038/1936-4660.1.1.2. Copy and paste that number into the Google search box, and you immediately get the link to the *Numeracy* article; you find about 110 references or links to related papers in Google Scholar, and you find about 70 similar papers under “similar.” Thus through the DOIs, *Numeracy* papers are seamlessly embedded in a broad interconnected network of related and similar papers. Equally important, the number immediately gives you the permanent URL for the article. What you do is prefix <http://dx.doi.org/> to the DOI number. Thus the permanent URL for the Madison and Steen paper is <http://dx.doi.org/10.5038/1936-4660.1.1.2>. By “permanent,” the point is that if we change editorial platforms, the link is still good.

After three years of receiving, processing, and editing *Numeracy* manuscripts, we have extensively revised the Instructions to Authors. The new version is posted on the *Numeracy* Web site, linked from the home page. Please read the new general statement for ideas about the types of papers we seek and the other sections when you are preparing your manuscript. You might also note the last sentence of the general statement: there are no publication charges. Thus you can publish your paper with no cost to you or NNN, just as others can download and read your paper with no cost to them or their institutions. This reflects the commitment of USF Libraries to open-access publishing in its fullest sense.

Students in calculus and algebra courses are prone to sign errors, and when I take off, they sometimes complain “It was only a sign error.” In November 2007, I saw a newspaper article that had a real world consequence of a sign error.

The article appeared in our local newspaper on Sunday, November 18, 2007 under the headline “Corps of Engineers goofs on anti-flood mapping” (the headline may be slightly different in other papers). It was an Associated Press article written by Cain Burdeau.

The gist of the article is that on June 20, 2007, the Army Corps of Engineers released flood-risk maps for parts of New Orleans that claimed that the drainage canals would reduce flooding during a major storm by 5.5 feet. But in a report dated November 7, 2007, the 5.5 feet estimate was changed to 6 inches. The engineer, Ed Link, told reporters on Friday. Link said mistakes were made in the calculations for two sub-basins that include Lakeview and nearby neighborhoods. In one, a minus sign was used instead of a plus sign. The article also mentions that this discrepancy was buried in the appendices to the November 7 report. The discrepancy came to light only when a reporter for WWL-TV (a local TV station in New Orleans) asked the engineer about it. To me, there are two important points here. First, sign errors can have serious consequences, and second, quantitative literacy is important for everyone, including journalism students. We need reporters who can ask questions about numbers.

ELECTRONIC RESOURCES

SIGMAA-QL members can use the SIGMAA-QL list-serve by mailing messages to sigmaa-ql@enterprise.maa.org. This list-serve is monitored by the Secretary/Treasurer. All members should have been signed up for this service when they became SIGMAA-QL members, and may opt-out of receiving messages. If you are having trouble (either because you are or are not receiving emails), please contact the current Secretary/Treasurer. The MAA is only able to retain a single email address for each member. This means that you need to keep your MAA email up to date if you wish to continue to receive any emails from the MAA (including the SIGMAA-QL list-serve messages).

Anyone can access the SIGMAA-QL web site at <http://www.maa.org/sigmaa/ql/>. It contains news and resources associated with QL. Please send news, announcements, resources, photographs, and anything else related to Quantitative Literacy to the current Webmaster for inclusion on the web site. If you have trouble accessing the web site, please let the current Webmaster know.

In addition to the resources provided by SIGMAA-QL, there are a number of valuable resources that can be found at the National Numeracy Network’s website <http://serc.carleton.edu/nnn/index.html> including access to the online journal *Numeracy*. You can also find information at the StatLit website <http://www.statlit.org/>. Also consider looking at the Journal of Humanistic Mathematics <http://journal-of-humanistic-mathematics.org>.

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