

## *Curriculum Vita - abridged*

**ALAN ZOLLMAN, PhD**

**October 29, 2009**

- Position: Associate Professor of Mathematics Education in the Department of Mathematical Sciences at Northern Illinois University
- Teaching: undergraduate mathematics, undergraduate and graduate mathematics education methods, inservice mathematics education courses, directing PhD candidates
- Scholarship: research-based, classroom-tested curriculum innovations in mathematics education, including implementation implications for teachers, students and curricula
- Leadership: *President* of School Science and Mathematics Association, *Past-Vice President* of the Research Council on Mathematics Learning and *Past-Chair* of the NIU Mathematical Sciences Teacher Education Committee
- Grant Work: implementation of curriculum innovations with K-12 teachers
- Public schools teaching: middle and high school mathematics in Indiana and Ghana, West Africa

## *Leadership*

### ***NATIONAL ORGANIZATION SERVICE***

#### ***President, School Science and Mathematics Association 2008 – present***

School Science and Mathematics Association (SSMA), founded in 1901, is an inclusive international professional community to unify researchers and educators to promote research, scholarship, and practice for the improvement and integration of school science and mathematics.

#### *Responsibilities as the SSMA President:*

1. Articulate the organization's mission and purpose
2. Ensure effective long-range organizational vision
3. Manage resources effectively
4. Negotiate budgetary contracts with commercial corporations
5. Determine and monitor the organization's programs and services
6. Enhance the organization's public image
7. Evaluate the organization's performance in fulfilling its responsibilities

***Vice President for Publications, Research Council on Mathematics Learning, 2003-2005***

The Research Council on Mathematics Learning (RCML), founded in 1974, seeks to stimulate, generate, coordinate, and disseminate research efforts designed to understand and influence factors that affect mathematics learning.

*Responsibilities as RCML Vice-President for Publications*

1. Coordinated activities of Newsletter Editor, Journal Editor and Membership Coordinator
2. Served on Editorial Board of *FOCUS* during term and following 4 years
3. Reported publication activities to executive committee
4. Arranged all necessary copyrights, Library of Congress and ISBN identification numbers
5. Worked with secretary to archive documents
6. Provided permission for reprinting RCML publications
7. Forwarded copies of RCML publication policies and procedures to all publication appointees as necessary

***NATIONAL CONSULTATION***

- *National Speaker* for Staff Development Resources, Torrance, CA
- *National Speaker* for The Education Center, Torrance, CA
- *National Speaker* for Center for Teacher Effectiveness, Atlanta, GA

Seventy+ national presentations on methods of teaching mathematics in the states of AL, AZ, CA, CO, CT, FL, GA, IL, IN, KS, KY, MA, MD, MI, MN, MO, NC, NJ, NM, NV, NY, OH, OK, PA, RI, SC, TN, TX, VA, and WI, for approximately 15,000 teachers & administrators.

***STATE SERVICE***

Fifty+ presentations on Councils of Teachers of Mathematics meetings of Illinois, Michigan, Ohio, Kentucky, Indiana, Pennsylvania, and Wyoming.

Standards Writer of the Illinois Standards Development Committee for Elementary Education  
Teacher Certification of the Illinois State Board of Education

Standards Writer of the Prairie State Achievement Examination – Mathematics, for the Illinois State Board of Education

## ***LOCAL PRESENTATIONS***

Twenty+ conference keynote addresses

Twenty+ preservice workshops on mathematical manipulatives and tools at Northern Illinois University

Forty+ inservice presentations & workshops on elementary, middle, and high school mathematics education and computer education

Sixty+ inservices working as a mathematics education consultant for school systems

## ***Professional Distinctions***

- *President*, School Science and Mathematics Association, 2008 – present
- *Vice President for Publications*, Research Council on Mathematics Learning, 2003-05
- *Chair, Teacher Education Committee*, NIU Department of Mathematical Sciences, 2002-05
- *Publications Chair*, School Science and Mathematics Association, 2003-06
- *Founding President*, Kentucky Association of College Mathematics Educators, 1991-93
- *Director-at-Large*, School Science and Mathematics Association, 2003-06
- *Board of Directors*, Illinois Mathematics Teacher Educators. 2002-05
- *Vice President*, Kentucky Council of Teachers of Mathematics, 1988-89
- *Chair*, University of Kentucky's Middle School Certification Program, 1988-89
- *Editorial Board*, *Investigations in Mathematics Learning*, 2008 - present
- *Editorial Board*, *Focus on Learning Problems in Mathematics*, 2003-08
- *Editorial Board*, *Issues in the Undergraduate Mathematics Preparation of School Teachers: The Journal*, 1994-96
- Northern Illinois University's *Excellence in Undergraduate Teaching Award*, 2005
- *Certificate of Excellence*, NIU Mortar Board National Senior Honor Society for Outstanding Contribution to Education for 1997-98

- Kentucky Council of Teachers of Mathematics' *Mathematics Education Service & Achievement Award*, 1992
- Bowling Green State University Alumni Association's *Master Teacher Award Nominee*, 1985
- The Fifth Mathematics Methods Conference, *Outstanding Service Award*, 1986
- Phi Delta Kappa Gabbard Institute, *Fellowship*, 1991

## *Scholarship*

### ***10 MOST RECENT PUBLICATIONS***

1. Zollman, A., Smith, C.M, & Reisdorf, P. (accepted). Identity Development Critical Components for Self-Regulated Learning in Mathematics. *National Council of Teachers of Mathematics 73<sup>rd</sup> Yearbook: Motivation and Disposition*.
2. Zollman, A., Kitts, K., Tahernezehadi, M., & Billman, P. (accepted). Synergy For Science Learning: An Interdisciplinary Partnership To Improve The Quality Of Science, Technology, Engineering, And Mathematics Education. *International Journal of Science in Society*.
3. Zollman, A., Tahernezehadi, M., Shaw, C.C., Kitts, K., Billman, P., Cesarotti, D., Falk-Ross, F., Rahn, R., Smith, C.M, Haji-Sheikh, Majumdar, P., Merrill, J., Kullens, J. (accepted). Teacher as Engineer, Researcher, Leader: An Interdisciplinary, Synergetic Degree to Advance Science, Technology, Engineering, and Mathematics (STEM). *International Journal of Engineering Education*.
4. Cappetta, R.W., & Zollman, A., (in press). Creating a Discourse-Rich Classroom (DRC) on the Concept of Limits in Calculus: Initiating Shifts in Discourse to Promote Reflective Abstraction. *The Role of Mathematics Discourse in Producing Leaders of Discourse*.
5. Zollman, A. (2010). Problem Solving for the 21<sup>st</sup> Century Commentary: Back to the Future or Forward to the Past. In Sriraman, B., & English, L., (Eds.) *Theories of Mathematics Education: Seeking New Frontiers*. (pp. 297-301). New York, NY: Springer.
6. Zollman, A. (2009). Mathematical Graphic Organizers. *Teaching Children Mathematics* 16 (4), 222-229.

7. Zollman, A. (2009). Write is Right: Students Using Graphic Organizers to Improve Problem Solving. *Middle School Journal* 41 (3), 4-12.
8. Zollman, A. (2008). Less Is More: Using Mathematical Conceptual Principles and Procedural Themes with Elementary Education Majors. *The Mathematics Educator*, 11 (1&2), 33-46.
9. Zollman, A. (2008). Revising the Needs of the Gifted Mathematics Students: Are Students Surviving or Thriving? In Sriraman, B., (Ed.) *Creativity, Giftedness, and Talent Development in Mathematics*. (pp. 277-286). Charlotte, NC: Information Age Publishing. Reprint of Zollman, A. (2007). Revisiting the needs of the gifted mathematics students: Are students surviving or thriving? *Mediterranean Journal for Research in Mathematics Education*, 6 (1&2), 139–148.
10. Zollman, A. (2007). Teaching for Profound Understanding: A Study Using Mathematical Connections With Preservice Elementary Education Majors. In Berlin, D. F., & White, A. L.(Eds.). *Global Issues, Challenges, and Opportunities to Advance Science and Mathematics Education*. (pp. 287-304). Columbus, OH: International Consortium for Research in Science and Mathematics Education.

#### **10 MOST RECENT INTERNATIONAL & NATIONAL PRESENTATIONS**

1. Zollman, A. (2009, October 23<sup>rd</sup>). *Identity Formation and Possible Selves: Becoming a Self-Regulated Learner in Mathematics* Presented at the 108<sup>th</sup> Annual Convention of the School Science and Mathematics Association. Reno, NV.
2. Zollman, A. (2009, March 6<sup>th</sup>). *Teacher as Engineer/Researcher/Leader: Enhancing STEM Education*. Presented at the 36<sup>th</sup> Annual Conference of the Research Council on Mathematics Learning. Rome, GA.
3. Zollman, A. (2008, November 13<sup>th</sup>). *Synergy: An Integrated Degree to Advance STEM at the University & Public School*. Presented at the 107<sup>th</sup> Annual Conference of the School Science and Mathematics Association. Durham, NC.
4. Zollman, A. (2008, November 14<sup>th</sup>). *Rocky & Bullwinkle: Getting tenure, promotion, publishing, grantmanship, and happiness*. Presented at the 107<sup>th</sup> Annual Conference of the School Science and Mathematics Association. Durham, NC.
5. Zollman, A. (2008, April 11<sup>th</sup>). *Math Ain't Kitty Litter: Thinking Outside The Box With Nonlinear Problem Solving*. Presented at the Annual Conference of the National Council of Teachers of Mathematics. Salt Lake City, UT.
6. Zollman, A. (2008, March 7<sup>th</sup>). *Are Gifted Students Surviving or Thriving In The Public Schools?* Presented at the 35<sup>th</sup> Annual Conference of the Research Council on Mathematics Learning, Cleveland, OH.

7. Zollman, A. (2007, November 19<sup>th</sup>). *Teachers Seeking Wisdom: Correlations of Teachers' Lessons to State Curriculum & Tests*. Presented at the 106<sup>th</sup> Annual Conference of the School Science and Mathematics Association. Indianapolis, IN.
8. Zollman, A. (2007, March 3<sup>rd</sup>). *Teachers Seeking Wisdom: Correlations of Teachers' Lessons to State Curriculum & Tests*. Accepted, to have been presented at the 34<sup>th</sup> Annual Conference of the Research Council on Mathematics Learning, Cleveland, OH. (session cancelled due to winter weather)
9. Zollman, A. (2006, October 26<sup>th</sup>). *Write is Right: Improving Students' Problem Solving Using Graphic Organizers*. Presented at the 105<sup>th</sup> Annual Conference of the School Science and Mathematics Association. Missoula, MT.
10. Zollman, A. (2006, April 28<sup>th</sup>). *Four-Corners is Better than Four-Squares: Assessment Connection For Solving Mathematics Story Problems*. Presented at the Annual Conference of the National Council of Teachers of Mathematics. St. Louis, MO.

## **Grants**

### **5 MOST RECENT NATIONAL GRANTS**

1. Tahernezehadi, M., Yusko, R., Zollman, A., Billman, P., Kitts, K., Rahn, R., Smaldino, S., Smith, C., & Shaw, C. (2007-10). *ITEAMS - Integrated Technology & Engineering to Advance Math and Science*. Illinois Mathematics and Science Partnerships Program/ISBE/US Department of Education, funded by NCLB, Title II, Part B, US DOE.
2. Miller, J., Wong, S. Windelborn, A., Kelter, P., Smith, C., Falk-Ross, F., Zollman, A., Hubbard, C., Minor, W., & Billman, P. (2008-09). *Planning Committee, Illinois Mathematics and Science Partnership – Biology and Biochemistry*. Illinois Mathematics and Science Partnerships Program/ISBE/US Department of Education, funded by NCLB, Title II, Part B, DOE.
3. Zollman, A., Young, B., Mirman, C. R., & Otieno, A. (2005-06). *Raising the Mathematics and Science Achievement of the Middle Schools of East Aurora with Northern Illinois University Partnership (Raising the MEANs Partnership)*. Illinois Mathematics and Science Partnerships Program/ISBE/US Department of Education.
4. Zollman, A., Abbott, L., Mirman, C. R., & Otieno, A. (2005-06). *Math & Science Teacher Development (MSTD) ... It Adds Up to Better Student Performance*. Illinois Mathematics and Science Partnerships Program/ISBE/US Department of Education.

5. Clemens, A. J., Sandgren, A., Olson, M., Zollman, A., & Mann, B. (2003-04). *Northern Illinois Math Science Partnership "NIMS – in the Middle."* Illinois Mathematics and Science Partnerships Program/ US Department of Education.

### ***Northern Illinois University Teaching***

MATH 229	Calculus I
MATH 201	Foundations of Elementary School Mathematics
MATH 402	Methods of Instr. in Math. Curr. Elem. Sch. (K-6)
MATH 410	Methods of Instruction in Math. Curr. Middle Sch.
MATH 610	Theoretical Foundations of Math Education
MATH 612	The Teaching of Mathematics, Grades 6-9
MATH 613	The Teaching of Algebra
MATH 696	Topics in Contemporary Mathematics Education
MATH 697	Topics in Contemporary Mathematics Education
MATH 710A	Topics in Mathematics Education - Lrn. & Tch.
MATH 710B	Topics in Mathematics Education - Curr. & Inst.

PAST COURSE COORDINATOR: MATH 201, 9 Sections; 6 Instructors

PAST COURSE COORDINATOR: MATH 402, 4 Sections; 3 Instructors

### ***NIU Student Research and Advising***

DISSERTATION COMMITTEE (CHAIR): Robert Cappetta, *Reflective Abstraction And The Concept Of Limit: An Quasi-Experimental Study To Improve Student Performance In College Calculus By Promoting Reflective Abstraction Through Individual, Peer, Instructor And Curricular Initiates*. July 9, 2007.

DISSERTATION COMMITTEE (CO-CHAIR): Bharath Sriraman, *A Grounded-Research Qualitative Study of Ninth Grade Students' Generalization Processes in Combinatorial Problem-Solving Items with Connections to Mathematical Creativity*. April 12, 2002 (NIU CLAS Golden Anniversary Alumni Recipient)

DISSERTATION COMMITTEE: Jason Thrun, *College Students' Rational-Number-As-Operator Strategies: A Focus on Student's Coordination of Units and Distributivity of Operators in Problem-Solving Situations*. October 20, 1999.

DISSERTATION COMMITTEE: Keith Drew, *National Vision and Local Practice: A Discrepancy Evaluation Case Study of One Teacher's Geometry Class*. August 17, 1999.

MASTERS' THESIS COMMITTEE: Rita M. Patel, *Students' Reasoning in Start-Unknown Situations Involving Percents*. March 26, 2009.

MASTERS' THESIS COMMITTEE: John A. Hauenstein. *A Research-Based Instruction Unit on Proportions and an Analysis of Student's Problem Solving Strategies on Related Proportion Word Problems*. December 12, 1995.

CURRENT ACADEMIC ADVISING LOAD: 14 students

### ***Educational Background***

Indiana University	Bloomington, Indiana	1986	Ph.D.
Indiana University	Bloomington, Indiana	1978	M.A.T.
Indiana University	Bloomington, Indiana	1973	B.S.

### ***Professional Experience***

Northern Illinois University	DeKalb, IL	Associate Professor	1995-
Northern Illinois University	DeKalb, IL	Assistant Professor	1993-95
University of Kentucky	Lexington, KY	Assistant Professor	1986-93
Bowling Green State Uni.	Bowling Green, OH	Instructor	1983-86
Indiana University	Bloomington, IN	Associate Instructor	1983
University of Wyoming	Laramie, WY	Instructor	1981-82
Indiana University	Bloomington, IN	Associate Instructor	1976-81
Floyd County Public Sch.	New Albany, IN	Middle School Teacher	1975-76
United States Peace Corps	Bibiani, GHANA	High School Teacher	1973-75

### ***Professional References***

Dr. William Blair, Professor & Chair  
Department of Mathematical Sciences  
Northern Illinois University  
DeKalb, IL 60115  
815/ 753-6725  
blare@math.niu.edu

*Dr. Blair can speak to my work ethic, as well as my teaching, research, and service*

Dr. William Speer, Interim Dean, College of Education  
Professor of Mathematics Education  
University of Nevada at Las Vegas  
Las Vegas, NV 89154  
702/895-4851  
william.speer@unlv.edu

*Dr. Speer, a Past-President of SSMA & RCML, can speak to my executive abilities and managerial skills with personnel and budgets*

Dr. Linda Sons, Professor Emeritus  
Department of Mathematical Sciences  
Northern Illinois University  
DeKalb, IL 60115  
815/753-6760  
sons@math.niu.edu

*Dr. Sons can speak to my work with diverse university personnel and program evaluation*

### ***NIU Contract Distributions***

60% Teaching & the Improvement of Teaching  
20% Scholarship & Shared Research  
20% Service Responsibilities & Contributions

### ***Contact Information***

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A complete listing of publications, presentations, service,  
grants and teaching is available upon request.