

JAMES R. OLSEN

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EDUCATIONAL BACKGROUND:

- Ph.D. in Educational Mathematics, University of Northern Colorado, Greeley, CO.
Graduation date: August 1994.
- Master of Science in Mathematics, Colorado State University, Fort Collins, CO.
Graduation date: May 1991.
- Nebraska Math Scholars Program, National Science Foundation sponsored program for high school mathematics teachers. Summers 1987, 1988.
- Master of Science in Mathematics Education, University of Nebraska at Kearney.
Graduation date: August 1984.
- Bachelor of Arts in Mathematics, Doane College, Crete, NE. Graduation date: May 1979.
Nebraska teacher certification. Teacher minor: German, Coaching endorsement.

TEACHING EXPERIENCE:

- * Western Illinois University--Professor 2004 to present Associate Professor 1999-2004; Assistant Professor, 1994-1999. Mathematics and Teaching Methods courses.
- * University of Northern Colorado--graduate teaching assistant, 1991 to 1994. Statistics, College Algebra, and Mathematics for the Liberal Arts.
- * Colorado State University--graduate teaching assistant, 1989 to 1991. Calculus, Mathematics for the Social Sciences.
- * Centura Junior-Senior High School, Cairo, NE--mathematics teacher and coach, grades 9 through 12, 1980 to 1989.
- * Seward Senior High School, Seward, NE--mathematics teacher and coach, 1979-1980.

PROFESSIONAL AFFILIATIONS:

- * National Council of Teacher of Mathematics
- * Mathematical Association of America (and Illinois Section of the MAA)
- * Illinois Council of Teachers of Mathematics (ICTM)
- * West Central Council of Teachers of Mathematics
- * Association of Mathematics Teacher Educators
- * Illinois Mathematics Association of Community Colleges (IMACC)
- * Illinois Mathematics Teacher Educators.

RECENT HONORS/AWARDS:

- * Phi Kappa Phi Honor Society induction April 2015.
- * James Armstrong Award for outstanding service to Community College Mathematics in Illinois, Support and Contributions to IMACC, and Excellence in Teaching Mathematics to Students at All Levels, Illinois Mathematics Association of Community Colleges, April 2003.
- * Professional Achievement Awards, WIU, 2004, 2008, 2011, 2014, 2017.
- * Project Kaleidoscope Faculty for the 21st Century (PKAL F21) Network Class of 1999.
- * Participant: Faculty Summer Institute on Learning Technologies, June 1998, University of Illinois-Urbana-Champaign.

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RECENT PRESENTATIONS:

- * Presentation, *Standards-Based Assessment: An Easy-to-Use SBA Quiz System*, N.C.T.M. Annual Meeting, San Antonio, TX, April 2017.
- * Presentation, The New SAT, ISMAA Annual Meeting, Glen Ellyn, IL April 2017.
- * Presentation, *Desmos: Great for Teachers and Students* at the W.I.U. Mini-Conference on Secondary Mathematics Teaching, Macomb, IL, November 2016.
- * Presentation, *Desmos and GeoGebra Updates* at the ICTM Annual Meeting, Peoria, IL, October, 2016.
- * Presentation, *STEM Through a Wind Turbine* at the ICTM Annual Meeting, Peoria, IL, October, 2016, with A. Singh, R. Mann, and K. Hartweg.
- * Workshop, *Beauty of Three Dimensional Polyhedra Workshop* at the ISMAA Annual Meeting, Jacksonville, IL, April 2016.
- * Presentation, *Standards Based Assessment* at the IMACC Annual Meeting Allerton Park, IL, April 2016.
- * Presentation, *Standards Based Assessment: An Informative Way To Assess Your Students* at the W.I.U. Mini-Conference on Secondary Mathematics Teaching, Moline, IL, November, 2015.
- * Presentation, Standards Based Grading with Tyler Van Vleet at the Illinois Council of Teachers of Mathematics (ICTM) Annual Meeting, Tinley Park, IL, October, 2015.
- * Presentation, *Mental Math (in Context) for Grades 7-10* at the ICTM Annual Meeting, Tinley Park, IL, October, 2015.
- * Workshop, *Beauty of Three Dimensional Polyhedra Workshop (in Celebration of the MAA's Centennial)* at The Mathematical Association of America (MAA) MathFest, Washington, DC, August 2015.
- * Presentation, *CCSS and PARCC: Finding the Quality Mathematics (there's plenty)* at the Illinois Section of the Mathematical Association of America (ISMAA) Annual Meeting, DeKalb, IL, March 2015.
- * Presentation, *Symbols Come to Life: Meaningful Mathematics with A-SSE* at the ICTM Annual Meeting, Tinley Park, IL, October, 2014.
- * Presentation, *24 Percent Tweets (24 Tweets on Percent)* at the ICTM Annual Meeting, Peoria, IL, October, 2013 and Illinois Mathematics Association of Community Colleges (IMACC) Annual Conference, April, 2014.
- * Presentation, *Teacher Education Session: CCSSM, PARCC, and the Model Curriculum* at the ISMAA Annual Meeting, Chicago, IL, April 2013 and April 2014 ISMAA Annual Meeting, SIU-E and IMACC Annual Conference, April, 2014.
- * Presentation, *Teaching and Practicing Mental Math Strategies in Applied and Mathematical Contexts* at the 56th Annual Math Teachers Conference at Eastern Illinois University April 2013.
- * Presentation, *Learnist – it's Like Pinterest, but Designed for Learning* showcase presentation at the Annual WIU Symposium on Teaching, Research and Creative Activities, March 2013.
- * Keynote presentation, *Common Core State Standards for Mathematics for K-6* at the Quincy Public Schools Institute Day, January 18, 2013.
- * Presentation, *A PD Model that Increases Teacher Content Knowledge of Math and Science while Modeling Inquiry and Problem-Based Teaching Methodologies*, Mathematics and Science Partnerships (MSP) Program Regional Conference, Chicago, IL, April 2012.
- * Presentation, *Common Core Math Standards and Teacher Education Session*, Illinois Section of the Mathematical Association of America (ISMAA) Annual Meeting, Bloomington, IL, March 2012.
- * Presentation, *Platonic Solids, Archimedean Solids, and Geodesic Spheres*, Illinois Mathematics Association of Community Colleges Annual Conference, Allerton Park, IL, March 2012.

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- * Presentation, *Making Sense Out of Fraction Word Problems*, Annual Western Illinois University Mathematics Teachers Conference, Macomb, IL, March 2012.
- * Presentation, *Navigating the Landscape of Fraction, Decimal, and Percent Problems: Understanding and Addressing Student Difficulties*, Illinois Council of Teachers of Mathematics Annual Meeting, Springfield, IL, presented with Joe Illichman, October 2011.
- * Presentation, *Addressing the Challenges of Murphy's Law of Fractions, Decimals, and Percents*, International Conference on College Teaching and Learning, Ponte Vedra Beach, FL, presented with Hayley Moore, April 2011.
- * Presentations, *Mental Math Decisions: Three Factors for Appropriate Use*, Illinois Council of Teachers of Mathematics, Springfield, IL, October, 2010 and National Council of Teachers of Mathematics Annual Meeting, Indianapolis, IN, April 2011.
- * Presentation, *Internet Resources for Mathematics Teaching and Learning*, 59th Annual Western Illinois University Mathematics Teachers Conference, March 2010.
- * Presentation, *Catalan Numbers and Pascal's Triangle*, with Allison McGann, Illinois Mathematics Association of Community Colleges Annual Conference, Allerton Park, IL, March 2010.
- * Presentation, *Top Ten Lists for Using Technology to Help Jr. High and High School Students Learn Mathematics*, Tech Fest, Western Illinois University, April 2010.
- * Presentations, *Linking Mental Math, Concepts, and Context in 7-12 Mathematics*, Illinois Council of Teachers of Mathematics (ICTM), Peoria, IL, October, 2009, Missouri Council of Teachers of Mathematics (MCTM), Columbia, MO, December, 2009, National Council of Teachers of Mathematics Annual Meeting, San Diego, CA, April 2010.
- * Presentations, *Rates: Problem Solving Questions to Improve Multiplicative, Proportional, and Algebraic Reasoning* at National Council of Teachers of Mathematics Annual Meeting, Washington, DC, April 2009 and ICTM, Peoria, IL, October, 2008.
- * Presentation, *Multimedia Resources*, Illinois Mathematics Association of Community Colleges Annual Conference, Allerton Park, IL, April 2008.
- * Presentations, *After School Math Games*, ICTM Annual Conference, Peoria, IL, October 2007, and Missouri Council of Teachers of Mathematics, (with Melissa Patterson) December, 2006, Columbia, MO.
- * Presentation, *Online Math Games, Demonstration/Exploration Tools, and Puzzles*, West Central Council of Teachers of Mathematics meeting, Moline, IL, February 1, 2007.
- * Presentation, *Using Internet Applets, GSP, and Other Representations to Increase Student Understanding of the Geometric Mean*, 18th Annual International Conference on Technology in Collegiate Mathematics, Orlando, FL, March 2006.
- * Presentation, *Internet Resources for the Mathematics Classroom*, Heart of Illinois Teachers of Mathematics Conference, Peoria, IL, February 2006.
- * Presentations, *A Baker's Dozen of Characterizations of the Geometric Mean and Illuminating Representations* (with Dan Gustafson) and *After School Math Games* (with Melissa Patterson), ICTM Western Regional Conference, Macomb, IL, March 2006.
- * Presentations, *Quickie Online Activities*, ICTM Regional Conference, March, 2004, Macomb, IL and Heart of Illinois Teachers of Mathematics Conference, February, 2005, Peoria, IL.
- * Presentation, *Undergraduate Research, Online Learning in an After-School Setting, and Fun Mathematics: Tying it All Together*, James Olsen and Jessica Denna, Fifteenth International Conference on College Teaching and Learning, April, 2004, Jacksonville, FL.
- * Presentations, *Some Really Cool Things Happening in Pascal's Triangle*, Heart of Illinois Teachers of Mathematics Conference, February, 2003, Peoria, IL and Illinois Mathematics Association of Community Colleges (IMACC) Annual Conference, April, 2004, Illinois Council of Teachers of Mathematics (ICTM) Annual Meeting, October, 2004; *Really Cool Things Happening II*, IMACC Annual Conference, April, 2005. *Really Cool Things Happening III*, IMACC Annual Conference, March, 2006.
- * Presentation, *Mathematics Internet Resources*, ICTM Regional Conference, Macomb, IL

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March, 2003.

- * Presentations, *Mathematical Modeling for the Real World--A New and Attractive Alternative Course for High School Seniors*, Illinois Mathematics Association of Community Colleges, April, 2003 and Illinois Council of Teachers of Mathematics Conference, October, 2003.
- * Presentation, *Mathematics Internet Resources*, at the International Conference on Technology in Collegiate Mathematics, November, 2002, Orlando, FL.
- * Presentations, *Let's Have Students Work with Rates*, at the ICTM Annual Conference, October 2002, Peoria, IL and at the National Council of Teachers of Mathematics (NCTM) Annual Meeting, April 2002, Las Vegas, NV.
- * Presentations, *A Technology Course for Prospective Mathematics Teachers*, at the 12th International Conference on College Teaching and Learning, April 2001, Jacksonville, FL and at the International Conference on Technology and Education, May 2001, Tallahassee, FL.
- * Presentation, *Early Calculus Concepts - Even For Students Not Planning to Take Calculus*, at the 45th Conference on the Teaching of Mathematics, March, 2002, Charleston, IL.

SELECTED PUBLICATIONS:

- * Olsen, J. R. (March 2015). "Five Keys for Teaching Mental Math." *Mathematics Teacher*, 108(7), 543-547. National Council of Teachers of Mathematics.
- * Olsen, J. & Gustafson, D. (2008). "A Baker's Dozen of Characterizations of the Geometric Mean and Illuminating Representations." *ON-Math*. Vol 6. National Council of Teachers of Mathematics.
- * Olsen, J. (2007). "Windows Media Encoder to Enhance Mathematics Teaching and Learning: This May be the Missing Link." *International Conference on Technology in Collegiate Mathematics Proceedings*, Boston, MA.
- * Olsen, J., Foster, J., & Patterson, M. (2007). "After School Math Games." *Illinois Mathematics Teacher*, the Official Journal of the Illinois Council of Teachers of Mathematics, Summer issue.
- * Olsen, J. & Gustafson, D. (2006). "Using Internet Applets, GSP, and Other Representations to Increase Student Understanding of the Geometric Mean," *18th Annual International Conference on Technology in Collegiate Mathematics Proceedings*, Orlando, FL.
- * Olsen, J. R. (2001). "Teaching Content via Problem Solving: Teaching for the *Illinois Learning Standards*." *Illinois Mathematics Teacher*, Vol 52, No.1, 36-39.
- * Olsen, J. R. (2001). "A Technology Course for Prospective Mathematics Teachers." *Proceedings of the International Conference on Technology and Education Proceedings* (19th, Tallahassee, Florida, May 2-5, 2001), 287-289.
- * Olsen, J. R. (2000). "Two Dynamic Function Representations to Help Students Get to the Big Three." *FOCUS On Learning Problems in Mathematics*, official journal of the Research Council on Mathematics Learning. Vol 22, No. 3 & 4, 55-66.
- * Co-Editor of the *Illinois Mathematics Teacher*, the official journal of the ICTM. Thirteen issues, November 1995 to 2001.
- * Winn, A. & Olsen, J. (1998). "The Use of Manipulatives for Mathematics Learning in Rural School Districts in Illinois." *Illinois Mathematics Teacher*, Vol 48, No.3, 10-16.

RECENT TEACHER IN-SERVICE TRAINING AND CONSULTING:

- * *Intel Mathematics Workshop* for K-8 Teachers for the iSTEM grant, Macomb, IL, July 13-17, 2015.
- * *Math Resources for Teaching, Learning, and Assessment* workshop for Farmington Jr. and Sr. High School, October 2014.

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- * *Rates, Ratios, Proportions, and Linear Functions: Algebraic Reasoning in Grades 6-9* workshop at Rock Island-ROE, October 2014.
- * Workshops: *Mathematics Workshop for K-4 Teachers/Mathematics Workshop for 5-8 Teachers: Ideas and Resources for Preparing and Equipping Students in Math (and for CCSSM and PARCC)* at LaGrange Highlands School District Institute Day, August 2014.
- * *Linking Mathematics CCSS, PARCC Sample Items, and Online Resources for Classroom Instruction* professional development teacher workshop at Stark County High School June 2014.
- * *Tasks and Resources for Preparing High School Classrooms for the PARCC Assessments (9-12)* - Teacher workshops Adkinson, IL (10/29/2013), Rock Island, IL (12/5/13), Macomb, IL (2/26/14), and Quincy, IL (4/30/14).
- * *Macomb Teacher Institute Day Workshop for Junior and Senior High Math Teachers* Macomb, IL January 2014.
- * *Increasing Mathematical Understanding for the Common Core - Number Sense and Fractions* teacher in-service workshops Quincy, IL (4/12/13), Macomb, IL (1/30/13), Moline, IL (1/25/2013), Monmouth, IL (10/19/2012), and Atkinson, IL (9/21/2012).
- * *Resources and Updates for the CCSSM, PARCC, and the iPad* – teacher workshop for West Prairie School on November, 2012.
- * *Common Core State Standards for Mathematics - Module 4-6 Training* teacher in-service workshop, LaSalle County Institute Day, Ottawa, IL, October 2012.
- * *Common Core State Standards for Mathematics Overview and Resources* teacher in-service workshop, August 2012, Immaculate Conception School, Monmouth, IL.
- * *Western Illinois Mathematics Teacher Transformation Institute (WI-MTTI)* two-week workshops for secondary mathematics teachers, Western Illinois University, July 2012 and July 2013.
- * *Integrating Mathematical Practices And Classroom Teaching (IMPACT)* summer institutes and school year follow-up teacher in-service workshops, Moline, IL, 2012-2013.
- * *Modeling and the Common Core (MACC)* summer institute, Atkinson, IL, summer 2012.
- * *Western Illinois Teacher Transformation Institute (WI-MTTI)* school year follow-up teacher in-service workshops, Macomb, IL, 2012-2014.
- * *Keys for Teaching Mental Math in Secondary Mathematics (7-12): A Compressive Look*, teacher in-service workshops, November 2011, Atkinson ROE #28, Atkinson, IL and February 2012, Macomb ROE #26, Macomb, IL.
- * *Internet Resources for 7-12 Mathematics Teaching and Learning*, workshop at the Rock Island Regional Office of Education, Moline, IL, March 2010.
- * 21st Century Skills Grant Project, Bureau, Henry, Stark Regional Office of Education workshops, Atkinson, IL, June 2010 and June 2011.
- * *Using Interactive Whiteboards in the 6-12 Mathematics Classroom*, workshop at the Bureau, Henry, Stark Regional Office of Education, Atkinson, IL, November 2010.
- * ISAMS Grant Project, Improving Student Achievement in Mathematics and Science, summer teacher workshops and summer student academies, United Township High School, East Moline, IL, June and July, 2004, 2005, and 2006, Kewanee High School, June and August 2007, 2008, and 2009.
- * Northwestern Illinois Math & Science Partnership summer professional development courses for teachers, Rock Island R.O.E. 2007, 2008, 2009, 2010 and 2011.
- * Ratios, Rates, Proportions, and Generalizing “ $d=rt$ ”: Helping Students Become Mathematically Savvy for Success from Jr. High Math through the PSAE WorkKeys. Professional development workshop, Monmouth, IL, April 2008.
- * Northwestern Illinois Math & Science Partnership Action Research Workshops fall 2005, 2006, 2007, 2008, and 2009.
- * ISAMS Grant Project, Calculator workshop for middle school and high school teachers. Kewanee High School, Kewanee, IL, September 2007.

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- * Presentation & workshop, Mathematics and the Holidays, West Central Council of Teachers of Mathematics, Galesburg, IL, November 2005.
- * Project INQUIRE, Content Area Mentor, Two Rivers Professional Development Center, 2004-2005.
 - * Content Advisory Committee, Illinois State Board of Education, 2003-2004.
 - * Mathematical Modeling for the Real World, five workshops, January - May 2003.
- * Teacher Institute Day, Knox-Henderson, Mercer and Warren Counties, March 1, 2002.
- * Teacher Institute Day, Peoria Public Schools, November 21, 2001.
- * Alignment of the Abingdon K-12 mathematics curriculum to the Illinois Learning Standards, 2000-2001.
- * Tri-County Mathematics Performance Assessment-Achievement Connection - K-8 staff development, 2000-2001, I.S.B.E. Scientific Literacy Grant.
- * Writing In Mathematics for Grades 7-12, Bushnell-Prairie City High School, February 2001.
- * P-16 Partnership For Teacher and Student Achievement, funded through a grant from the Illinois State Board of Education to the Regional Office of Education #26 (Hancock/McDonough counties), instructor, 1997-2000.

RECENT GRANTS AND UNDERGRADUATE RESEARCH SUPERVISION:

- * Grant: *Title II Teacher Quality- Leadership Grant* (Race to the Top- teacher preparation program redesign project) from the Illinois State Board of Education \$26,124 in 2014 (January 2014 through December 2015).
- * *Seventh Grade Mental Math Curriculum*, 2014-2015, Meghan Hoyle, WIU Sophomore.
- * *Mental Math in the Secondary Classroom: Its Importance, a Less-than-stellar (U.S.) Track Record, and Strategies for Teaching*, Fall 2014, Math 444 project, Charlotte Wilson, WIU Senior.
- * Grant: *Western Illinois Mathematics Teacher Transformation Institute (WI-MTTI)* grant, \$280,000 from the Illinois State Board of Education (Math-Science Partnership). Co-authored with Sebastian Szyjka, 2012-2013.
- * *PFD (Percents, Fractions, and Decimals) Boot Camp*, Spring 2010 - Spring 2011, Hayley Moore, WIU junior. Spring 2011 – Fall 2011, Joe Illichman, WIU junior.
- * *RATES: Activities for Improving Multiplicative, Proportional, and Algebraic Reasoning for the ISAT, PSAE, and Life*, Spring 2008, Kirsten Goranson, WIU junior.
- * *Pascal's Triangle and Catalan Numbers*, Spring 2010, Allison McGann, WIU senior.
- * *Using the Geometric Mean to Improve Mathematical Understanding by Connecting a Variety of Mathematical Concepts, Representations, and Applications*, Fall 2005, Dan Gustafson, WIU senior.
- * *Implementing After-School Math Games in an Online Environment*, Fall 2005, Melissa Patterson, WIU junior.
- * *Using Technology to Enhance Mathematical Understanding in an After School Program*, Fall 2003, Jessica Denna, WIU junior.
- * *An Investigation of How Significant and Beautiful Mathematical Relationships From Pascal's Triangle Can Be Made Meaningful to Elementary, Middle School, and High School Students Through Problem Solving and Visualization*, 2002-2003, Kris Fennell, WIU junior.
- * Grant: Lesson Study Grant, \$30,000, January 2002 - August 2002.
- * Grant: Tri-County Mathematics Performance Assessment-Achievement Connection (MPAAC), \$65,000, September 2000 - August 2001.

W.I.U. SERVICE: 2016-2017

- * UCEP - University Committee for Education Preparation
- * Mathematics Education Committee
- * SEDG - Secondary Education Discussion Group
- * High School Relations Committee

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- * Department Curriculum Committee
- * Mathematics Resource Office Coordinator

Ph.D. DISSERTATION ADVISOR:

- * William W. Bosch, Ph.D., University of Northern Colorado.

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