

JEFFREY C. SHIH

4505 Maryland Parkway, Box 453005
Las Vegas, NV 89154-3005
jshih@unlv.nevada.edu

(702) 895-4984

Employment history:

University of Nevada, Las Vegas
Department of Curriculum & Instruction
Associate Professor, Elementary Mathematics Education
7/05 - present

University of Nevada, Las Vegas
Center for Evaluation and Assessment
Senior Scientist
1/04 - present

University of Nevada, Las Vegas
Department of Curriculum & Instruction
Assistant Professor, Elementary Mathematics Education
8/99- 7/05

Education history:

UCLA
Graduate School of Education & Information Studies
Ph.D., Social Research Methodology, June 1999
Dissertation title: "Building a model of fractions knowledge: Learning from existing fractions tasks"

University of California, Berkeley
B.A., Statistics,
Minor: Physics, May 1992

Awards:

2006 UNLV College of Education Outstanding Service Award

2005 UNLV College of Sciences Mathematics and Science Education
Achievement Award

Funded projects:

- Shih, J. (1/06 – 9/07). Teachers Collaborating with Teachers about Children’s Mathematics (TCTCM). Funding provided by the United States Department of Education to scale up professional development in mathematics at high need schools using teacher leaders (\$108,668).
- Shih, J. (7/04 – 9/06). Expanding the Focus on Mathematical Understanding through Assessment. Funding provided by the United States Department of Education to expand professional development that focuses on assessment for in service teachers at high-need schools to multiple grades (\$85,453).
- Shih, J. (7/03 – 9/05). Continuing to Focus on Mathematical Understanding through Assessment. Funding provided by the United States Department of Education to continue to provide professional development that focuses on assessment for in service teachers at high-need schools (\$101,223).
- Shih, J. (1/03 – 9/04). Developing Mathematical Understanding Through Sustained, Site-Based Professional Development. Funding provided by the United States Department of Education to continue to provide professional development for inservice teachers that focuses on Nevada content and process standards (\$63,906).
- Shih, J. (1/03 – 9/04). Algebra for All: The Collaborative Study of Computer-based Algebra Curricula. Funding provided by the United States Department of Education to study the evaluation of and support for computer-based algebra curricula (\$69,506).
- Shih, J. (7/01- 9/03). The Collaborative Development of Assessments of Mathematical Understanding. Funding provided by the Dwight D. Eisenhower Professional Development Program to provide professional development for pre- and inservice teachers and develop assessments of children's mathematical understanding (\$37,324).
- Shih, J., Borla, K., Adams, M., & White, N. (6/03- 9/03). Bringing Digital Video to the Mathematics Classroom. PT3 Mini-grant funded by Project THREAD to incorporate digital video of local children in elementary mathematics methods (\$3,000).
- Shih, J. (7/01- 9/02). Using Student Work to Focus on the Nevada Mathematics Standards. Funding provided by the Dwight D. Eisenhower Professional Development Program to provide professional development for pre- and inservice elementary school teachers in both content and pedagogy reflected in the Nevada Mathematics Standards (\$15, 258).

Shih, J., Adams, M., & Postlewait, K. (6/01- 9/01). Development of Technology Module for Elementary Mathematics Methods. PT3 Mini-grant funded by Project THREAD to design a technology module for faculty to use with elementary mathematics methods (\$3,000).

Shih, J. (8/00-6/02). Integrating Mathematics and Science Education. Funding provided by the American Association of Colleges of Pharmacy to develop integrated mathematics and science tasks for pre-service teachers (\$12,000).

Olafson, L., Shih, J., Quinn, L., Hartley, K., & Bendixen, L. (7/00-6/01). Performance Assessment: Research & Development Initiative. Funding provided by the University of Nevada, Las Vegas to implement performance assessments in the preparation of teachers (\$29,625).

Publications

Tarr, J.E., Reys, R.E., Reys, B.J., Chavez, O., Shih, J. C., & Osterlind, S. J. (2008). The Impact of Middle Grades Mathematics Curricula and the Classroom Learning Environment on Student Achievement. Journal for Research in Mathematics Education, 39, 247-280.

Davis, J. & Shih, J.C. (2007). Secondary Options and Post-secondary Expectations: Standards-based Mathematics Programs and Student Achievement on College Mathematics Placement Exams. School Science and Mathematics, 107 (8), 336-346.

Franke, M.L, Kazemi, E., Shih, J. C., Biagetti, S.C., & Battey, D. (2005). Changing teachers' professional work in mathematics: One school's journey. In T. Romberg, T. Carpenter & F. Dremock (Eds.) Understanding Mathematics and Science Matters. Hillside, NJ: Lawrence Erlbaum, 209-230.

Shih, J. C., Olafson, L., & Navarrete, L. (2005). Adapting to meet the needs of a growing, urban school district. In P. Jenlink and K. Mayo (Eds.), Portraits of teacher preparation: Learning to teach in a changing America. Lanham, MD: Scarecrow Publishing, 175-197.

Shih, J. C. & Giorgis, C. (2004). Enlightening Preservice Teachers to the Potential of Integrating Mathematics and Children's Literature. Teaching Children Mathematics, 10 (6), 328-333.

Postlewait, K. B., Adams, M. R., & Shih, J. C. (2003). Instructional practices that encourage children's development of composition of number. Teaching Children Mathematics, 9(6), 354-357.

- Shih, J. C. & Ratiu, J. (2002). Developing Understanding of Equivalence Using Fair Sharing. In G. Bright and B. Litwiller (Eds.), Classroom Activities for Making Sense of Fractions, Ratios, and Proportions: 2002 Yearbook (pp. 2-4). Reston, VA: National Council of Teachers of Mathematics.
- Shih, J. C. (2002). Using Online Discussion Forums to Develop Teachers' Understanding of Students' Mathematical Thinking. Proceedings of the annual meeting of the Society for Information Technology and Teacher Education, Nashville, TN.
- Olafson, L., Bendixen, L., Shih, J.C., Hartley, K., Quinn, L., & Schroeder, M. (2002). Successes and struggles in the development of performance assessments. In E. Guyton & J. Rainer (Eds.), Research on meeting and using standards in the preparation of teachers (pp. 157-171). Dubuque, IA: Kendall/Hunt.
- Shih, J. C. (2000). Investigating preservice teachers' solution strategies of equivalence items. Proceedings of the annual meeting of the Psychology of Mathematics Education, Tucson, AZ.
- Kafai, Y. B., Franke, M., Ching, C., & Shih, J. (1998). Games as interactive learning environments fostering teachers and students' mathematical thinking. International Journal of Computers for Mathematical Learning, 3(2), 149-193.
- Franke, M. L., Shih, J. C., Kazemi, E., & Biagetti, S. C. (1998). Cases as contexts for teacher learning. Proceedings of the annual meeting of the Psychology of Mathematics Education, Raleigh, NC.
- Kafai, Y. B., Franke, M. L., Shih, J. C. and Ching, C. C. (1998). Using conceptual design tools to foster learning in the game design environment. Proceedings of the annual meeting of the Psychology of Mathematics Education, Raleigh, NC.
- Muthen, B., Huang, L. C., Jo, B., Khoo, S. T., Nelson Goff, G., Novak, J., & Shih, J. (1995). Opportunity-to-learn effects on achievement: Analytical aspects. Educational Evaluation and Policy Analysis, 17(3), 371-403.

Submissions and Manuscripts in Progress

- Hill, H. & Shih, J. C. (accepted) Research Commentary: Examining the Quality of Quantitative Mathematics Education Research. Journal for Research in Mathematics Education.

Presentations

- Davis, J. & Shih, J. Research Connections between Secondary School and College Mathematics Achievement. (April, 2008). Presentation at the Research Pre-session of the Annual Meeting of the National Council of Teachers of Mathematics, Salt Lake City, UT.
- Cai, J., Moyer, J., Bikai, N., Shih, J., Wang, N., & Earle, J. (April, 2008). A Longitudinal Investigation of Curricular Effect on Algebra Learning. Research Symposium at the Research Pre-session of the Annual Meeting of the National Council of Teachers of Mathematics, Salt Lake City, UT.
- D'Ambrosio, B., Esty, E., Heid, M.K., Hill, H., Kastberg, S., Klooseterman, P., Mewborn, D., Moss, J., Shih, J., Sztajn, P., & Lloyd, G. Getting Published: Conversations with JRME Panel Members. Work session at the Research Pre-session of the Annual Meeting of the National Council of Teachers of Mathematics, Salt Lake City, UT.
- Shih, J.C. (October, 2007). Learn / Reflect Reflection Session. Presentation at the regional meeting of the National Council of Teachers of Mathematics, Kansas City, MO.
- Shih, J. C. (May, 2007). Research Design in Large-Sample Studies of Students' Math Achievement. Invited presentation at the Center for the Study of Mathematics Curriculum (CSMC) Graduate Student Research Institute, Columbia, MO.
- Shih, J. C., Chavez, O., Tarr, J.E. (April, 2007). Examining the Influence of NSF Curricula and Standards-Based Learning Environments on Content-Specific Mathematics Achievement. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Shih, J. C., Chavez, O., Tarr, J.E., Reys, R. E., and Reys, B. J. (April, 2006). Design, Data, and Analysis Issues in Evaluating Mathematics Curricula. Poster presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Tarr, J. E., Reys, R. E., Chavez, O., Shih, J. C., Confrey, J., and Silver, E. A. (April, 2006). A Longitudinal Study of Mathematics Curriculum and Student Achievement. Paper presented at the research pre-session of the National Council of Teachers of Mathematics, St. Louis, MS.
- Adams, M., Shih, J. & Borla, K. (April, 2005). Number Concept Assessment Project: Examining Students' Assessments in Number. Paper presented at the annual meeting of the National Council of Teachers of Mathematics, Anaheim, CA.

- Klockow, J., Olafson, L., & Shih, J. (April, 2005). Promoting Teacher Development: Exploring the Relationship Between Reflective Thought and Mathematical Pedagogy. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- Shih, J., Olafson, L., & Klockow, J. (April, 2004). Using a Change Process Research Measure to Assess the Effectiveness of Professional Development. Roundtable presentation at the annual meeting of the American Educational Research Association, San Diego, CA.
- Klockow, J., Olafson, L., & Shih, J. (April, 2004). Our Kids Can't Learn: Teachers' Perceived Barriers to Professional Development. Roundtable presentation at the annual meeting of the American Educational Research Association, San Diego, CA.
- MacDonald, L., Inukai-Center, S., & Shih, J. (April, 2004). Sustaining Professional Development Using a Collaborative Model. Presentation at the annual meeting of the National Council of Supervisors of Mathematics, Philadelphia, PA.
- Shih, J. (February, 2004). Equality and Relational Thinking in the Elementary Grades. Presentation at the annual meeting of the Southern Nevada Mathematics Council, Las Vegas, NV.
- Shih, J. & Hernon, C. (May, 2003). Developing Children's Conceptions of Equality. Presentation at the annual meeting of the Southern Nevada Mathematics Council, Las Vegas, NV.
- Shih, J. & Yang, C.C. (April, 2003). Contextual Factors that Influence the Incorporation of Performance Assessment in Taiwan and the United States. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Shih, J. (March, 2003). Using Number Sentences to Develop Teachers' Understanding of Relational Thinking. Paper presented at the annual meeting of the Research Council on Mathematics Learning, Tempe, AZ.
- Speer, W., Shih, J., Govett, A., Crippen, K., & Hernon, C. (March, 2003). Integrating Mathematics and Science Methods – We're in This Together. Panel presentation at the annual meeting of the Research Council on Mathematics Learning, Tempe, AZ.
- Shih, J. (August, 2002). A Mathematics Learning Community at Work. Presentation at the annual meeting of the Nevada Leadership Academy, Reno, NV.

- Shih, J. & Yang, C.C. (April, 2002). Cross-Cultural Perspectives of Incorporating Performance Assessment into Teacher Education. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Shih, J. & Giorgis, C. (April, 2002). Creating an Awareness of the Potential for Integrating Mathematics and Children's Literature. Paper presented at the annual meeting of the National Council of Teachers of Mathematics, Las Vegas, NV.
- Shih, J. (March, 2002). Using Online Discussion Forums to Develop Teachers' Understanding of Students' Mathematical Thinking. Paper presented at the annual meeting of the Society for Information Technology and Teacher Education, Nashville, TN.
- Shih, J & Govett, A. (2001, November). The Impact of Integrated Science and Mathematics Methods. Paper presented at the annual meeting of the School Science and Mathematics Association, Downer's Grove, IL.
- Shih, J., Olafson, L., Bendixen, L., Hartley, K., & Quinn, L. (2001, April). Incorporating performance assessment in a teacher education program. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.
- Franke, M.L., Kazemi, E., Biagetti, S.C., & Shih, J.C. (2001, April). Changing teachers' professional work in mathematics: One school's journey. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.
- Shih, J. (2001, March). The influence of representation on preservice teachers' knowledge of fractions. Paper presented at the annual meeting of the Research Council on Mathematics Learning, Las Vegas, NV.
- Shih, J. (2001, February). Students' conceptions of number sentences and the equals sign. Paper presented at the annual meeting of the Southern Nevada Mathematics Council, Las Vegas, NV.
- Olafson, L., Bendixen, L., Hartley, K., Shih, J., & Quinn, L. (2001, February). Evaluating performance assessments. Paper presented at the annual meeting of the Association of Teacher Educators, New Orleans, LA.
- Shih, J. (2000, October). Investigating preservice teachers' solution strategies of equivalence items. Paper presented at the annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Tucson, AZ.
- Olafson, L., Shih, J., Quinn, L., Hartley, K., & Bendixen, L. (2000, August). Encouraging best practice by implementing performance-based standards in university courses. Paper presented at the Association of Teacher Educators Summer Conference, Ottawa, Canada.

- Shih, J. (2000, April). Bringing together multiple perspectives in the understanding of fractions. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Franke, M., Shih, J., Biagetti, S., Kazemi, E., & Isken, J. (2000, April). Teacher learning through students' mathematical thinking: A systematic study of two professional development approaches. Roundtable session presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Shih, J., Franke, M., Kazemi, E., & Biagetti, S. (2000, March). The development of children's mathematical thinking: From addition to algebra. Paper presented at the annual meeting of the Research Council on Mathematics Learning, Las Vegas, NV.
- Shih, J. (2000, February). A conceptual approach to teaching fractions. Presented at the annual meeting of the Southern Nevada Mathematics Council, Las Vegas, NV.
- Shih, J. (1999, November). Research and practice: Teaching fractions for understanding. Presented at the annual meeting of the California Mathematics Council- Southern Section, Palm Springs, CA.
- Shih, J. (1999, April). Learning about preservice teachers' fractions knowledge using buggy algorithms. Roundtable session presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- Franke, M., Shih, J., Kazemi, E., and Biagetti, S. (1998, October). Opportunities for generative change: the case of one urban school. Paper presented at the annual meeting of the Psychology of Mathematics Education, Raleigh, NC.
- Kafai, Y., Franke, M., Shih, J., and Ching, C. (1998, October). Using conceptual design tools to foster learning in the game design environment. Paper presented at the annual meeting of the Psychology of Mathematics Education, Raleigh, NC.
- Franke, M., Biagetti, S., Kazemi, E., & Shih, J. (1998, April). Placing cases in the context of teacher change. Paper presented at the annual meeting of the American Educational Research Association, San Diego.
- Shih, J. & Kriegler, S. (1997, November). Patterns and functions in preservice mathematics classes. Presentation at the Annual Fall Conference of the California Mathematics Council- South, Palm Springs, CA.
- Franke, M. & Shih, J. (1997, May). Listening to children's mathematical thinking. Presentation at the annual Center X conference: Integrating research and practice, Los Angeles, CA.

- Franke, M., Shih, J., Biagetti, S., & Salmon, J. (1997, March). Preservice teachers' voices as a context for discussing knowledge of fractions. Poster session presented at the meeting of the American Educational Research Association, Chicago, IL.
- Franke, M., Kafai, Y., & Shih, J. (1997, March). Preservice teachers' conceptions of learning through making games. In Yasmin Kafai (Chair), Games as meaningful contexts for students' and teachers' mathematical thinking and learning. Symposium conducted at the meeting of the American Educational Research Association, Chicago, IL.
- Shih, J. & Curran, P.J. (1996, April). Latent growth modeling of multidimensional mathematics achievement. In Bengt Muthen (Chair), Methodological advances in longitudinal modeling. Symposium conducted at the meeting of the American Educational Research Association, New York, NY.
- Webb, N., Shih, J., Baxter, G., & Thompson, L. (1994, March). Teachers' grouping practices in elementary school science. Poster session presented at the meeting of the American Educational Research Association, New Orleans, LA.

Teaching Experience

University of Nevada, Las Vegas (Fall, 1999 – present)

Teaching Elementary School Mathematics, ICE 452/652, EDEL 433

Fall, 2008 (2 sections)

Spring, 2008

Fall, 2007 (2 sections)

Spring, 2007

Fall, 2006 (2 sections)

Fall, 2005

Fall, 2002 (2 sections)

Spring, 2002

Fall, 2001

Fall, 2000

Spring, 2000 (3 sections)

Fall, 1999 (2 sections)

Teaching Elementary School Mathematics, ICE 452,

Paradise Professional Development School Cohort

Fall, 2001

Fall, 2000 - Spring, 2001

Technology in K-8 Mathematics, CIG 727 / ICE 715

Spring, 2008, 2007, 2006, 2005, 2004, 2002

Seminar in Curriculum and Instruction: Mathematics, ICG 772

Fall, 2003

Principles of Mathematics Learning, ICG 750

Spring, 2003

Spring, 2001

Topics in Elementary School Mathematics, ICE 713

Summer, 2000 – Summer 2006

Instructional Methods in Elementary School Mathematics, ICE 714

Fall, 2000

Research Methods, EPY 702

Summer, 2000

Cal State, Los Angeles

Statistics in Education (2 sections)

Spring, 1999

Professional Affiliations & Activities

- Appointed Positions:
 - Program Coordinator, Nevada Collaborative Teaching Improvement Program, 2007- present
 - Journal for Research in Mathematics Education (JRME) Editorial Board, 2007- present
 - Guest Editor, Middle Grades Research Journal, 2009 Middle School Mathematics Focus Issue
 - American Educational Research Association, Outstanding Book Award Committee Chair, 2007- 2009
 - National Council of Teachers of Mathematics 2008 Annual Conference, Program Committee
 - National Council of Teachers of Mathematics, 2007 Kansas City Regional Conference, Program Committee
 - American Educational Research Association, Outstanding Book Award Committee Member, 2006-2007
 - Research Council on Mathematics Learning co-Program Chair, 2006 Annual Conference
 - Research Council on Mathematics Learning, Program Committee (2005-2007)
 - National Council of Teachers of Mathematics 2002 Annual Conference Technology Committee Chair
 - American Educational Research Association, Special Interest Group: Research in Mathematics Education Electronic Communications Secretary (2001-2003)
 - Research Council on Mathematics Learning Annual Conference Technology Coordinator (2001)
 - School Science and Mathematics Association Membership Committee (2003-2004)
 - Nevada Mathematics Council University Representative (2003- present)
 - Southern Nevada Mathematics Council University Representative (2001-present)
 - University Consultant: MASE K-5 Using Technology NSF grant (2000-present)
 - Nevada Chapter of the American Statistical Association liaison to the Southern Nevada Mathematics Council (2003-present)

- Membership in:
 - American Educational Research Association, Special Interest Group: Research in Mathematics Education
 - National Council of Teachers of Mathematics
 - Research Council on Mathematics Learning
 - School Science and Mathematics Association
 - North American Chapter of Psychology of Mathematics Education

- Nevada Mathematics Council
- Southern Nevada Mathematics Council
- Nevada Chapter of the American Statistical Association

- Manuscript Reviewer:
 - Journal for Research in Mathematics Education
 - Curriculum and Instruction
 - American Educational Research Association, Special Interest Group: Research in Mathematics Education
 - American Educational Research Association, Division C, Learning and Instruction
 - American Educational Research Association, Division D Measurement and Research Methodology
 - North American Chapter of the Psychology of Mathematics Education

- Professional Development with teachers:
 - Jay Jeffers Elementary School, 2004- present.
 - Steve Cozine Elementary School, 2004- present.
 - I. J. Earl Elementary School, 2002- present.
 - Paradise Elementary School, 2000- present.
 - Walter Long Elementary School, 2000- present
 - Tom Williams Elementary School, 2003- 2005.
 - Elbert Edwards Elementary School, 2002- 2005.
 - Matt Kelly Elementary School, 2002- 2005.
 - Ann Lynch Elementary School, 2002- 2004.
 - Myrtle Tate Elementary School, 2002- 2005.
 - James Cashman Middle School, 2002- 2005.
 - Dell Robison Middle School, 2002- 2005.
 - J. D. Smith Middle School, 2002- 2004.
 - Marion Earl Elementary School, 2000- 2001.
 - Loreto Street Elementary School, 1998- 2001.
 - Moffett Elementary School, 1996- 2001.
 - Ruby Thomas Elementary School, 1999.
 - University Elementary School, 1996-1999.
 - Will Rogers Elementary School, 1998- 1999.
 - Jefferson Elementary School, 1995-1996.