

## CURRICULUM VITAE 2018

**Dr. Karin M. Wiburg**

**Distinguished Professor**, Learning Design and Technology  
**Researcher**, Institute for Excel in Math and Science Education

College of Education

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### EDUCATION

<b>Post-doctoral Research</b> Laboratory for Comparative Human Cognition University of California at San Diego	1987-88
University/Public School International Research with Dr. Gerald Balzano, Professor Emeritus	
<b>Ed.D., Curriculum &amp; Instruction</b> , U. S. International University (now Alliance International Univ) Specialization: Instructional Technology	1987
<b>Dissertation:</b> <i>The Effect of Three Different Computer-based Learning Environments on Fourth Grade Students' Cognitive Abilities</i>	
<b>M.Ed. Educational Psychology</b> , University of Washington Specializations: Cognitive Psychology, Licensed Counselor, Washington State	1980
<b>B.A. History</b> , University of Washington Minors: education, art, social sciences	1969
<b>Arts and Sciences</b> , University of California at San Diego	1963-68

### CERTIFICATES

California Professional Teaching Certificate, Multiple-subject K-12	1985
California Administrative Certificate, Clear	1985
Washington Administrative Certificate, K-12	1984
Washington Teaching Certificate, K-12	1977

### AWARDS RECEIVED DURING MY TENURE AT NMSU

University Research Council Award for <i>Exceptional Achievement</i>	2016
Selected for 2019 Albert Nelson Marquis <i>Who's Who in America</i>	2019
<i>Research Achievement Award</i>	2016
NSF <i>Teaching and Learning AERA Showcase Award</i> , Washington D.C.	2015
New Mexico <i>Technology Council Award – Women in Technology</i>	2014
<i>Research Achievement Awards</i>	2014 and 2013
<i>Millionaire Award</i> (These are for a million in grants in one year)	2010
<i>Millionaire Award</i> for Research	2009
<i>Innovate-Educate Lifetime Achievement Award</i> for Commitment to the Education of New Mexico's Students	2009
<i>Millionaire Awards</i> for Research	2008 and 2007
<i>Distinguished Achievement Professor Award</i> NMSU	2007
<i>New Mexico Council of Teachers of Mathematics- Lifetime Membership</i>	2005

## UNIVERSITY TEACHING AND EDUCATIONAL ADMINISTRATION

### **Distinguished Professor, Learning Design and Technology, College of Education, New Mexico State University** 2013 -present

Dr. Karin M. Wiburg returned to a faculty position in Fall 2013 to focus specifically on research, teaching, and the coordination of an evolving STEM education and research program in O'Donnell Hall- G46.. She remained the **Director** of the Institute of Equity/Excellence in Math and Science Education (IEMSE) until January 2017, when this organization expanded beyond the scope of an unpaid director to over 40 math and science specialists and administrators. All STEM projects are now supervised by Associate Dean, Dr. Susan Brown (subrown@nmsu.edu)/

### **Associate Dean for Research** 2004- 2013 College of Education, New Mexico State University

In charge of all research development for the College of Education, as well as college budget director from 2004 to 2007. From 2004-2013, Wiburg facilitated the development of a research agenda for the college, as well as assisted faculty in getting secured research funding. From 2008 to 2013 the college had increases in grant expenditures and proposal submissions up to \$12 million in expenditures. In 2010 Wiburg began to create a Research Center that connected research, outreach and academics in the College of Education. She mentored all new faculty, with a focus on building their research agendas and careers. She formed multiple partnerships with other colleges, other universities, and business and government organizations to develop funded projects. During her tenure, NMSU's College of Education research portfolio grew from one to five National Science Foundation (NSF) Grants, often in collaboration with the College of Arts and Sciences, College of Engineering, and the College of Agriculture, Consumer and Environmental Sciences' Learning Games Lab. Wiburg spent 25% of her time on her own research in mathematics learning with technology during her associate deanship. She also taught classes when possible including Technology, Society, and Education. .

### **Professor, Learning Technologies** 1993-2004 Department of Curriculum & Instruction, New Mexico State University

#### *Coordinator, Learning Technologies*

Developed and coordinated a graduate concentration within Curriculum & Instruction focused on the integration of technology with curriculum and learning (EDLT). Taught graduate courses in curriculum and instruction, learning and educational technology. Advised graduate students and supervised multiple doctoral dissertations (See Addendum). Wrote major grants, which assisted faculty in the college and in partnering school districts to integrate technology with teaching. Served on College of Education and University committees including search committees, College Council (faculty governance body), Chair of the College Technology Committee, and NCATE chair on technology integration in teacher education.

### **Grant Writer, Researcher and Evaluator-Overview** 1994- July,2018

Wrote and received over \$25 million in grants during Wiburg's 25 years at NMSU. Most of these grants were related to research and outreach in technology-based learning environments in the fields of mathematics, science, literacy, and English Language Learning. The context for these grants includes both K-12 and university settings. From 1999-2003, Wiburg directed MathStar, a Department of Education funded project designed to improve middle school students' mathematics achievement and teacher professional quality. Evaluator 2002-2005 on a national Preparing Tomorrow's Teachers Today (PT3) Catalyst Grant, Linking Learning and Leading, under the direction of Sheila Cassidy CEO for Wexford, Inc. Since 2005, Wiburg has written and

received numerous additional grants, primarily involving mathematics education and technology use, and has served as a P.I. or Lead Researcher on five National Science Foundation (NSF) Grants, retiring from the most recent Grant NSF Game Development in March, 2018.

## **UNIVERSITY CURRICULUM DEVELOPMENT AND TEACHING**

Wiburg came to NSMU in Summer 1993 to serve as a faculty member to integrate technology with teacher education in the Department of Curriculum and Instruction. Within three years she had developed, gotten approval for, and implemented two Masters Programs in Learning Technologies, one Online and one Face-to-Face. . By 1997 she had developed, gotten approval for, and implemented a Doctoral Concentration in Learning Technologies, which is currently a Concentration in **Learning Design and Technology (LDT)** coordinated now by Dr. Julia Parra (juparra@nmsu.edu) In 2017 the faculty moved to offering one **Masters Program** that includes a **certificate in Online Teaching and Learning** and is offered as a **blended** program. The concentration in Learning Design and Technology is the largest concentration in the C&I Department and has a strong record of sustained enrollment and graduation.

Beginning in 2003-2004 Wiburg and Dr. Susan Brown, currently Associate Dean for Research and Director of the STEM Institute, developed and facilitated a Masters of Teaching in Science and Mathematics (MAT) which has graduated around 140 students in the C&I Department. This graduate program has been supported by the Los Alamos Foundation and other district funding sources and remains for use today as an MAT in STEM. Wiburg also worked with Dr. Brown and Associate Research Dean Rick Scott in 2001 to form a new STEM organization, *Institute for Excellence/Equity in Math and Science Education (IEMSE)* to support math, science and technology education, outreach and research. This program has continued to grow into a very successful STEM grant and research organization with approximately 14 million in continuing grants at the present time.

### **Courses Designed and Taught at NMSU:**

EDUC 110 – Computers in Education  
EDUC 360- Computers in Education for Teaching  
EDLT 368 – Integrating Technology and Teaching  
EDUC 604- The Pedagogy of Learning for a Diverse Society  
EDUC 598 – Instructional Design with Technology  
EDUC 610 – Technology, Society and Educational Change  
EDLT 607 - Current Research in Learning and Technology  
EDUC 603 – Curriculum for a Diverse Society  
EDLT 522 – Technology and Language Learning (often in collaboration with a TESOL class)  
EDUC 568 –Technology and Teaching  
EDUC 612 – Internships in Learning Design &Technology (apprenticeships on Tech & Research  
EDLT 694 – Qualitative Dissertation Design  
EDUC 608- Qualitative Research  
EDUC 605 –Theoretical Frameworks for Research (for the online C&I cohort, Quality Matters)  
EDLT 574- -Grant Writing and Resource Development  
EDUC 700 –Dissertation Hours (I have taught hundreds of 700 hours and graduated over 29 doctoral students)

Over the last five years Wiburg has mostly taught research, learning, learning design and tech courses. She now has a GAMES Research and Evaluation Lab (Room 46 in O'Donnell Hall) which provides additional design tools for graduate students in LDT and Math Education. She is a popular teacher and sought-after advisor. Her teaching ratings are generally between 4.5 and 5 on a 5 point evaluation scale where 5 is the top rating

Prior to Teaching at NMSU, Wiburg taught Cognitive Psychology courses and supervised and taught Teacher Education Students in San Diego, California at Alliance International University, formerly Cal Western and U.S. International University

**INTERNATIONAL WORK:** Wiburg has worked with many international students since becoming an assistant professor at the U.S. International University over 30 years ago. She has taught in the following: Teaching International Teachers for Two summers in London, England 1989 and 1990; TESOL Masters students in Brazil in January 2001; high school students in Chihuahua, Mexico in Fall 1999. She enjoys working with international students, who seek her out as an advisor and doctoral chair.

### **RESEARCH AGENDA, PUBLICATIONS AND PRESENTATIONS**

Wiburg's research has involved the development, implementation, and evaluation of technology-integrated learning environments with a focus on English Language Learning and Science, Technology, Engineering and Mathematics (STEM) education. Recently she has begun working with augmented reality, embodied learning, as a learning tool and a tool to create distance access for students. For the last eight years she has served as P.I. on two National Science Foundation Grants on the design, implementation, and research of Math Snacks games and inquiry teaching support materials ( 200x-2018) which have a demonstrated positive effect on Intermediate and Middle School Math students. (Research report on [www.mathsnacks.com](http://www.mathsnacks.com))Wiburg has written four books, and is working on a new book in mathematics foundations for student success. She has multiple refereed articles in the areas of learning design with technology, educational change and reform, and STEM education. She has served as a curriculum designer and developer for various projects including design for technology-enhanced learning environments. She has also worked as a *project evaluator* for various projects since 2002. The following lists selected publications and presentations.

#### **Editor**

- Research Windows Editor, *Learning and Leading with Technology* 1993-1996  
Published by ISTE (International Society for Technology in Education), University of Oregon, USA.)
- Wiburg, K. (1996) Editor, *Technology for Teachers by Teachers*. New Mexico State Dept. of Education
- Wiburg, K. (1995) Editor, *The Desert Classroom. La Escuela del Desierto*. New Mexico State University.

#### **Editorial Boards**

- Manuscript Reviewer, *Journal of Research in Mathematics Education* 2009-current
- Manuscript Review Board, *Journal of Educational Computing Research* 1998-2004
- Board of Associate Editors, *Journal of Research on Computing in Education* 1997-2004
- Editorial Review Board, *Journal for Technology in Teacher Education* 1992-2002

#### **Books**

- Wiburg, K. (in progress) *Less is More: Closing Learning Gaps for All Students in negotiations with Corwin, Springer and others at present time.*
- Wiburg, K., Parra, J., Macundanyi Gaspard (Eds.) (2016) *The Little Book of Learning Theories*, Second Edition. Charleston, S.C. Amazon Create Space A book produced by the author, another faculty member, and doctoral students enrolled in the Learning and Technology program.
- Wiburg, K. (2015). Content Consultant for *Mathematics in the real world*. Minneapolis, MN: Abdo Publishing. This work is for a collection of STEM in the Real World books for upper elementary students.

- Wiburg, K.M. & Brown, S. (2007). *Lesson study communities: Increasing achievement with diverse students*. Thousand Oaks, CA: Corwin Press.
- Butler-Pasco, M. E. & Wiburg, K. M. (2003). *Technology and Teaching English Language Learners*. Boston, MA: Allyn & Bacon (Now from Pearson College Textbook Collection. Plan Second Ed.).
- Norton, P. & Wiburg, K. (2003). *Teaching with Technology, Second Edition*, Belmont, CA: Wadsworth.
- Norton, P. & Wiburg, K. (1998). *Teaching with Technology*. Ft. Worth, TX: Harcourt-Brace.
- Rader, J. & Wiburg, K. (1999). *Microsoft Excel for Terrified Teachers*. Westminster, California: Teacher Creative Materials, Inc. In 2003, a second edition of this book was also published by Teacher Creative Materials.

### Refereed Chapters

- Wiburg, K., Chamberlin, B. A., Trujillo, K. M., Parra, J. L., Stanford, T. (2016). Transforming mathematics teaching through games and inquiry. In Margaret Niess, Shannon Driskell, and Karen Hollebrands (Eds.), *Handbook of Research on Transforming Mathematics Teacher Education in the Digital Age*. IGI Global.
- Wiburg, K., Chamberlin, B. Trujillo, K., and Stanford, T. (2016). Chapter 3 Transforming mathematics teaching with games and inquiry. In Edited by Margaret Niess, Shannon Driskell & Karen Hollebrands. *Handbook of Research on Transforming Mathematics Teacher Education in the Digital Age*. ISBN13: 9781522501206 | ISBN10: 1522501207 | EISBN13: 9781522501213 | DOI: 10.4018/978-1-5225-0120-6
- Trujillo, K., Wiburg, K.M., Savic, M., McKee, K. (2013). Chapter 6: Teachers learn how to effectively integrate mobile technology by teaching students using Math Snacks integrated animations and games. In edited by Jared Keengwe, *Pedagogical Applications and Social Effects of Mobile Technology Integration*. Hershey, PA: IGI Global.
- Wiburg, K. (2009). Chapter 2- *Instructional Design: Is it time to exchange Skinner's Teaching Machine for Dewey's Tool box?* In edited by J. W. Willis, *Constructivist Instructional Design (C-ID)*, Charlotte, NC: Information Age Publications.
- Wiburg, K.M. (2003) Chapter 7 - MathStar's Lesson Study: Teacher-driven math reform in New Mexico, *Tracks to the future: Integrating technology into today's schools*. p. 95-104. Published by the New Mexico Association for Supervision and Curriculum Development (ASCD), Eastern New Mexico University.
- Wiburg, K.M. (2003). Technology and the new meaning of educational equity. In edited by Johnson, D.L, and Maddux, C.D. *Technology in education: A twenty-year petrospective*. New York, Victoria (AU), and London: Haworth Press.
- Wiburg, K.M. & Lozano, Y. (2001). Finding Keys to Educational Improvement through Collaborative Work. In edited by Ravid, R. and Handler, M. *The Many Faces of School-University Collaboration: Characteristics of successful partnerships*. Englewood, CO: Greenwood Press.
- Wiburg, K. & Butler, J. (2003). Creating Educational Access in edited by Solomon, G. & Resta, P. *Toward Digital Equity: Bridging the Divide in Education*. Boston, MA: Allyn & Bacon (Pearson Education).
- Wiburg, K., Chávez-Chávez, R., Haynes Writer, J., Mercado, M; O'Donnell, J., Poel, E, & Wolfe, P. (2003). Digital divide factors. In edited by Solomon, G. & Resta, P. *Toward digital equity: Bridging the divide in education*. Boston, MA: Allyn & Bacon (Pearson Education).
- Wiburg, K. M. (2001). Effective technology planning. In edited by Ivory, G. *What works in computing for school administrators*. Lanham, MD: Scarecrow Education.
- Wiburg, K. (1997). Literacy for Middle School Latinos. In edited by Gonzalez, M.L. Huerta-Macias, A., & Tinajero, J., *The schooling of Latino students: A guide to successful practice*. Lancaster, PA: Technomics.
- Wiburg, K. (1996). Integrated learning systems: What does the research say? In Ed. Hirschbuhl, J. *Computers in education. (7th Ed.)*. Guilford, CT: Duskin Publishing . Reprinted from 1995 refereed article.

### Referreed Chapters (continued)

- Wiburg, K. (1993). Technology as a tool for restructuring the curriculum and 2) Does programming deserve a place in the curriculum? In Canning, T & Finkel, L. (Eds.). *The technology age classroom*. Portland, OR: Franklin, Beedle, & Associates.
- Wiburg, K. & Fernandez, M. (1993). The effect of one logo learning environment on students' cognitive abilities. In Watt, M & Watt, D.(Eds.). *New paradigms in classroom research on logo learning*. Eugene, OR: National Educational Computing Council (now ISTE).

### Refereed Publications

- Wiburg, K., Parra, J., Mucundanyi, G., Torres, R.C. , Latorre, J. (April, 2018) Constructivist Instructional Design Models Applied to the Design and Development of Digital Mathematics Games Modules, In *International Journal of Technology in Teaching and Learning (IJTTL)*.
- Wiburg, K., Parra, J., Raynor, C. (2018 in press) Closing the Opportunity Gap in Mathematics Education. *Border Walking Journal*, Border Center for Educational Studies, NMSU
- Trujillo, K. M., Chamberlin, B. A., Wiburg, K., Armstrong, A. (2016). Measurement in Learning Games Evolution: Review of Methodologies Used in Determining Effectiveness of Math Snacks Games and Animations. *Technology, Knowledge and Learning*.
- Wiburg, K., Chamberlin, B. A., Valdez, A., Trujillo, K. M., Stanford, T. B. (2016). Impact of Math Snacks Games on Students' Conceptual Understanding. *Journal of Computers in Mathematics and Science Teaching*, 35(2), 173-193.
- Valdez, F., Trujillo, K. & Wiburg, K. (2013). Math snacks: Using animations and games to fill the gaps in mathematics. *Journal of Curriculum and Teaching*, 2(2), Scieda Press.
- Kinzer, C & Wiburg, K. & Virag, L. (2012). University public school research partnerships in mathematics. NCSM, National Council of Supervisors of Mathematics. In *Journal for National Council of Supervisors of Mathematics*, Spring, 2012.
- Kinzer, C & Wiburg, K. & Virag, L. (2010). University public school research partnerships in mathematics. *Border Walking Journal*. Borderland Center for Educational Studies. 61-69. Las Cruces, NM: New Mexico State University.
- Stafford-Levy, M. & Wiburg, K.M. (2000) Multicultural technology integration: The winds of change amid the sands of time. *Computers in the Schools*, 6, p. 121-134. Also published in special book by Haworth Press on case studies on technology integration.
- Wiburg, K. M. (1999). Book review: Learner-centered technologies for literacy, apprenticeship, and discourse. *Journal of Educational Computing Research*, 21(2), p. 255-260.
- Wiburg, K., Montoya, N. & Sandin, J. (1999) Nuestra Tierra: A University/Public School Technology Integration Project, *Journal of Educational Computing Research*, 21(2) p. 183-219.
- Wiburg, K.; Huerta-Macias, A., Lozano, Y., Trost, M. (1999). Still dancing with change: Technology integration in two border school districts. Paper given at the American Educational Research Conference (AERA), Montreal, QC. April 1999.
- Wiburg, K. (1997). The dance of change: Integrating technology in schools. Simultaneously published in (Edited by Johnson, D., Maddux, C. and Liu, L.) *Using technology in the classroom*, p. 171-184 and in a special double issue of *Computers in the Schools* 13 (1/2), pp. 171-184. Philadelphia, PA: The Haworth Press.
- Wiburg, K. (December/January 1995-96) Changing Teaching with Technology, *Learning and Leading with Technology*, Journal of the International Society for Technology in Education, 23(4) Eugene, OR.
- Wiburg, K (1996) Assessing Learning with Technology, *Learning and Leading with Technology*, Journal of the International Society for Technology in Education, 23(3) Eugene, OR.
- Wiburg, K. (1995) An historical perspective on instructional design: Is it time to exchange Skinner's teaching machine for Dewey's toolbox?. In edited by Schnase, J. and Cunnisus, E. *Computer Support for Collaborative Learning*, Mahwah, New Jersey: Lawrence Erlbaum Associates. Also published in the proceedings of the first annual conference on Computer Supported Collaborative Learning, Indiana University, Fall, 1995.

- Wiburg, K. (1995) Becoming Critical Users of Multimedia, *The Computing Teacher, Journal of the International Society for Technology in Education*, 21 (5) Eugene, OR.
- Wiburg K. (1994) Relating Teaching Goals, Student Outcomes and Technology Use, *Journal of Technology and Teacher Education*, Association for the Advancement of Computers in Education (AACE), 2(2), Alexandria, VA.
- Wiburg, K. (1994) Integrating Technologies into Schools: Why has it been so slow? *The Computing Teacher, Journal of the International Society for Technology in Education*, 21 (5) Eugene, OR.
- Ritchi, D. & Wiburg, K. (1994), Educational Variables Influencing Technology Integration, *The Journal of Technology and Teacher Education*, Association for the Advancement of Computers in Education (AACE),2(2), Alexandria, VA.
- Wiburg, K. (1994), Teaching Science with Technology: Telecommunications and Multimedia, *The Computing Teacher, Journal of the International Society for Technology in Education*, 21(7). Eugene, OR.
- Wiburg, Karin & Carter, Bruce (1994) Thinking with Computers, *The Computing Teacher, Journal of the International Society for Technology in Education*, 22 (1), Eugene, OR.
- Wiburg, Karin & Carter, Bruce (1994) Thinking with Computers, Part II, *The Computing Teacher, Journal of the International Society for Technology in Education*, 22 (2). Eugene,
- Wiburg, K. (1993/94) , Teaching Mathematics with Technology, *The Computing Teacher, Journal of the International Society for Technology in Education*. 21(4), Eugene, OR.
- Wiburg, K. (1990) Teaching Teachers about Technology, *Computers in the Schools* , December, 1990; also given as a paper at the first national Conference on Technology and Teacher Education.

### Writing of Annual Reports for Grants

Wiburg has been involved in writing annual reports for National Science Foundation-funded projects and projects funded by the U.S. Department of Education over the last 15 years for grants on which she has served as a P.I., Co-P.I. or Lead Researcher. Some of these reports are as much as 200 pages and include multiple findings from both qualitative and quantitative research reports.

Wiburg played a primary role as the writer in the following reports compiled in support of NSF funding:

- ***Math Snacks: Early Algebra moving from numbers to variables.*** (NSF# 1503507) Served as P.I. and Lead Educational Researcher. This is a challenging project designing games with supporting material to help prepare 4<sup>th</sup>-6<sup>th</sup> grade students for understanding structured arithmetic and early algebra.
- ***Math Snacks: Using Innovative Media to fill the gap in mathematics learning.***( NSF#09187940) I was both the principle investigator and the head of the educational research team on this grant
- ***Gadsden Mathematics Initiative*** (NSF funded Teaching Enhancement Grant, wrote all research reports in 2003, 2004, 2005, 2006, and 2007).
- ***Scaling Up Mathematics Achievement (SUMA)***, NSF #0733690) – 2008, 2009, 2010, 2011 and 2012.
- ***Mathematically Connected Communities – Leadership Institute for Teachers (MC2 LIFT)***, NSF #0928867). As head of the research team, Wiburg compiled all research findings for 2010, 2011, and 2012 reports. As the head of research I also developed research protocols, collected data, analyzed data and wrote up the results as part of our required technical reports.
- ***Preparing Tomorrow's Teachers to Teach Technology (PT3)*** Served as P.I. and Lead Researcher on a large Dept. of Education Grant that involved faculty in teacher education and administration working with school districts to integrate technology for teachers.

### Conference Proceedings Published

Wiburg, K, Andreas, C., Coyle, C, Guzman, W.(2005) Closing the Mathematics Achievement Gap in a Border Community. Paper given at the American Educational Research Association, Montreal, QC.

- Wiburg, K.M., Reyes, L.V., and Mingo, Clo (2003) *Journey Analysis: A Methodology for Understanding the Complex Change Process in a PT3 project*. **Won Outstanding Paper Award** for SITE Conference, 2003.
- Wiburg, K.M. & Butler-Pascoe, M.E. (1999) Constructivist Uses of Technology for Language Learning. Annual Proceedings for the Society for Information Technology in Teacher Education. Association for Advancement of Computers in Education, Alexandria, VA.
- Wiburg, K & Gonzales, C. (1996). Nuestra Tierra: A University/Public School Learning Project. In edited by Willis, J. & Willis, D. *Technology and Teacher Education Annual*. Association for Advancement of Computers in Education, Alexandria, Virginia The annual is published each year by Allyn and Bacon and serves as an important source document in the educational technology field.
- Wiburg, K. (1993). Relating Technology Use to Teaching Goals. Paper presented at the *Technology and Teacher Education Annual Conference*. Association for Advancement of Computers in Education, Alexandria, VA.
- Ritchi, D. and Wiburg, K. (1993). Effective implementation of technology: Can we speed it up? *Technology and Teacher Education Annual*. Association for Advancement of Computing in Education, Alexandria, VA.
- Wiburg, K. (1991). Three schools in which teachers have successfully integrated technology and teaching. *Technology and Teacher Education Annual 1991*, Charlottesville, VA: Association for the Advancement of Computing in Education

**Publications: Non-Refereed** (including Technology based products)

- Wiburg, K.M. Helping All Students Succeed in Mathematics.  
**Ted Talk**, 2015, YouTube
- Wiburg, K. and Kinzer, C. *Fostering knowledge use in STEM education: A brief on R&D partnerships with districts and schools*. National Science Foundation [Discovery Research in Education \(CADRE\)](http://www.cadrek12.org/resources/publications/fostering-knowledge-use-stem-education-brief-rd-partnerships-districts-and-schools) joint publication on STEM Partnerships. Retrieved from National Science Foundation CADRE website:  
<http://www.cadrek12.org/resources/publications/fostering-knowledge-use-stem-education-brief-rd-partnerships-districts-and-schools>.
- Wiburg, K., Benedicto, R. & Hills, S. (2003). *M.A.S., Mathematics for all students*. A web-based equity unit and a new course taught Spring 2004.
- Wiburg, K. (1997). Curriculum Consultant, *While Sands, White Wilderness* Activity Guide, Ag Communications, NMSU.
- Wiburg, K. (1995). Editor. *The Desert Classroom*. Instructional Materials to accompany the laserdisc, *The Desert Classroom*. Published by Agriculture Communications, New Mexico State University.
- Wiburg, K (1995, 1996). Co-developer, *Teachers Teaching Teachers*, a video tape of instructional strategies demonstrated by teachers, filmed during the NSF-sponsored 1995 SIMSE Summer Institute.
- Wiburg, K. & Marx, S. (1995). Software Review: Hands-on ClarisWorks, *Journal of Computing in Teacher Education*, 11,2, p.29-30.
- Wiburg, K, Childs, L & Kane, K. (1992). In Elementary Task Force (Ed.). *One Bite at a Time: Activities to Support It's Elementary*. San Diego County Office of Education, San Diego, CA.
- Wiburg, K & Balzano, G. (1992) Academic Excellence Project Software. (six disks with support materials). which provide computer-based assessment tools for high school Geometry, Algebra, Economics, U.S. History, Biology, and Chemistry. Through a California Educational Initiatives Grant worked with high school teachers in science, history, and mathematics to develop computer-based assessment materials aligned with the California Frameworks and the Golden State Proficiency Exam. Published by San Diego County Office of Education.

Wiburg, K. (1989) Technology as a Tool for Restructuring the Curriculum. *California Computer-Using Educators*(CUE) Newsletter, Summer.

Wiburg, K (1990-93). Writer and Editor for *The Tech Consortium Newsletter*, San Diego County Office of Education, San Diego, CA.

I have also designed, modified, and taught multiple Internet-based Distance Learning Classes over the last 15 years at New Mexico State University

## CONFERENCE PRESENTATIONS

### International/National

- Wiburg, K (2018) **Key Note Speaker**, West Virginia Assisting all students to achieve success in mathematics. Annual Conference, West Virginia National Council of Mathematics Teachers
- Wiburg, K (2015) and Tujillo, K. **Invited Presentation:** New Mexico State University researchers Karin Wiburg and Karen Trujillo were invited to the *Coalition for National Science Funding* (CNSF) conference in April 2015 to present *Math Snacks*, a project that provides free animations and games that help young learners better understand math concepts. They were chosen by the American Educational Research Association as **the best project for the year 2014-2015** and presented at the annual NSF conference in Washington, D.C.. The National Science Foundation (NSF) and the Education and Human Resources Directorate (EHR) fund *Math Snacks*. projects
- Wiburg, K.(2016) San Diego Critical Issues Paper Closing the Opportunity Gaps in Math Education **Invited Presentation**, Critical Issues Conference, San Diego, California, Feb.
- Wiburg, K., Parra, J. Tellez, K., Altamirano, A. (March 6, 2015). Digital Democracy: Panelists will share technology-based projects for empowering marginalized populations in K-12 and adult education. Attendees will be invited to discuss uses of technology for addressing a deepening digital divide in the U.S. Paper presentation at SITE 2015, Las Vegas, Nevada. Paper presentation available at <http://academicexperts.org/conf/site/2015/papers/45604/>
- Wiburg, K. (2012) How do you know if your project is resulting in effective STEM teaching? Invited Presentation at the National Science Foundation’s Math and Science Partnership Meeting, Washington, DC (January 24, 2012)
- Wiburg, K., Benedicto, R. & Kinzer, C. (April 2011) “*When ELL Students Excel in Mathematics: Towards a Systems Solution*”. National Council of Teachers of Mathematics (NCTM) Indianapolis Indiana. SUMA researchers (Cathy Kinzer, Karin Wiburg, Ken Korn, Rocio Benedicto) at National Council of Teachers of Mathematics. Scaling up Mathematics Achievement. Washington DC. (April, 2009)
- SUMA researchers (Cathy Kinzer, Karin Wiburg, Ken Korn, Rocio Benedicto) Discovery Research K-12 National Science Foundation “SUMA: Transforming Teaching and Learning Using a District-Based Building Capacity Model”. Washington, D.C. November 13, 2008
- SUMA researchers (Cathy Kinzer, Karin Wiburg, Ken Korn, Rocio Benedicto) Alliance Presentation (Fall 2008). PI and Teacher researchers shared the SUMA research project. The Alliance is a consortium of 17 primarily rural school districts that are supported by each other and New Mexico State University’s faculty and staff in receiving professional development and technical support in teaching and learning.
- Wiburg, K., Benedicto, R, and Kinzer, C (April, 2010). “*Socio-cultural Research Agenda Leading to Rich and Equitable Mathematics Education.*” Paper given at the American Educational Research Association Annual Conference, New Orleans, LA.
- Kinzer, C., Wiburg, K. (September, 2010). “*Fostering Knowledge Use in STEM Education: A Brief on R&D Partnerships with Districts and Schools.*” Community for Advancing Discovery Research in Education Washington, DC. National Science Foundation Publication.
- Kinzer, C. & Wiburg, K. (September 2010).” *Partnerships between Universities and Public School.*” National Science Foundation CADRE. Washington, DC.

Kinzer, C, Wiburg, K., Marrufo, E., Groth, C., Korn, K. Sanchez, S. (June 2010).“*Scaling up Mathematics Achievement.*” Review Panel, National Science Foundation. Washington, DC.

Essential Elements of Lesson Study, Panel presentation and paper at AERA 2003, Chicago, April, 2003

Lesson Study- American Style with Wanda Guzman & Lisa Snow, Presentation at AERA 2002 and at the NCTM Pre-conference research conference, Las Vegas, NV, 2002

Invited **Keynote Speaker**, Techknow Gypsies Predict the Future of Educational Technology (with President of SITE, Dr. Jerry Willis). March 10, 2001 Society for Information Technology and Teacher Education (SITE) March 8-10, Orlando, Florida

Integrating Technology in a Border School District, Round Table, American Educational Research Association(AERA) annual conference, Seattle, WA. April, 2001

Digital Divide, Digital Dividends, Presentation with Clo Mingo. Annual Preparing tomorrow’s Teachers Today Conference. Washington D.C., August 3-5, 2001

Organizational and Cultural Barriers to Integrating the Internet in Education, WebNet 98, Orlando, Florida, November 1998

Nuestra Tierra: A collaborative university/public school technology integration project (with teachers Cissy Lujan- Pincomb, Marjie Sharp, and Susan Smith) NECC (National Education Computing Conference), San Diego California, June, 1998

The Digital Desert Library: Inquiry-based Web Tools for Instruction (with Dr. Carmen Gonzales). Tel-Ed 1998 Austin, Texas

Nuestra Tierra, A University/Public School Technology Integration Project (with Nidelia Montoya). AERA Conference, Chicago, March, 1997

The Digital Desert Library: Inquiry-based Web Tools for Instruction (with Dr. Carmen Gonzales). Tel-Ed 1997, Monterrey, Mexico

Keys to Integrating Technology in Classrooms Invited presentation. Also invited to be judge at conference for educational technology industry awards. Ed-Net 1997, Phoenix, Arizona, October, 1997

The Internet Works in Mysterious Ways (with Susan Smith and Marjie Sharp, teachers and grad students) NECC (National Educational Computing Conference), Seattle, Wash. June, 1997

Nuestra Tierra, A University-Public School Learning Project, (with Dr. Carmen Gonzales) Society for Information Technology in Teacher Education (SITE) , International Conference, Phoenix, Arizona, March, 1996 (also published as paper in conference proceedings)

Nuestra Tierra, Learning About Our Land. (with Dr. Carmen Gonzales). Tel-Ed 96, International Telecommunications Conference. Monterey, Mexico (In Spanish and English). December, 1996

Technology, Teachers and Tomorrow, **Keynote Speaker and Workshop Leader**. Glenville State College, West Virginia. October 14-16, 1994

Tooling Up for a Mathematics Technology Leadership Academy. (with Drs. Jerry Balzano and Maria Fernandez).1994

National Educational Computing Conference, Boston, MA. **Invited pre-conference workshop**. Sunday, June 12, 1994

Telecommunications and Teacher Education. International Conference on Educational Telecommunications (Tel-Ed 94). Albuquerque, New Mexico, November, 1994

Serving Diversity Through Technology, National Education Association Conference, Albuquerque, NM April, 1994

Relating Teaching Goals, Student Outcomes and Technology, Paper given at the Society for Technology and Teacher Education (STATE) National Conference, Washington, D.C., March 19, 1994

Let’s Take a Trip, a preconference workshop on using technology to bring multicultural resources into the classroom, (with Jerry Balzano, U.C.S.D.). Technology in the Rockies, I.S.T.E. (International Society for Technology in Education), National Conference, Denver, Oct. 1994

## **ADDITIONAL EXPERIENCE in HIGHER EDUCATION AND PUBLIC SCHOOLS**

**Coordinator**, San Diego County Technology Consortium 1990-1993  
San Diego County Office of Education, San Diego, CA  
Developed and coordinated educational technology information resources including a county technology preview and training center. In response to county needs assessments, developed, staffed, coordinated, and often taught professional productivity workshops, curriculum and technology academies, and administrative technology leadership institutes. Researched and wrote technology reports, journal and newsletter articles and reviews.

**Associate Professor and Chair, Curriculum and Instruction** 1987-1990  
**United States International University, San Diego, CA** (now Alliant International University)  
Responsible for program scheduling, course design, faculty selection and evaluation for all C&I classes on 3 campuses, two in the United States and one in London, England. Taught international educators for two summers in London, England. Supervised student teachers and worked with university and school faculty and staff to improve the Teacher Education program through innovative instructional strategies Part-time faculty for USIU from 1990-1991.

**Assistant Director, Office of Compensatory Education, Seattle School District** 1982-1984  
Monitored 58 Title I schools to ensure program compliance with federal regulations. Wrote a **Handbook on the Management of Title I programs** that was disseminated as exemplary by the U.S. Department of Education. Assisted staff in public schools, including seven computer-assisted learning labs, to improve basic skills programs for students. Coordinated parent involvement efforts in the district, wrote staff development materials, developed and implemented staff development workshops, and edited monthly newsletter. Served on the school district's Human Relations Coordinating Council, an advisory group to the superintendent.

## **ADDITIONAL UNIVERSITY AND PUBLIC SCHOOL TEACHING**

In addition to Wiburg's faculty responsibilities at New Mexico State University and United States International University, she has taught in a variety of settings and positions in higher education in California.

**Adjunct Associate Professor**, *California State University at San Marcos* 1991-1993  
San Marcos, CA  
Assisted in the development and teaching of educational technology courses for a new teacher education program. Taught and supervised pre-service teachers in K-8 settings. Served a liaison function between university, the county office of education and area school districts.

**Adjunct Professor**, Computer Education | School of Education 1985-1987  
*United States International University, San Diego, CA*  
Assisted in the coordination of, and taught in, a new school based master's degree program for teachers in computer education.

**Adjunct Professor**, Teacher Education | School of Education 1986-1987  
*National University, Vista, CA*  
Taught Instructional Methods II and I for the Teacher Education program.

**Instructor**, Computer Studies 1984-1985  
*Pacific Coast College, San Diego, CA*  
Taught microcomputer operations, programming, and software applications. Developed courses and did research and development for the college.

- Classroom Teacher**, Escuela Latona 1981-1982  
 Team taught primary grades in a bilingual elementary magnet program.  
 With teaching team developed an ESL reading program, an arts-oriented multicultural studies project and the  
*Computers are Elementary* curriculum.
- Math and Reading Specialist**, Chapter 1/Title 1 and Title VII 1977-1981  
 Taught mathematics and language arts in federal basic skills program at a variety of K-9 schools.  
 Worked with "at-risk" students utilizing a language-based, problem-solving approach to mathematics. Taught some remedial reading. Involved in district-level curriculum development and teacher staff development for mathematics and writing.
- Instructional Assistant and Parent/School Liaison** 1971-1977  
 Instructional assistant for Title I basic skills program and home-school liaison for Title VII program.

### **Regional/State Conference Presentations**

- Keynote Speaker**, Technology and Engaged Learning: Hope for At-Risk Schools. El Paso Collaborative for Academic Excellence, July 2001
- Using Technology to Support Professional Development, K-12 through College. Poster session. First annual Research and Creative Activities Fair, NMSU, Oct. 2, 2001
- Resources on the MathStar Web Site. Presented with Dr. Jennifer Villa. Celbrando MARTS (New Mexico State Math-Science Conference). Taos, NM. October 11-13, 2001
- Technology and Engaged Learning. Presentation at the New Mexico State Learning and Technology Conference, Albuquerque, N.M. Nov. 16, 2001
- Lessons Learned, MathStar and PT3. presentation for Southern New Mexico Professional Development RoundTable, Las Cruces, NM, Oct. 28, 2001
- Panel Member, Technology-Enabled Alternatives to the Traditional Classroom, University-wide symposium on distance education, New Mexico State University, November 2, 2001
- Keynote Speaker**, Perspectives on the Educational Uses of Computers: from Technocentrism to Integration to Community, Learning and Leading with Technology, New Mexico State Technology Conference, October Spanish.
- Assessing Learning with Technology. (Invited Speaker), Alternative Assessment Conference, Hilton Hotel, April, 1996
- Staff Development, Integrating Technology in Schools. (Invited Speaker), Regional Educational Technology Assistance Conference (R.E.T.A.), New Mexico State University, April, 1996
- Technology and Assessment. (Invited Speaker) Network of Champions, Integrating Technology and Curriculum, Ruidoso, New Mexico. Sponsored by State Dept. of Education and Los Alamos Labs. Spring 1996
- Using Spreadsheets for Problem Solving, Southern New Mexico Technology Conference, November, 1994
- Integrating Technology with Higher Education, **Invited Speaker** for faculty at Eastern New Mexico University. Portales, NM. Oct. 4-5, 1994
- Integrating Technology with Teacher Education in New Mexico.  
 A two-day workshop for higher-education faculty in New Mexico State. **Coordinator, presenter**. February 17-19, 1994
- Building Bridges: ESL and Technology. (with Dr. Ana Macias) Rocky Mt. AERA, Tucson, Arizona, October 1994
- A Technology-Enhanced Mathematics Replacement Unit: Visualizing and Communicating About Fractions. *Invited Speaker*. Greater San Diego Mathematics Conference, San Diego, CA. February, 1994, Mexico, November, 1993
- Mathematics Technology Leadership Academy, Team Leader and presenter, a five day academy for mathematics teacher leaders, grades 4-8, San Diego County Office of Education, San Diego, CA., July 1993

Portfolio Assessment in Mathematics, Escondido Union School District, May, 1993

Relating Teaching Goals and Technology Use., Spring CUE Conference (Computer Using Educators), Palm Springs, California, May, 1993

Computer-based Activities that help Elementary Students Communicate Mathematical Ideas, Greater San Diego

Mathematics Council Annual Conference, San Diego, February, 1993

Technology Use Planning. A multi-media presentation on a systems approach to integrating technology with school program improvement. Administrators Technology Academy, January, 1993, San Diego California;

What Research Tells Us About New Teaching Strategies, an **Invited presentation** for Santa Ana School District's Staff Development Conference, January, 1993, Santa Ana, California;

Workshop, San Diego County Office of Education, March 1993;

Integrating Technology with the Elementary Mathematics Curriculum, Curriculum and Technology /x=, San Diego County Office of Education, November, 1992;

## **RELATED PROFESSIONAL ACTIVITIES**

### **MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS**

- **American Educational Research Association (AERA)** member since 1989. Presented at conferences 1997, 1999, 2001 & 2002, 2005, 2009, 2010, 2011. Reviewed proposals for Learning Division and Computer Applications SIG, 1998-2002.
- **Society for Information Technology in Teacher Education (SITE, formerly STATE)**, an association within the American Association for Advancement of Computers in Education - *Founding member* (1989) and board member. Member, Editorial Review Board, *Journal of Technology and Teacher Education*. Co-chair, STATE Annual Conference, March, 1992, San Diego, CA. Planning Committee, 1994 Annual Conference, March, San Antonio, Texas
- **International Society for Technology in Education (ISTE)**. Member since 1982 Host Committee, International Conference, Tel-Ed 1994, Albuquerque, 1994 Host Committee, National Conference, and NECC 1986. Active in New Mexico and California Computer Using Educators, Associate editor, research writer for ISTE journal.
- **New Mexico Council of Teachers of Mathematics (NMCTM)** awarded Lifetime membership for work in New Mexico.
- **Other Active Professional Memberships**
  - Association for Supervision and Curriculum Development (ASCD) and New Mexico ASCD
  - National Council of Teachers of Mathematics (NCTM)
  - National Council of Supervisors of Mathematics (NCSM)

### **ADDITIONAL EDUCATIONAL CONSULTING / SERVICE**

- Consultant, NM Public Education Department, Common Core State Standards (2013)
  - Consultant, graphical mapping and problem-solving, Jeff Bingaman's Staff Retreat, 2009
  - Consultant, Math Projects, New Mexico Public Educ. Department, Math Curriculum, 2007
  - Consultant, Lesson Study, La Porte Unified School District, Texas. August, 2007
- Prior Consulting to a variety of public and private schools, businesses and institutions of higher learning including:
- *Evaluation Leader*, PT3 Capacity Grant- Linking, Learning, and Leading (2001-2004) Wexford, Inc.
  - *Evaluator*, Student Outcomes Study on the Gadsden Math Initiative, Gadsden School District (2003-2006)
  - *Writer and consultant*, GISD Technology Plan, Gadsden School District (2003-2004)
  - *Curriculum Developer*, New Mexico Department of Education, Curriculum, Instruction and

Learning Technologies (2000-2001)

- TV production/presentation* (4 sessions on educational topics for delivery to schools) StarNet, a Dept. of Education, Star Schools project
- Math and Technology consultant and evaluator*, Gadsden Independent School District
- Technology consultant*, Las Cruces Public Schools
- Multimedia presenter*, Apple Computer
- Evaluator of technology-based materials*, Focus group, Rita Oates Consulting
- Consultant*, Technology integration in higher education, Eastern New Mexico State University
- Curriculum developer*, Higher education tech integration, West Virginia Higher Education
- *Telecommunications consultant*, Global SchoolNet. El Paso, Texas
- Instructor*, Supercomputing Challenge, Los Alamos Labs, New Mexico
- Consultant & presenter*, Integrating technology with ESL, San Diego County Office of Education
- Consultant*, presenter with faculty on constructivist models for tech use, ThinkQuest, Inc.
- Consultant*, Digital Equity strategies, US Department of Education
- Consultant*, math and technology, California State Department of Education
- Assistance with grant writing, technology integration, and professional development*, Various California School Districts (San Diego, Escondido, Rancho Santa Fe, Del Mar, Santa Ana)
- Consultant*, Use of technology in ESL & bilingual education, Imperial County Office of Education, El Centro, California

## ADDENDA- GRANTS and Doctoral Students

### Addendum 1- DETAILS OF WIBURG'S NMSU GRANT-FUNDED PROJECTS

Dates	Project and Role	Funding Agency	Amount
2015-2019	P.I. Math Snacks: Early Algebra # 1503507. Working with a research mathematician and the NMSU Learning Games Lab we are developing games and media to support early algebra	National Science Foundation	\$2.9 million
2012-2015	Director, NMSU, Assessment & Evaluation Group, <b>Center for Research and Outreach</b> , Working with the Arrowhead Center and the Center for Research & Policy, UNM to investigate Southern NM education and the NMSU Early College High School.	The Bridge (business group supporting education) and Kellogg Foundation	\$45,000
2009-2014	P.I. & Director first Math Snacks: Using Innovative Media to fill conceptual gaps in Mathematics	National Science Foundation	\$3.8 million
2009-2014	Lead researcher, MC2- Leadership Institute for Teachers,	National Science Foundation	\$5 million
2007-2012	Co-P.I. Scaling Up Mathematics Achievement, Researcher	National Science Foundation	\$1.75 million
2005-2010	P.I., Regional for NM in cross-state grant, Middle School Achievement Technology Rich Interventions- MATRIX	U.S. Dept. of Education StarSchools Project With California and Colorado	\$1.2 million
2004-2010	Co-P.I. MC2 Mathematically Connected Communities Director, with Rick Scott, Wanda Bulger-Tamez & Doug Kurtz, Mathematical Sciences	New Mexico Public Education Department State Math Science Partnership grant	\$8 million
2004-2005	New Mexico Partner- TEAMS Learning	Los Angeles County	\$10,000
1999-2004	MathStar- New Mexico Director of five year grant for improving math in Middle School	Dept. of Education Star Schools Program	\$1.65 million
1999-2002	P. I. Preparing Tomorrow's Teachers Today (PT3)	Dept. of Education	\$ 1.3 million
2001-2006	Co-PI Gadsden Mathematics Initiative Researcher, with Yvonne Lozano	National Science Foundation	\$ 2.5 million
1999-2000	La Clave para Mejorar (The Key to Improvement) Co-PI- Lozano, Gadsden School District	New Mexico State Technology Literacy Challenge	\$130,000

1999-2000	La Clave para Mejorar- Supplemental Grant	NM Goals 2000 funds	\$100,000
1998-1999	La Clave para Mejorar Co-director	N.M. Technology Literacy Challenge Fund	\$100,000
1997-1998	La Clave para Mejorar Co-director with Gadsden and Las Cruces	N.M. Technology Literacy Challenge Fund	\$100,000
1997-1999	Digital Desert Library Co-P.I. with Gleason and Gonzales	National Science Foundation	\$250,000
1995-1997	Neustria Tierra (Our Land) Using Technology to study New Mexico peoples and places Principle Investigator- Director	U.S. West Foundation	\$300,000
Summer 1996	Using Technology to improve Math/Science Instruction Co-P.I. with Carmen Gonzales	Commission on Higher Education (CHE) /Eisenhower grant	\$39,000
Summer 1995	Using Technology to improve Math and Science Instruction P.I. and Director	Commission on Higher Education (CHE) /Eisenhower grant	\$35,000
1995-1996	Arid Lands Curriculum Development Co-P.I. with Drs. Jeanne Gleason, Norm Lownds, College of Agriculture	National Science Foundation/System ic Initiative in Math/ Science or	\$130,000
1994-1995	Arid Lands Curriculum Development project P.I. with Drs. Jeanne Gleason, Norm Lownds, College of Agriculture	National Science Foundation/System ic Initiative	\$120,000
1994-1995	P. I., Higher Education Technology Integration Grant	Center for Teaching Excellence, ENMU	\$3,000
Summer 1994	P.I. Using Technology to Improve Math and Science Instruction	Commission on Higher Education (CHE) /Eisenhower grant	\$39,000

**ADDITIONAL GRANT FUNDED PROJECTS PRIOR TO NMSU POSITION INCLUDED;**

- While at California State University-San Marcos, Wiburg coordinated a technology grant project in a bilingual elementary school in partnership with a local bank.
- San Diego County Representative for California Technology Project – Represented San Diego County and worked with a state-wide group to provide staff development in technology resource development.
- California Mathematics Project/California Technology Project – Developed and provided staff development for teachers throughout the state in how to integrate mathematics and technology
- Professional Staff on a Title V Parent Involvement Project for two years in Seattle, Washington. A successful parent involvement program that involved parents as teachers for their low-achieving students in the Seattle School District. My first big grant Built parent leadership.

I estimated my grant writing as above \$25,000 for NMSU. KW