

Douglas F. Robertson, Professor

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Education

- 1979 Ph.D. Mathematics Education (related fields — mathematics, computing), University of Minnesota. Thesis: *An Investigation of Aptitude Treatment Interactions (ATI) With Respect To Programmed and Lecture Treatments in a College Course in Basic Mathematics*
- 1976 M.A., Mathematics Education (related fields — mathematics, geophysics), University of Minnesota. Thesis: *Use of the Electronic Calculator as an Instructional Aid In Learning the Concept of Percent in a College Level Course in Basic Arithmetic*
- 1973 B.S., Mathematics, Earth Science, and Physics, University of Minnesota
- 1968 B.S., Physics (minor-mathematics), Purdue University

Professional Experience

- 2016-present Professor, Department of Curriculum and Instruction, College of Education and Human Development, University of Minnesota
- 2007-2016 Visiting Professor and course supervisor for Math 1051 Precalculus, School of Mathematics, College of Science and Engineering, University of Minnesota
- 1992-2016 Professor, Department of Postsecondary Teaching and Learning (formerly General College), College of Education and Human Development, University of Minnesota
- 1993-2004 Mathematics Coordinator, General College, University of Minnesota
1979-84
- 1984-92 Associate Professor, Division of Science, Business, and Mathematics, General College, University of Minnesota
- 1979-84 Assistant Professor, Division of Science, Business, and Mathematics, General College, University of Minnesota
- 1978-2001 Instructor, Summer Institute Program, Office for Minority and Special Student Affairs, University of Minnesota
- 1977-92 Instructor, Math Anxiety Program, Continuing Education for Women, University of Minnesota
- 1974-79 Instructor, Division of Science, Business, and Mathematics, General College, University of Minnesota
- 1973-74 Mathematics Teacher, Nicollet Junior High School, Burnsville, Minnesota
- 1968-73 Graduate Teaching and Research Assistant, Departments of Physics and Geophysics, College of Science and Engineering, University of Minnesota

Honors and Awards

Excellence in Research Award from Clute Institute (2016)
Academy of Distinguished Teachers, University of Minnesota (1998)
Alfred L. Vaughn Award for Outstanding Service to the General College (1997)
Office for Minority and Special Student Affairs Distinguished Service Award (1992)
Continuing Education and Extension Distinguished Teacher Award (1990)
Horace T. Morse – Alumni Association Award for Outstanding Contributions to Undergraduate Education (1989-90)
Case Professor of the Year Award nomination (1989)

Books

Kinney, D.P. & Robertson, D.F. (2006). Interactive mathematics - college algebra. Bloomington: Plato Learning Incorporated. ISBN 978-0-7419-1150-6

Kinney, D.P. & Robertson, D.F. (2004). Interactive mathematics - intermediate algebra. Bloomington: Plato Learning Incorporated. ISBN 1-928962-00-7

Kinney, D.P. & Robertson, D.F. (2003). Interactive mathematics - elementary algebra. San Diego: Academic Systems Corporation. ISBN 1-57772-416-X

Robertson, D.F. & Storla, S.A. (1999). Introductory algebra: models, concepts, and skills. Pacific Grove: Brooks/Cole Publishing Company. ISBN 0-534-36894-8

Robertson, D.F. & Robertson, D.R. (1993). Using microcomputer applications: a computer lab manual with DOS, WordPerfect 5.1, Lotus 1-2-3, and dBASE III PLUS (2nd ed.). Fort Worth: The Dryden Press/Harcourt Brace Jovanovich. ISBN 0-15-500765-3

Robertson, D.F. & Robertson, D.R. (1992). Microcomputer applications & programming: a complete computer course with DOS 4.0, WordPerfect 5.1, Lotus 1-2-3 Release 2.2, dBASE IV, and BASIC. San Diego: Harcourt Brace Jovanovich. ISBN 0-15-558372-7

Robertson, D.F. & Robertson, D.R. (1992). Microcomputer applications: a complete computer course with DOS 4.0, WordPerfect 5.1, Lotus 1-2-3 Release 2.2, and dBASE IV. San Diego: Harcourt Brace Jovanovich. ISBN 0-15-594509-2

Robertson, D.F. & Robertson, D.R. (1992). Microcomputer applications & programming: a complete computer course with DOS 4.0, WordPerfect 5.1, Lotus 1-2-3 Release 2.2, dBASE III PLUS, and BASIC. San Diego: Harcourt Brace Jovanovich. ISBN 0-15-558371-9

Robertson, D.F. & Robertson, D.R. (1991). Using microcomputer applications: a lab manual with DOS, WordPerfect 5.0/5.1, Lotus 1-2-3 Release 2.2, and dBASE III PLUS. San Diego: Harcourt Brace Jovanovich. ISBN 0-15-594507-2

Robertson, D.F. & Robertson, D.R. (1990). Using microcomputer applications: a lab manual with DOS, WordPerfect, VP-Planner Plus, and dBASE III PLUS. San Diego: Harcourt Brace Jovanovich. ISBN 0-15-594510-6

Robertson, D.F. (1990). Using microcomputer applications: a lab manual with DOS, PC-Type+, PC-Calc+, and PC-File+. San Diego: Harcourt Brace Jovanovich. ISBN 0-15-594511-4

Book chapters

Staats, S., Ernst, D., Berken, S. & Robertson, D. (2015). Investigating the mathematics of inaccessible objects: Algebra videos with iPads. Chapter for M. Meletiou-Mavrotheris, K. Mavrou & E. Paparistodemou (Eds). Integrating touch-enabled and mobile devices into contemporary mathematics education. IGI Global. 100-124.

Kinney, D. P., Kinney, L. S., Robertson, D. F. (2005). Overview of the General College Mathematics Program. In J. L. Higbee, D. B. Lundell, & D. R. Arendale (Eds.), *The General College vision: Integrating intellectual growth, multicultural perspectives, and student development* (287-298). Minneapolis: University of Minnesota, General College, Center for Research on Developmental Education and Urban Literacy.

Kinney, D. P., Robertson, D. F, Kinney, L. S. (2005). Learning Mathematics Through Computer-mediated Instruction. In J. L. Higbee, D. B. Lundell, & D. R. Arendale (Eds.), *The General College vision: Integrating intellectual growth, multicultural perspectives, and student development* (299-318). Minneapolis: University of Minnesota, General College, Center for Research on Developmental Education and Urban Literacy.

Peer Reviewed Articles

Staats, S., Link, A., Robertson, D., Sintjago, A. Spring 2016. iPads in an algebra writing assignment. *Academic Exchange Quarterly* 20(1). Reprint.

Staats, S. & Robertson, D. (2014). Designing tasks for math modeling in college algebra: A critical review. *Journal of College Teaching and Learning* 11(2), 85-94. Received Excellence in Research Award from Clute Institute.

Staats, S., Link, A., Robertson, D., Sintjago, A. Summer 2013. iPads in an algebra writing assignment. Editors Choice, *Academic Exchange Quarterly* 17(2).

Staats, S. K., Robertson, D. F. (2009). International Inequalities: Algebraic Investigations into health and economic development. *MathAMATYC Educator*, 1(1) 6-11

Kinney, D. P., Robertson, D. F. (2005). Identifying students' reasons for selecting a computer-mediated or lecture class. *The AMATYC Review*, 27(1) 37-47

Kinney, D. P., Stottlemeyer, J., Hatfield, J., Robertson, D. F. (Fall, 2004). Comparison of the Characteristics of Computer-mediated and Lecture Students in Developmental Mathematics. *Research and Teaching In Developmental Education* 21(1) 14-28.

Kinney, D. P., Robertson, D. F. (Fall, 2003). Technology makes possible new models for delivering developmental mathematics instruction. *Mathematics and Computer Education* 73(3) 315-328.

Robertson, D. F. (January, 1992). An application of Cartesian graphing to seismic exploration. *School Science and Mathematics* 92(1).

Robertson, D. F. (Fall 1991). A program for the math anxious at the University of Minnesota. *The AMATYC Review*, 13(1).

Robertson, D. F. (1987). Computer simulation of incomplete-data interpretation. *Journal of Geological Education*, 35(9) 263-265.

Robertson, D. F. (1978). The use of computer-based mathematical models in determining the shape of a buried valley. *Journal of Geological Education*, 26(9) 186-188.

Conference Papers, Presentations, and Workshops

Staats, S. & Robertson, D. (2017). Equity in a College Readiness Modelling Program: Limitations and Opportunities. 9th International Mathematics Education and Society Conference. Volos, Greece, April 2017.

Staats, S., Robertson, D., & Williams, J. (2016). Assessing equity in a concurrent enrollment college algebra program. Meeting Society's Grand Challenges Through Community-Engaged Research, Teaching, and Learning Conference. Minneapolis, MN, March 2016.

Staats, S. & Robertson, D. (2014). The mathematics of inaccessible objects: Algebra videos with iPads. Poster presented at the Conference for Higher Education Pedagogy, Virginia Tech, Blacksburg, VA, February 2014.

Staats, S., Link, A., Sintjago, A., Robertson, D. (2012). Interdisciplinary algebra with iPads. Poster presented at the 36th Conference for the Psychology of Mathematics Education, July 2012, Taipei, Taiwan.

Robertson, D. F. and Kinney, D. P. (2007, November). Students' Reasons for Selecting a Computer-mediated or Lecture Class. Paper presented at the meeting of the American Mathematical Association of Two Year Colleges, Minneapolis, Minnesota.

Robertson, D. F. (2002, November). Structuring Computer-Mediated Algebra Courses for Success. Paper presented at the meeting of the American Mathematical Association of Two-Year Colleges, Phoenix, Arizona.

Robertson, D. F. (2000, November). Web-Based Placement of Students into Developmental Math Classes. Paper presented at the meeting of the American Mathematical Association of Two-Year Colleges, Chicago, Illinois.

Robertson, D. F. (2000, October). Best Practices in Developmental Mathematics Programs. Paper presented at the meeting of the Minnesota Chapter of the National Association of Developmental Education, Brainerd, Minnesota.

Kinney, D. P. and Robertson, D. F. (1999, November). The Search for Effective Methods of Incorporating Multimedia Computer Based Instruction Into Developmental Mathematics Classes. Paper presented at the meeting of the American Mathematical Association of Two Year Colleges, Pittsburgh, Pennsylvania.

Storla, S. A. and Robertson, D. F. (1998, November). Building a connected classroom community. Paper presented at the meeting of the American Mathematical Association of Two Year Colleges, Portland, Oregon.

Robertson, D. F. and Storla, S.A. (1994, November). Building classroom environments consistent with the NCTM standards. Workshop presented at the meeting of the American Mathematical Association of Two Year Colleges, Tulsa, Oklahoma.

Robertson, D. F. and Storla, S.A. (1993, November). Using Active Learning Groups to Teach Past Skills Toward Conceptual Understanding. Paper presented at the meeting of the American Mathematical Association of Two Year Colleges, Boston, Massachusetts.

Robertson, D. F. (1992, November). Effective resources and activities in developmental mathematics that are based on the current NCTM standards for curriculum and evaluation. Paper presented at the meeting of the American Mathematical Association of Two Year Colleges, Indianapolis, Indiana.

Robertson, D. F. and Storla, S. A. (1992, May). Implementing the ideas of constructivism into developmental mathematics courses. Paper presented at the meeting of the Minnesota Mathematical Association of Two Year Colleges, Brainerd, MN.

Robertson, D. F. (1991, November). Traditional lecture-based versus constructivist-based courses in a developmental mathematics program at the University of Minnesota. Paper presented at the meeting of the American Mathematical Association of Two Year Colleges, Seattle, WA.

Robertson, D. F., Miller, C. A., & Wambach, C. A. (1990, January). The Base Curriculum: A First-year Curriculum for Underprepared Learners. Paper presented at the conference on the Freshman Year Experience - Special Focus: Building Foundations for Cultural Diversity, Costa Mesa, CA.

Robertson, D. F. (1989, October). Diagnostic pretesting and review assignment in a developmental mathematics program at the University of Minnesota. Paper presented at the meeting of the American Mathematical Association of Two Year Colleges, Baltimore, MD.

Robertson, D.F. (1989, March). Perspectives of a mathematics teacher on writing across the curriculum in developmental mathematics classes at the college level. Paper presented at the meeting of the Conference on College Composition and Communication of the National Council of Teachers of English, Seattle, WA.

Robertson, D.F. & Miller, C.A. (1988, April). Integrating elementary algebra and writing for basic learners at the college level. Paper presented at the meeting of the National Council of Teachers of Mathematics, Chicago, IL.

Robertson, D.F. (1987, April). Teaching developmental mathematics to the math anxious. Paper presented at the Special Needs Conference of the Minnesota Area Vocational - Technical Institutes, Red Wing, MN.

Robertson, D.F. & Claesgens, J.B. (1984, May). Math anxiety - causes and solutions. Paper presented at the meeting of the Minnesota Area Vocational - Technical Institutes, Minneapolis, MN. ERIC clearinghouse number ED 238 711.

Robertson, D.F. (1983, April) A developmental mathematics program at the University of Minnesota. Paper presented at the meeting of the National Council of Teachers of Mathematics, Detroit, MI. ERIC clearinghouse number ED 230 408.

Robertson, D.F. (1982, October). Teaching mathematics to Indochinese students with limited proficiency in English. Paper presented at the meeting of the Association for General and Liberal Studies, Minneapolis, MN.

Robertson, D.F. & Mathison, M.A. (1980, August). Interventions in math anxiety for adults. Paper presented at the Fourth International Congress on Mathematical Education, sponsored by the National Academy of Sciences, Berkeley, CA.

Robertson, D.F. & Garfield, J.B. (1980, April). Improving mathematics instruction for the non-traditional student. Paper presented at the meeting of the National Council of Teachers of Mathematics, Seattle, WA.

Courses Taught

General College/College of Education and Human Development, University of Minnesota

- GC 0611 Mathematics Skills Review
- GC 0616 Algebraic Problem Solving I
- GC 0617 Algebraic Problem Solving II
- GC 0618 Advanced Algebraic Problem Solving
- GC 0643 Basic Mathematics: Programmed Instruction
- GC 0721 Introductory Algebra (instructor-mediated)
- GC 0722 Introductory Algebra (computer-mediated)
- GC 0731 Intermediate Algebra (instructor-mediated)
- GC 0732 Intermediate Algebra (computer-mediated)
- GC 1163 Physics
- GC 1171 Physical Geology
- GC 1177 Physical Geology Laboratory
- GC 1405 Technical Reading: Tables and Graphs (with Sandra Flake)
- GC 1436 Math and Art (with Carole Nelson)
- GC 1439 Basic Mathematics: Individual Study
- GC 1571 Introduction to Microcomputer Applications
- GC 1572 Introduction to Computer Programming
- GC 1578 Introduction to Word Processing and Spreadsheets
- GC 3571 Computer Approach to Problem Solving (with Tom Ressler)
- GC 3578 Computers in the Law Firm (with Denise Templeton)
- PsTL 1006 College Algebra through Modeling
- CI 0832 Algebra Review (computer mediated)
- CI 1871 Computer Literacy and Problem Solving

Continuing Education for Women, University of Minnesota

Introduction to Geometry
Math Anxiety Clinic
PSch 0651 Arithmetic
PSch 0652 Elementary Algebra
PSch 0653 Intermediate Algebra
PSch 0779 Word Processing on Macintosh Computers

College of Science and Engineering, University of Minnesota

Math 1111 College Algebra
Math 1051 Precalculus I
Math 4997W Senior project (Writing Intensive)

Department of Design, Housing, and Apparel, University of Minnesota

DHA 1203 Computer Literacy and Problem Solving

Courses Developed

Department of Curriculum and Instruction, University of Minnesota

CI 0832 Algebra Review (computer mediated)

Department of Postsecondary Teaching and Learning, University of Minnesota

PsTL 1006 College Algebra through Modeling (with Staats and Stottlemeyer)

General College, University of Minnesota

GC 0611 Mathematics Skills Review (with math faculty)
GC 0615/0616/0617/0618 Mathematics Problem Solving (with Koch & Garfield)
GC 0721 Elementary Algebra (with math faculty)
GC 0722 Introductory Algebra (multimedia-computer based) (with Pat Kinney)
GC 0731 Intermediate Algebra: Part II (with math faculty)
GC 0732 Intermediate Algebra (multimedia-computer based) (with Pat Kinney)
GC 1405 Technical Reading: Tables and Graphs (with Sandra Flake)
GC 1436 Math and Art (with Carole Nelson)
GC 1439 Basic Mathematics: Individual Study (with math faculty)
GC 1571 Computer Literacy and Problem Solving (now CI 1871)
GC 1572 Introduction to Computer Programming
GC 1578 Introduction to Word Processing and Spreadsheets
GC 3571 Computer Approach to Problem Solving (with Tom Ressler)
GC 3578 Computers in the Law Firm (with Denise Templeton)

Department of Design, Housing, and Apparel

DHA 1203 Computer Literacy and Problem Solving

Humphrey Institute Summer Program in Policy Skills

Mathematics Workshop

Continuing Education for Women, University of Minnesota

Introduction to Geometry

Math Anxiety Program: Basic Mathematics

PSch 0651 Arithmetic

PSch 0652 Elementary Algebra

PSch 0653 Intermediate Algebra

PSch 0779 Word Processing on Macintosh Computers

Department of Independent Study (correspondence courses)

GC 0721 Elementary Algebra

GC 1572 Introduction to Computer Programming

GC 3571 Computer Approach to Problem Solving

PsTL 0722 Introductory Algebra (computer mediated)

PsTL 0732 Intermediate Algebra (computer mediated)

PsTL 1571 Introduction to Microcomputer Applications