

Volkan Sevim, Ph.D.

Associate Professor of Mathematics
University of South Carolina Beaufort
Department of Computer Science and Mathematics
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EDUCATION:

- The University of North Carolina at Charlotte, Charlotte, NC August 2011
Ph.D. Curriculum and Instruction, Mathematics Education
Under the supervision of Dr. Victor V. Cifarelli
[GPA: 4.00 / 4.00]
- The Pennsylvania State University, University Park, PA May 2005
M.Ed. Curriculum and Instruction, Mathematics Education
Under the supervision of Dr. Glendon W. Blume
[Completed 91 semester hours toward Ph.D. in Curriculum and
Instruction, Mathematics Education] [GPA: 3.51 / 4.00]
- Istanbul Technical University, Istanbul, Turkey December 1997
B.S. Mechanical Engineering [GPA: 3.00 / 4.00]
- North Carolina Secondary Mathematics Teaching License (Grades 9-12) August 2005-June 2014

EXPERIENCE:

- Associate Professor of Mathematics [Tenured]* August 2019-Present
Program Coordinator for B.S. in Mathematics
Accreditation Coordinator for B.S. in Mathematics, Secondary Teacher Education Track
University of South Carolina Beaufort, Department of Computer Science and Mathematics

Courses taught:

EDME B430: Teaching Mathematics in Secondary School
MATH B421: Mathematics for Secondary Teachers
MATH B331: Foundations of Geometry
MATH B222: Basic Concepts of Elementary Mathematics II
MATH B221: Basic Concepts of Elementary Mathematics I
MATH B142: Calculus II
MATH B122: Calculus for Business Administration and Social Sciences
MATH B115: Pre-calculus Mathematics
MATH B111: College Algebra
MATH B111W: College Algebra Online
MATH B101: Experiential Mathematics

- Assistant Professor of Mathematics [Tenure-track]* August 2015-2019
Accreditation and Track Coordinator for B.S. in Mathematics, Secondary Teacher Education
University of South Carolina Beaufort, Department of Computer Science and Mathematics

Assistant Professor of Mathematics Education [Tenure-track]
Virginia Commonwealth University, Department of Teaching and Learning

August 2011-May 2015

Courses taught:

TEDU 522: Teaching Mathematics for Elementary Education
TEDU 651: Topics in Education, Mathematics Leadership I
TEDU 651: Topics in Education, Mathematics Leadership II
TEDU 680: Externship Proposal Seminar
MATH 151: Pre-calculus Mathematics

Visiting Lecturer & Teacher-in-Residence

August 2010-August 2011

The University of North Carolina at Charlotte, Department of Mathematics and Statistics

Courses taught:

MAED 3222: Teaching Mathematics to Elementary School Learners K-2
MAED 3224: Teaching Mathematics to Elementary School Learners 3-6
MATH 1103: Pre-calculus Mathematics for Science and Engineering
MATH 1242: Calculus II

Mathematics Teacher (Grades 9-12)

August 2005-August 2010

Department Chair (October 2008-August 2010)

Charlotte Mecklenburg Schools, Phillip O. Berry Academy of Technology,
Charlotte, NC

Courses taught:

AP Calculus BC, AP Statistics, Pre-calculus Honors, Discrete Mathematics Honors, Technical
Mathematics I and II, SAT Prep

ADDITIONAL PROFESSIONAL EXPERIENCE:

Mathematics Tutor

June 2015-August 2015

Technical College of the Lowcountry, Beaufort, SC
Learning Resources Center, Academic Success Assistance Program

Substitute Teacher

April 2005-August 2005

Charlotte Mecklenburg Schools

Calculus Tutor

September 2003-December 2004

The Pennsylvania State University, University Park, PA
College Assistance Migrant Program
[Worked with students of migrant worker families]

Graduate Student Involvement in Educational Research

August 1999-May 2004

The Pennsylvania State University, University Park, PA

PUBLICATIONS:

Sevim, V. (2021). Problem Posing | Solving as Enactive Metaphorizing. *Constructivist Foundations*, 16(3), 287-289. <https://constructivist.info/16/3/287>

- Sevim, V. (2019). Interacting with other people's boundaries, remainders, and static enclosures. *Constructivist Foundations*, 15(1), 267-269.
- Sevim, V. (2017). Co-evolution of problem posing and problem solving after finding a way in. *Constructivist Foundations*, 13(1), 173-175.
- Cifarelli, V. & Sevim, V. (2016). An exploration of college algebra students' understanding of higher order polynomial functions. In Wood, M. B., Turner, E. E., Civil, M., & Eli, J. A. (Eds.), *Proceedings of the 38th Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, pp. 668-671. Tucson, AZ: The University of Arizona, PME-NA.
- Cifarelli, V., Sevim, V. & Stephan, M. (2016, February). Third graders posing problems to their peers and their teacher: An Examination of mathematics problem posing in the elementary grades. Conference paper repository for the 39th Annual Meeting of the Southwest Educational Research Association (SERA), New Orleans, LA.
- Cifarelli, V. & Sevim, V. (2015). Problem posing as re-formulation and sense-making within problem solving. In F. M. Singer, N. Ellerton, & J. Cai (Eds.), *Mathematical Problem Posing: From Research to Effective Practice*, pp. 177-194. New York: Springer Publishing Company.
- Reich, G. A. & Sevim, V. (2015). Academic rigor for all students: A research report. Metropolitan Educational Research Consortium (MERC). Virginia Commonwealth University, Richmond, VA.
- Cifarelli, V. & Sevim, V. (2014). Exploring students' understanding of polynomial functions. In Mohr-Schroeder, M. J., & Harkness, S. S. (Eds.), *Proceedings of the 2014 Annual Meeting of the School Science and Mathematics Association* (Vol. 1), pp. 82-88. Jacksonville, FL.
- Sevim, V. (2014). Interdisciplinary connections between radical constructivist approaches in mathematical problem solving and structural design in architecture. *Constructivist Foundations*, 9(3), 411-412.
- Cifarelli, V. & Sevim, V. (2014). Examining the Role of Re-Presentation in Mathematical Problem Solving: An Application of Ernst von Glasersfeld's Conceptual Analysis. *Constructivist Foundations*, 9(3), 360-369.
- Sevim, V. & Cifarelli, V. (2014). Authors' Response: Radical Constructivist Conceptual Analyses in Mathematical Problem Solving and their Implications for Teaching. *Constructivist Foundations*, 9(3), 386-389.
- Sevim, V. & Cifarelli, V. (2013). The co-evolution of problem posing and problem solving in the course of Sarah's on-going solution activity. In A. M. Lindmeier, & A. Heinze (Eds.), *Proceedings of the 37th Meeting of the International Group for the Psychology of Mathematics Education*, Volume 5, p. 165. Kiel, Germany: PME.
- Cifarelli, V. & Sevim, V. (2013). Problem posing as reformulation and sense-making within problem solving. In V. M. Martinez, & A. C. Superfine, A. C. (Eds.), *Proceedings of the 35th Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, pp. 268-271. Chicago, IL: PME-NA.
- Sevim, V. (2002). Curriculum... Are we talking about the same thing? *Pennsylvania Educational Leadership*, 21(2), 25-28.

Sevim, V. (2002). Curriculum... The role of ideology or why do different people mean different things. *Pennsylvania Educational Leadership*, 21 (2), 29-30.

PRESENTATIONS AT PROFESSIONAL CONFERENCES:

Sevim, V. (2022, February). The Role of Exploring Function Graphs in Different Axis Orientations Paper presented at the 45th Annual Meeting of the Southwest Educational Research Association (SERA), New Orleans. LA.

Sevim, V. (2020, January). Investigating college algebra students' current pre-requisite understandings and testing the effects of an alternative pre-requisite algebra curriculum: A mixed-methods study. Preliminary report. Paper presented at the Joint Mathematics Meetings (JMM), Denver, CO.

Sevim, V. (2019, February). Assessing High School Students' and College STEM Majors' Interest In Pursuing Secondary Mathematics Teacher Certification in the Lowcountry Region of South Carolina: A Mixed-Methods Study. Paper presented at the 42nd Annual Meeting of the Southwest Educational Research Association (SERA), San Antonio, TX.

Sevim, V. & Catma, S. (2018, February). An analysis of students' understanding of supply and demand graphs in economics education: A qualitative multi-case study. Paper presented at the 41st Annual Meeting of the Southwest Educational Research Association (SERA), New Orleans, LA.

Sevim, V. (2018, February). Research on higher education: Session T7.2. Chair and discussant at the 41st Annual Meeting of the Southwest Educational Research Association (SERA), New Orleans, LA.

Sevim, V. & Trinter, C. (2017, February). Preservice secondary mathematics teachers' understanding of non-linear functions: An examination of their shape thinking. Brief report presented at the 21st Annual Conference of the Association of Mathematics Teacher Educators (AMTE), Orlando, FL.

Trinter, C. & Sevim, V. (2017, February). Examining pre-service secondary mathematics teachers' static and emergent shape thinking when engaging with non-linear functions. Discussion session presented at the 21st Annual Conference of the Association of Mathematics Teacher Educators (AMTE), Orlando, FL.

Sevim, V. & Cifarelli, V. (2017, February). Reasoning with graphs of non-linear functions: A Qualitative study of pre-service secondary mathematics teachers' shape thinking. Paper presented at the 40th Annual Meeting of the Southwest Educational Research Association (SERA), San Antonio, TX.

Cifarelli, V. & Sevim, V. (2017, February). Students' use of informal modeling to solve non-traditional mathematics problems. Paper presented at the 40th Annual Meeting of the Southwest Educational Research Association (SERA), San Antonio, TX.

Cifarelli, V., Sevim, V. & Stephan, M. (2016, February). Third graders posing problems to their peers and their teacher: An Examination of mathematics problem posing in the elementary grades. Paper presented at the 39th Annual Meeting of the Southwest Educational Research Association, New Orleans, LA.

Sevim, V. (2015, November). What Can We Learn from Research on Problem Posing? Presented at the National Council of Teachers of Mathematics 2015 Regional Conference and Exposition, Nashville, TN.

Sevim, V. (2015, October). What Can We Learn from Research on Problem Posing? Presented at the National Council of Teachers of Mathematics 2015 Regional Conference and Exposition, Atlantic City, NJ.

Sevim, V. (2015, February). Academic Rigor in the Mathematics and Social Studies Classroom. Paper presented at the 38th Annual Meeting of the Southwest Educational Research Association, San Antonio, TX.

Cifarelli, V. & Sevim, V. (2015, February). Exploring students' conceptual understanding of polynomial functions. Paper presented at the 38th Annual Meeting of the Southwest Educational Research Association, San Antonio, TX.

Cifarelli, V. & Sevim, V. (2014, November). Exploring students' understanding of polynomial functions. Paper presented at the Annual Meeting of the School Science and Mathematics Association, Jacksonville, FL.

Cifarelli, V. & Sevim, V. (2013, November). Problem posing as reformulation and sense-making within problem solving. Presented at the Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Chicago, IL.

Sevim, V. & Cifarelli, V. (2013, July). The co-evolution of problem posing and problem solving in the course of Sarah's on-going solution activity. Presented at the Annual Meeting of the International Group for the Psychology of Mathematics Education, Kiel, Germany.

Sevim, V. & Cifarelli, V. (2013, April). Helping students better make sense of quadratic functions in algebra. Presented at the National Council of Teachers of Mathematics 2013 Annual Conference, Denver, CO.

Sevim, V. & Kuti, L. (2013, February). Screening Math Skills of Newly Enrolled ELLs. Presented at the 2013 Annual Conference of Virginia ESL Supervisors' Association, Richmond, VA.

Cifarelli, V. & Sevim, V. (2013, February). Problem Posing as Sense-making: Analyses of the Co-evolution of Problem Posing and Problem Solving in On-going Solution Activity. Paper presented at the Annual Meeting of the Southwest Educational Research Association, San Antonio, TX.

Sheets, C. & Sevim, V. (2012, October). Elementary Mathematics in Context: Preparing for the Common Core. Presented at the 2012 State Mathematics Conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.

Sevim, V. & Sheets, C. (2012, October). Lighting Up Place Value with Fireflies: New Strategies for K-2 Mathematics. Presented at the 2012 State Mathematics Conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.

Sevim, V. & Cifarelli, V. (2012, April). Students' understanding of quadratic functions: A multiple case study. Poster presented at the National Council of Teachers of Mathematics 2012 Annual Conference Research Pre-session, Philadelphia, PA.

Sevim, V. (2012, March). Helping students develop conceptual understanding of quadratic functions. Presented at the 2012 Annual Conference of the Virginia Council of Teachers of Mathematics, Roanoke, VA.

Sevim, V. & Cifarelli, V. (2012, February). Characterizing the scope and depth of pre-calculus students' fabric of understandings about quadratic functions: A multiple case study. Paper presented at the Annual

Meeting of the Southwest Educational Research Association, New Orleans, LA.

Sevim, V. & Sheets, C. (2011, October). Diverse strategies for learning addition combinations in different cultures around the world. Presented at the 2011 State Mathematics Conference of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.

Sheets, C. & Sevim, V. (2011, October). Developing mentoring models for pre-service K-6 elementary teacher education. Paper presented at the 2011 Mentoring Conference at the University of New Mexico, Albuquerque, NM.

Sevim, V. & Wiggan, G. A. (2011, September). Using spatialized ontology in Rolland Paulston's social cartography theory as a way of promoting complex and heterogeneous form of engagement in mathematics education. Paper presented at the 56th Annual Meeting of the South Atlantic Philosophy of Education Society, School of Education, Virginia Commonwealth University, Richmond, VA.

Sevim, V. & Wiggan, G. A. (2011, April). A social cartography of difference in mathematics education. Paper presented at the 2011 Annual Meeting of the American Educational Research Association, New Orleans, LA.

Sevim, V. & Cifarelli, V. (2010, February). Students' understanding of quadratic functions and their graphs. Paper presented at the Annual Meeting of the Southwest Educational Research Association, New Orleans, LA.

Cifarelli, V., Goodson-Espy, T. & Sevim, V. (2010, February). Abduction, generalization, and abstraction in mathematical problem solving. Paper presented at the Annual Meeting of the Southwestern Educational Research Association, New Orleans, LA.

PROFESSIONAL DEVELOPMENT:

Mathematics Education: Dutch Perspectives from the Freudenthal Institute August 2012
Two-week Summer Workshop, Utrecht, Netherlands

The University Taskforce on Communication across the Curriculum May 2011
(CAC) Summer Institute Communication Enhanced Curriculum Workshop

Charlotte Mecklenburg Schools August 2005-August 2010
Completed 329.5 Continuing Education Hours
(32.95 Continuing Education Units) Transcript available upon request

Duke University Howard Hughes Summer Workshop June 2009
Integrating the Quantitative and Life Sciences for North Carolina
Secondary School Biology and Mathematics Teachers, Durham, NC

NCTM SPA-Report Training April 21, 2017
USC-Upstate Council for the Accreditation of Educator Preparation (CAEP)

SERVICE ACTIVITIES:

Director, Mathematics Opportunities in the Summer (MOS) March 2021-Present
A ten-day residential math camp for local high school students

Co-founder of USCB Math Bootcamp, a week-long intensive math course to help incoming freshmen students become college-ready	February 2017-Present
Served on 15 Committees USCB (Standing, Ad hoc, and University)	August, 2015-Present
Co-chair of USCB International Programs Committee	August, 2021-Present
Co-founded USCB Math Circle, a monthly outreach event for mathematics teachers	January 2017-June 2017
Organized and hosted a STEM Conference at USCB	March 2018
Created eight mathematics tests, all aligned with the latest Virginia SOLs, for the purpose of Screening Math Skills of Newly Enrolled ELLs [These screeners are currently being used by Chesterfield County Public School District, VA.]	2012-2013
Served as the mathematics professional development and curriculum consultant for All Saints Catholic School, Richmond, VA.	2011-2014

PROFESSIONAL ACTIVITIES:

Reviewer, <i>Journal for Research in Mathematics Education</i> (JRME)	July 2016-Present
Reviewer, <i>Mathematical Thinking and Learning</i> (MTL)	October 2021-Present
Reviewer, North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)	August 2015-Present
Reviewer, <i>Constructivist Foundations</i>	November 2014-Present
Reviewer, <i>School Science and Mathematics</i>	March 2012-May 2015
Reviewer, <i>Teaching Children Mathematics</i>	February 2012-May 2015
Reviewer, Southwest Educational Research Association (SERA)	August 2011-Present
Member, Mathematics and Science Education Student Affiliates Committee The University of North Carolina at Charlotte Center for Science, Technology, Engineering and Mathematics (STEM) Education	August 2010-August 2011
Member, STEM Education Committee Virginia Commonwealth University, School of Education, Department of Teaching and Learning	August 2013-May 2015

PROFESSIONAL ORGANIZATIONS:

American Educational Research Association (AERA)

Association of Mathematics Teacher Educators (AMTE)
 Mathematical Association of America (MAA)
 National Council of Teachers of Mathematics (NCTM)
 Southwestern Educational Research Association (SERA)
 School Science and Mathematics Association (SSMA)
 The Association for Supervision and Curriculum Development (ASCD)

GRANTS AND AWARDS:

USCB Mathematics Opportunities in the Summer. PI. POWER:ED Foundation Grant. Received: \$13,552.00.	May 2022
Math Opportunities in the Summer (MOS): USCB Summer Math Camp for High School Students. PI. Community Foundation of the Lowcountry Grant. Received: \$8,000.00.	July 2022
Math Opportunities in the Summer (MOS): USCB Summer Math Camp for High School Students. PI. Community Foundation of the Lowcountry Grant. Received: \$33,075.00.	May 2021
Improving Mathematics Education in the Lowcountry Region of South Carolina: A Research-Partnership Project. PI; \$310,559.01. Submitted to Spencer Foundation. Not funded.	December 2020
Building Capacity in USCB Secondary Mathematics Teacher Certification. PI; \$50,836.00. Submitted to National Science Foundation, NOYCE Program. Not funded.	August 2019
Developing an Alternative College Algebra Curriculum to Increase Incoming Freshmen Students' Prerequisite Math Knowledge. PI. USC-RISE Grant. Received: \$5,160.00.	January, 2019
Building Capacity in USCB Secondary Mathematics Teacher Certification. PI; \$53,035.00. Submitted to National Science Foundation, NOYCE Program. Not Funded.	August, 2018
Developing an Alternative College Algebra Curriculum to Increase Incoming Freshmen Students' Prerequisite Math Knowledge. PI; \$4,657.00. Submitted for USC-RISE Grant; Not Funded.	December, 2017
Designing an Alternative College Algebra Curriculum to Better Support USCB Freshmen Students in MathB111. PI; \$5,657.52. Submitted for USC-RISE Grant; Not Funded.	December, 2016
Math Workshops for Parents: A Community Enrichment Professional Teacher-Parent Math Partnership Initiative at All Saints Catholic School, Richmond, VA. Submitted to Richmond Public Schools, Richmond, VA. Received: \$1,875.00	October, 2014

CS10K: A Pedagogically-Focused Teacher Training Program using the Traditional Collegiate CS Curriculum. Co-PI. \$998,000.00. Submitted to National Science Foundation; Not Funded.	March, 2014
A Quest for an Online Community of Learners: An Elementary Pre-Service Teacher Project. Co-author and partner. \$50,000.00. Submitted to Virginia Commonwealth University; Not Funded.	November, 2014
Virginia Commonwealth University, School of Education, Faculty Professional Development Fund. Received: \$1,000.00.	February 2012
The Chancellor's Diversity Challenge Fund / The Crossroads Charlotte Initiative Mini-Grant The University of North Carolina at Charlotte. Received: \$1,000.00.	March 2011
Graduate Student Conference Travel Grant The University of North Carolina at Charlotte, College of Education, Curriculum and Instruction. Received: \$500.00.	February 2011
Graduate Student Conference Travel Grant The University of North Carolina at Charlotte, College of Education, Curriculum and Instruction. Received: \$500.00.	February 2010
ETS (Educational Testing Services) Recognition of Excellence in Acknowledgement of Outstanding Score on the Praxis Series: Mathematics Content Knowledge Test	November 2004
Full Graduate Scholarship Award from Department of Education, Republic of Turkey	June 1999-May 2004