

ELIZABETH GARZA LEYVA
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EDUCATION

Ph.D. in Education August 2016

(Specialization: Mathematics Education)

Southern Methodist University

Annette Caldwell Simmons School of Education and Human Development

Dissertation Title: *Factors Impacting College Algebra Readiness: Pathways through Developmental Mathematics*

Advisor: Dr. Candace Walkington

Ph.D. fully funded by Annette Caldwell Simmons Scholarship

M.A. in Mathematics August 2006

University of Texas at Arlington

Department of Mathematics

Master's Project: *Bridging the Gap: An Investigation of College Readiness in Mathematics in Texas*

Supervising Professor: Dr. James (Epperson) Alvarez

B.A. in Mathematics, *magna cum laude* May 1991

University of Texas at Austin

Department of Mathematics

Full scholarship awarded

TEACHING & ADMINISTRATIVE APPOINTMENTS

HIGHER EDUCATION

Director, Entry-Level Mathematics & Instructional Assistant Professor Fall 2020 – present

Texas A&M University San Antonio

Computer, Engineering, and Mathematical Sciences (CEMS) Department (Fall 2023 – current)

Mathematical, Physical and Engineering Sciences (MPES) Department (Fall 2020 – Summer 2023)

Faculty member with responsibility for implementation of co-requisite mathematics program; responsible for teaching, as well as scheduling, staffing, and professional development for faculty teaching entry-level mathematics courses. Collaborate and regularly communicate with college personnel to improve outcomes in mathematics related to testing, advising, tutoring, and dual credit. Responsible for 50% teaching load.

Division Chair & Faculty Member Fall 2017 – Summer 2020

North Central Texas College

Mathematics Division

Supervised department of approximately 17 full-time and 50 adjunct faculty, teaching developmental, co-requisite, and credit mathematics. Collaborated with college personnel systemwide to implement co-requisite courses for underprepared students in mathematics. Managed department scheduling, budget, faculty evaluations, and implementation of college initiatives. Designed and implemented ongoing faculty professional development and mentoring. Responsible for 40% teaching load.

Department Chair & Faculty Member Fall 2008 – Summer 2012;

North Central Texas College

Fall 2015 – Summer 2017

College Preparatory Studies Department

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Supervised department of approximately 9 full-time and 30 adjunct faculty, teaching developmental mathematics, reading, and writing. Managed department scheduling, budget, faculty evaluations, and implementation of college initiatives. Designed and implemented ongoing faculty professional development and mentoring. Responsible for 60% teaching load.

Faculty Member

Fall 2007 – Summer 2008

North Central Texas College

College Preparatory Studies Department

Adjunct Faculty

Jan 2017 – Spring 2020

University of Texas at Arlington

Mathematics Department

Adjunct Faculty

Fall 2014 – Spring 2020

Southern Methodist University

Mathematics Department

Graduate Teaching Assistant

Fall 2012

Southern Methodist University

Simmons School of Education and Human Development

Visiting Scholar

Fall 2005 – Spring 2007

Eastfield College, Dallas County Community College District

Mathematics Department

Adjunct Faculty

Fall 2006 – Spring 2007

Tarrant County College, Southeast Campus

Mathematics Department

Adjunct Faculty

Fall 2004 – Spring 2005

Collin County Community College, Spring Creek Campus

Mathematics Department

Adjunct Faculty

Fall 2001 – Summer 2005

Brookhaven College, Dallas County Community College District

Mathematics Department

SECONDARY

Coppell High School, Coppell Independent School District

1996–1998

Mathematics Teacher

Courses Taught: Algebra II, Precalculus

Other activities: Student Council Co-Sponsor, Sunshine Committee

Newman Smith High School, Carrollton-Farmers Branch Independent School District

1991–1996

Mathematics Teacher

Courses Taught: Algebra I, Geometry, Algebra II, Precalculus, Trigonometry, Elementary Analysis, Probability and Statistics, Community Service elective

Other activities: Key Club Sponsor

Serrago Test Prep

Mathematics Teacher

1992–2021

Design curriculum, write practice problem sets, and teach SAT summer course to secondary students in local high schools

Certifications:

Texas Certified Teacher: Mathematics 6-12 Lifetime certificate

HIGHER EDUCATION COURSES TAUGHT

Texas A&M University San Antonio

Undergraduate Courses

MATH 0132, 0142, 0314, 0332 Support courses for corequisite instruction

MATH 1014 College Algebra Recitation

MATH 1024 Mathematics for Business and Social Sciences I Recitation

MATH 1042 Introductory Statistics Recitation

MATH 1314 College Algebra, College Algebra Corequisite

MATH 1324 Mathematics for Business and Social Sciences I

MATH 1332 Contemporary Mathematics, Contemporary Mathematics Corequisite

MATH 1342 Introductory Statistics

Course formats: Lecture, Recitation, Hybrid, Online (synchronous and asynchronous), Co-requisite (Credit course with integrated remediation), Dual Credit, Open Educational Resources (OER)

North Central Texas College

Undergraduate courses

MATH 0303 Pre-Algebra

MATH 0305 Beginning Algebra

MATH 0310 Intermediate Algebra

MATH 1314 College Algebra; Integrated College Algebra (co-requisite)

MATH 1324 Integrated Business Mathematics (co-requisite)

MATH 1332 Contemporary Mathematics; Integrated Contemporary Mathematics (co-requisite)

MATH 1342 Elementary Statistics; Integrated Elementary Statistics (co-requisite)

NCBM 0100/0132/0214/0224 Non-Course Based Interventions (co-requisite)

Course formats: Lecture, Computer-Assisted Instruction, Self-Paced, Web-Based Online, Hybrid, Accelerated “Fast Track” (8 week model), Co-requisite (Credit course with integrated remediation)

University of Texas at Arlington

Accelerated online courses for Nursing students

MATH 1308 Elementary Statistics

Southern Methodist University

Undergraduate courses

MATH 1303 Precalculus for Business and Social Sciences*

MATH 1304 Precalculus

Course formats: Lecture, Online (*Invited to develop and teach first online course offered in Mathematics Department at SMU)

Southern Methodist University

Graduate Teaching Assistant in Undergraduate Teacher Preparation program for C. Walkington

EDU 5355 Elementary Math Methods

Assisted with the teaching of a mathematics pedagogy class for pre-service elementary teachers. Course focused on standards-based (NCTM, CCSS) instruction in elementary mathematics, including principles of Cognitively Guided Instruction.

Eastfield College, Dallas County Community College District

Undergraduate courses

DMAT 0066 Basic Arithmetic
DMAT 0090 Pre-Algebra
DMAT 0097 Beginning Algebra
DMAT 0098 Intermediate Algebra

Course formats: Lecture, Computer-Assisted Instruction, Self-Paced

Tarrant County College, Southeast Campus

Undergraduate courses

MATH 1314 College Algebra
MATH 1316 Trigonometry
MATH 1325 Business Calculus
MATH 1342 Elementary Statistics

Course format: Lecture

Collin County Community College, Spring Creek Campus

Undergraduate courses

MATH 0300 Pre-Algebra
MATH 0305 Beginning Algebra
MATH 0310 Intermediate Algebra

Course formats: Flex Entry, Web-Based, Self-Paced

Brookhaven College, Dallas County Community College District

Undergraduate courses

DMAT 0090 Pre-Algebra
DMAT 0097 Beginning Algebra
DMAT 0098 Intermediate Algebra

Course format: Lecture

PEER REVIEWED PUBLICATIONS (name change from Howell to Leyva in 2020)

****indicates Corresponding Author***

Walkington, C., Bernacki, M., **Leyva, E.**, & Istas, B. (2025). When am I (n)ever going to use this? How algebra is used in STEM-related careers. *Journal for Research in Mathematics Education*.
<https://doi.org/10.5951/jresematheduc-2023-0091>

Walkington, C., Bernacki, M., Vongkulluksn, V., Greene, M., Darwin, T., **Leyva, E.**, Istas, B., Hunnicutt, J., Washington, J., Wang, M. (2024). The effect of an intervention personalizing mathematics to students' career and popular culture interests on math interest and learning. *Journal of Educational Psychology*. Advance online publication. <https://doi.org/10.1037/edu0000840>

Leyva, E.*, Walkington, C., Bernacki, M., Perera, H. (2022). Making mathematics relevant: An examination of student interest in math, interest in STEM careers, and perceived relevance.

- Howell, E.***, Walkington, C., Bernacki, M., & Istas, B. (2020). The connection between perception of utility in careers with math and STEM career interest. In Karunakaran, S.S., Reed, Z., & Higgins, A. (Eds.), *Proceedings of the 23rd Annual Conference on Research in Undergraduate Mathematics Education* (pp. 1168-1169). Boston, Massachusetts.
- Howell, E.***, & Walkington, C. (2020). Factors associated with completion: Pathways through developmental mathematics. *Journal of College Student Retention: Research, Theory & Practice*. <https://doi.org/10.1177/1521025119900985>
- Howell, E.***, & Walkington, C. (2019). An exploration of math attitudes and STEM career interests for community college students. In Weinberg, A., Moore-Russo, D., Soto, H., & Wawro, M. (Eds.), *Proceedings of the 22nd Annual Conference on Research in Undergraduate Mathematics Education* (pp. 1121-1122). Oklahoma City, Oklahoma.
- Sherman, M., Walkington, C., & **Howell, E.** (2016). A comparison of Symbol-Precedence View in investigative and conventional textbooks used in Algebra courses. *Journal for Research in Mathematics Education*, 47(2), 134-146.
- Howell, E.***, & Walkington, C. (2016). The role of support structures in the success of developmental mathematics programs. In Adolphson, K. and Olson, T. (Eds.). *Proceedings of the 43rd Annual Meeting of the Research Council on Mathematics Learning*. Orlando, FL.
- Howell, E.***, & Walkington, C. (2015). An examination of factors impacting college algebra readiness: Pathways through developmental mathematics. In Che, S. M. and Adolphson, K. A. (Eds.). *Proceedings of the 42nd Annual Meeting of the Research Council on Mathematics Learning*. Las Vegas, NV.
- Walkington, C., Sherman, M., & **Howell, E.** (2014). Personalized learning in algebra. *Mathematics Teacher*, 108(4), 272-279.

MEDIA & TECHNICAL REPORTS (name change from Howell to Leyva in 2020)

- Walkington, C., **Leyva, E.**, & Istas, B. (2024, December 2). When am I (n)ever going to use this? How algebra is used in STEM-related careers. JRME Talks Webinar series.
- Walkington, C., **Leyva, E.**, Bernacki, M., Wang, M., Istas, B., Hunnicutt, J., Heffernan, N., & Greene, M. (2021, May 11-18). When am I ever going to use this? Personalizing Mathematics to Maximize Relevance for Tomorrow's STEM Workforce. 2021 STEM For All Video Showcase: Covid, Equity, & Social Justice. <https://multiplex.videohall.com/presentations/1917>
- Howell, E.**, Purpura, D., & Solari, E. (2021, Feb 10). Why are so many 12th graders not proficient in reading and math? The Conversation. <https://theconversation.com/why-are-so-many-12th-graders-not-proficient-in-reading-and-math-149514>
- Howell, E.**, Nippert, R., Axel, S., & Guthery, S. (2014). *Mercy Street survey of resilience: Documentation of development*. (Technical report). Dallas, TX: Southern Methodist University, Annette C. Simmons

School of Education & Human Development. (NOTE: all authors contributed equally to this project)

Howell, E., Suhy, T., Parker, A., Guthery, S., Ortiz, M., Grayson, B., Axel, S., Rahim, H., Springer, K. (2014). Champions of Hope Program Evaluation. (Technical report). Southern Methodist University, Dallas, TX. (NOTE: all authors contributed equally to this project)

Walkington, C., & **Howell, E.** (2013, June 5). All Resources are Not Created Equal! A Closer Look at Algebra I Textbooks [web log post]. Retrieved from <http://researchinmath.blogspot.com/2013/06/all-resources-are-not-created-equal.html>

Axel, S. L., Hatfield, C., **Howell, E.**, Ratliff, B., & Simon, E. (2013). Research in Mathematics Education (RME) item writing style guide. Southern Methodist University, Dallas, Texas.

Axel, S. L., Hatfield, C., **Howell, E.**, Ratliff, B., & Simon, E. (2013). Istation Screener Update Grades 2-8 item writer's guide. Southern Methodist University, Dallas, Texas.

Suhy, T.M., Howell, E., & Parker, A. (2013). *Engaging in the success of our children*. Center on Communities and Education, Southern Methodist University. Final Report.

RESEARCH & GRANT EXPERIENCE (name change from Howell to Leyva in 2020)

Enhancing Cyberinfrastructure-infused Research at Texas A&M University-San Antonio (ECR-TAMUSA) (2025-2027)

Funded by National Science Foundation

Co-PI: Elizabeth Leyva

Amount: \$139,425

Develop scalable, high-performance computing (HPC) solutions tailored to interdisciplinary research needs; enhance data storage and sharing capabilities to enable seamless access and analysis for local and national research projects; establish strong connections with national CI ecosystems, implement structured planning for new research avenues, ensuring alignment with TAMUSA's strategic goals and NSF's mission; and prioritize robust cybersecurity measures to protect sensitive research data and ensure compliance with federal guidelines.

College Readiness and Success Models (CRSM) Grant (2024-2026)

Funded by Texas Higher Education Coordinating Board, implemented at Texas A&M University San Antonio

Co-Directors: Elizabeth Leyva and Sonya Eddy

Amount: \$125,000

Scaling of corequisite initiatives, including course development and professional development for corequisite faculty in mathematics and English.

Student Success Acceleration Projects (SSAP) 2.0 Grant (2024-2026)

Funded by Texas Higher Education Coordinating Board, implemented at Texas A&M University San Antonio

Co-Directors: Elizabeth Leyva and Kim Nanez

Amount: \$249,923

Development of basic needs supports for at-risk students, including laptop program, scholarships, and emergency funds.

CC* Strategy-Campus: Accelerating Research Computing at Texas A&M San Antonio (ARCATS) (2024-2025)

Funded by National Science Foundation

Co-PI: Elizabeth Leyva

Amount: \$120,000

Funds intended to enhance research capability through wider access to high speed computing; develop infrastructure and planning for increasing access to the university community.

San Antonio Area Foundation (SAAF) Inclusive Access Grant (2023–2024)

Funded by San Antonio Area Foundation

PI: Elizabeth Leyva

Amount: \$20,000

Program addressing inclusive access for all students, with a focus on improving and optimizing teaching for all students.

Corequisite Courses and Completion (3C) Model Grant (2021–2023)

Funded by Texas Higher Education Coordinating Board, 2021 College Readiness and Completion Models Grant, implemented at Texas A&M University San Antonio

Co-Directors: Elizabeth Leyva and Sonya Eddy

Amount: \$99,135

Comprehensive project for corequisite implementation and support, including the development of multiple measures placement tools, course and format pathways for underprepared students, and faculty professional development as ways to improve student outcomes and readiness for credit level mathematics and English coursework.

College Readiness and Success Models (CRSM) for 60x30 TX Grant (2020–2022)

Funded by Texas Higher Education Coordinating Board, implemented at North Central Texas College

Funded Amount: \$99,942

Comprehensive project for full-scale corequisite implementation and support, including professional development, tutor support, and technology to support Math and English corequisite courses.

**Submitted successful proposal but left institution before funding was awarded*

National Science Foundation Research Opportunity Award Supplemental Grant (2019–2021)

Funded by National Science Foundation

PI: Elizabeth Howell (PUI: North Central Texas College)

Amount: \$28,622.00

Originating Grant: NSF Innovative Technology Experiences for Students and Teachers – “Personalizing Mathematics to Maximize Relevance and Skill for Tomorrow's STEM Workforce” – Southern Methodist University (https://www.nsf.gov/awardsearch/showAward?AWD_ID=1759195&HistoricalAwards=false)

Subject Matter Expert: Higher Education

iTEST Grant: Personalizing Mathematics to Maximize Relevance and Skill for Tomorrow's STEM Workforce (2018–2021)

Funded by National Science Foundation

Amount: \$1.3 million (3 years)

Principal Investigator: Candace Walkington

Serve as subject area expert in higher education; assist with coordination of surveys and interviews for College Algebra students; collaborate on analysis, publication, and reporting.

https://www.nsf.gov/awardsearch/showAward?AWD_ID=1759195&HistoricalAwards=false

Partner, Texas Regional Alignment Networks (TXRAN) Pathways Grant, Denton County (2016–2020)

Funded by Texas Higher Education Coordinating Board

Served as North Central Texas College representative and facilitator for regional college mathematics readiness project with the University of North Texas, local ISD's, and collaborating institutions in the region. Activities include creating online resources for faculty, facilitating conversations among secondary and post-secondary faculty, and hosting an annual symposium focusing on college readiness in mathematics for the North Texas region.

External Evaluator and Consultant, TWC Fast Start Grant (2015–2016)

Funded by Texas Workforce Commission, implemented at North Central Texas College

Serve as third-party evaluation for Texas workforce grant; review quarterly reports and produce summary evaluative reports.

Scaling and Sustaining Success (S3) Grant (2012–2015)

Funded by Texas Higher Education Coordinating Board, implemented at North Central Texas College

Director: Elizabeth Howell

Amount: \$300,000

Developmental mathematics initiative including course redesign and faculty professional development as ways to improve student outcomes and readiness for credit level mathematics coursework.

Graduate Research Assistant (2012–2015)

Department of Teaching and Learning, Simmons School of Education and Human Development, Southern Methodist University

Worked as a graduate research assistant for Dr. Candace Walkington on several projects related to personalized learning in mathematics, including an NSF-funded grant “Personalizing Algebra Instruction to Student Interests” (2012-2014). Assisted with research design and collection of data, communicating with teachers and other collaborators, coding and analyzing data using qualitative and quantitative methods, and writing for publication.

Graduate Research Assistant (2012–2014)

Research in Mathematics Education Unit, Southern Methodist University

Participated as active member of the Research in Mathematics Education unit, a collaborative of faculty, graduate students, and master teachers affiliated with mathematics education grants at Southern Methodist University (see <http://www.smu.edu/Simmons/Research/RME>). Assisted with research design and collection of data, survey recruitment and design, item writing for large-scale assessments, and writing for publication.

Community College Developmental Education Innovation Project (CCDEIP) (2009–2011)

Funded by Texas Higher Education Coordinating Board, implemented at North Central Texas College

Director: Elizabeth Howell

Amount: \$100,000

Summer “boot camp” for area graduating high school seniors with demonstrated mathematics deficiencies; students enrolled in two courses and received support via workshops from Student Success.

Project Director: Go For It Grant (2008, 2009, 2010, 2011, 2012)

North Central Texas College

Project: College Math Readiness Symposium, in collaboration with UNT and TWU

Amount: \$2000 annually (\$10,000 total)

Collaboration between area faculty from two-year and four-year institutions, as well as secondary math teachers from local middle and high schools. Sessions addressed issues related to college readiness and ways by which student placement into credit math courses upon college entrance could be improved.

CONFERENCE PRESENTATIONS (name change from Howell to Leyva in 2020)

Leyva, E. (November 2024). Giving students choice: Multiple measures in math placement. Session presentation at 50th American Mathematical Association of Two-Year Colleges Annual Conference, Atlanta, GA.

Renninger, K.A., Walkington, C., Bernacki, M., Greene, M., Istas, B., **Leyva, E.**, & Darwin, T. (April 2023). Leveling the playing field: Utilizing interest and/or value for engagement and learning. Paper presented at 2023 Annual Meeting of the American Educational Research Association, Chicago, IL.

Leyva, E., Eddy, S., Garcia, S., Casarez, J., Palumbo, N. (March 2023). Mandated assessment: The convergence and divergence of power and placement. Panel presentation at the 2023 College English Association Conference, San Antonio TX.

Leyva, E., Eddy, S., Owens, B., & Weinzapfel, K. (September 2022). Multiple measures: A tale of two cities. Session presentation at College Academic Support Programs (CASP) Conference 2022, Online virtual meeting, hosted by Houston Community College.

Walkington, C., Bernacki, M., Greene, M., Istas, B., **Leyva, E.**, & Darwin, T. (April 2022). Personalizing Mathematics to Students' Career Interests Using the "Stories of Algebra" Online Environment. Paper presented at 2022 Annual Meeting of the American Educational Research Association, San Diego, CA.

Istas, B., Walkington, C., Bernacki, M., & **Leyva, E.** (July 2021). When am I (n)ever going to use this? How engineers use algebra (NSF DRL). Poster presentation at the 2021 American Society for Engineering Education Annual Conference, Long Beach, CA.

Leyva, E. (April 2021). Making mathematics relevant: An examination of student interest in Math, interest in STEM careers, and perceived relevance. Session presentation at the 5th Coastal Bend Mathematics and Statistics Conference. Online virtual meeting, hosted by Texas A&M University San Antonio, San Antonio, TX.

Walkington, C., Bernacki, M., Wang, M., Greene, M., Istas, B., & **Leyva, E.** (April 2021). Posing Math Problems about STEM Careers: An Examination of Scaffolds and the Role of Interest. Paper presented at 2021 Annual Meeting of the American Educational Research Association.

Walkington, C. A., **Howell, E.**, Istas, B. & Bernacki, M. L. (April 2020). The relationship between math interest and STEM career interest: When am I ever going to use this? [Roundtable Session]. AERA Annual Meeting San Francisco, CA <http://tinyurl.com/u7y2pnu> (Conference Canceled).

Howell, E., & Walkington, C., Bernacki, M., & Istas, B. (February 2020). The connection between perception of utility in careers with math and STEM career interest. Poster presentation at the 23rd Annual Conference on Research on Undergraduate Mathematics Education, Boston, MA.

Howell, E., Gossett, M., & Keller, J. (March 2019). Co-Requisite Implementation at North Central Texas College. Session presentation at North Texas Community College Consortium Regional Developmental Education Forum, Gainesville, TX.

Howell, E., & Walkington, C. (February 2019). An exploration of math attitudes and STEM career interests for community college students. Poster presentation at the 22nd Annual Conference on Research on Undergraduate Mathematics Education, Oklahoma City, OK.

Howell, E., Harris, M., & Keller, J. (October 2018). Changes in college math and you! ESC 11 Regional Counselor Summit, White Settlement, TX.

Howell, E. (October 2018). Mathematics initiatives at North Central Texas College. Invited presenter at Mathematics & Statistics Co-Requisite Summit, Irving TX.

- Howell, E., Keller, J. & Gossett, M.** (October 2018). Statistics at North Central Texas College. Session presentation at the Conference for Academic Support Programs, El Paso, TX.
- Howell, E.** (July 2018). Mathematics initiatives at North Central Texas College. Session presentation at North Texas Community College Consortium Regional Developmental Education Forum/McCabe Conference, Dallas, TX.
- Barber, M., Harris, M., **Howell, E.**, Keller, J., & Matamoros, B. (October 2017). Postsecondary connections: Current developments in mathematics curriculum and implications for college readiness and advising. Panel discussion, North Texas Community College Consortium Regional Counselor's Summit, Region 11 ESC, White Settlement, TX.
- Howell, E.** (October 2017). Factors impacting College Algebra readiness: Pathways through developmental mathematics. Research mini-session presented at the Conference for Academic Support Programs, Galveston, TX.
- Howell, E., & Vorwerk, S.** (July 2017). Fun for Algebra II, Precalculus, and Calculus classes. Session presentation at the Conference for the Advancement of Mathematics Teaching, Fort Worth, TX.
- Howell, E.** (April 2017). Fun and easy activities for engaging students. Session presentation at North Texas Community College Consortium Regional Developmental Education Forum, Dallas, TX.
- Howell, E., Gossett, M., & Blagg, L.** (April 2016). The many faces of NCBO's. Session presented at the North Texas Community College Consortium Regional Developmental Education Forum, Arlington TX.
- Howell, E., & Guthery, S.** (February 2016). Qualitative development of a resilience survey. Paper presented at Southwest Educational Research Association, New Orleans, LA.
This paper won Outstanding Research Award for Graduate Students and a \$150 prize
- Howell, E., Suhy, T., Parker, A., Guthery, S., Grayson, B.** (February 2016). Conducting a program evaluation for an urban mentoring program. Paper presented at Southwest Educational Research Association, New Orleans, LA.
- Suhy, T., & **Howell, E.** (February 2015). An evaluation of the college expectations survey. Paper presented at the Southwest Educational Research Association, San Antonio, TX.
- Howell, E., & Hill, S.** (July 2014). Precalculus 911. Session presentation at the Conference for the Advancement of Mathematics Teaching, Fort Worth, TX.
- Howell, E., Alford, S., & Wilson, A., & Fuqua, L.** (March 2014). Innovations in mathematics courses at North Central Texas College. Session presented at National Association for Developmental Education, Dallas, TX.
- Howell, E.** (February 2014). Robust regression procedures to handle outliers. Paper presented at Southwest Educational Research Association, New Orleans, LA.
- Walkington, C., Cooper, J., & **Howell, E.** (November 2013). The effects of visual representations and interest-based personalization on solving percent problems. *Proceedings of the 35th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics*

Education, edited by M. Martinez and A. Castro Superfine, pp. 533-536. Chicago, IL: University of Illinois at Chicago. (NOTE: Both Walkington and Cooper are first authors on this paper).

- Walkington, C., Clinton, V., & **Howell, E.** (November 2013). The associations between readability measures and problem solving in algebra. *Proceedings of the 35th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, edited by M. Martinez and A. Castro Superfine, pp. 86 - 89. Chicago, IL: University of Illinois at Chicago.
- Clinton, V., Walkington, C., & **Howell, E.** (November 2013). Exploring connections between story problem topics and problem solving: Is work hard and socializing easy? *Proceedings of the 35th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, edited by M. Martinez and A. Castro Superfine, pp. 1260–63. Chicago, IL: University of Illinois at Chicago.
- Sherman, M., Walkington, C. & **Howell, E.** (April 2013). A comparison of presentation format in standards-based and traditional algebra curricula. Presentation at the Research Presession of the 2013 National Council of Teachers of Mathematics Annual Meeting and Exposition. Denver, CO.
- Howell, E.**, Alford, S., Wilson, A., & Fuqua, L. (April 2013). Innovations in mathematics courses at North Central Texas College. Session presentation at North Texas Community College Consortium Regional Developmental Education Forum, Fort Worth, TX.
- Howell, E.**, & Vorwerk, S. (July 2012). Adding fun and variety to Algebra 2, Pre-calculus, and Calculus classes. Session presentation at Conference for the Advancement of Mathematics Teaching, Houston TX.
- Howell, E.**, Klohn, A., Wallace, B., Fleniken, T., & Fletcher, G. (July 2012). Xtreme academic makeover-transformation & renovation for student success. Session presentation at 2nd Annual College Success Summit, Austin TX.
- Howell, E.**, & Vorwerk, S. (July 2011). Adding fun and variety to Algebra 2, Pre-calculus, and Calculus classes. Session presentation at Conference for the Advancement of Mathematics Teaching, Grapevine TX.
- Howell, E.** (March 2011). College Algebra 101. Session presentation at 3rd Annual College Mathematics Readiness Symposium, Denton TX.
- Howell, E.**, & Vorwerk, S. (July 2009). Beyond TAKS: What about college? Session presentation at Conference for the Advancement of Mathematics Teaching, San Antonio, TX.
- Mason, D., Ford, R., **Howell, E.**, Edwards, D., Teel, M., Lynch, M. & Jones, J. (November 2009). Panel discussion: Creating vertical curriculum alignment, Texas College & Career Readiness Regional Roundup, Grapevine TX.
- Howell, E.** (July 2009). Invited speaker, lunch mini-session. Texas College and Career Readiness Symposium for Chemistry, Dallas TX.

PROFESSIONAL HONORS/AWARDS

American Mathematics Association for Two-Year Colleges (AMATYC) Regional Award
Awarded for AMATYC Southwest region; Travel scholarship

2024

Distinguished Faculty Service Award

2023

University-level service award, selected by Provost's Committee on Faculty Recognition; recognized at Fall Convocation ceremony and awarded a \$1000 cash prize

STEM For All Video Showcase, Facilitator's Choice Award

2021

North Central Texas College Foundation Patrons Honor Circle Inductee

2021

Southern Methodist University

Annette Caldwell Simmons Scholarship for fully funded Ph.D. studies 2012–2016

Dean's Award for Outstanding Research, PhD Program, Simmons School of Education and Human Development 2016

Recipient of Graduate Council Research Funding 2013, 2014, 2015, 2016

Outstanding Research Award, Southwest Educational Research Association (SERA)

2016

Conference paper awarded Dean's Award for outstanding research for graduate students and \$150 prize. New Orleans, LA.

Project ACCESS Fellow, American Mathematical Association of Two-Year Colleges

2009–2011

PROFESSIONAL ACTIVITIES

Corequisite Fellows Professional Development Series

2024–2026

Organized monthly faculty professional development sessions on various topics:

Understanding corequisite instruction (online), best practices for corequisite instruction, growth mindset and motivation, student services for TAMUSA students (online), increasing student engagement in classroom discussions (online), and trauma-informed teaching (online).

Credit Recovery Workshops for MATH courses

2024–2025

Led recruiting efforts, trained and coordinated with faculty teaching the workshop, developed review materials and final exams, facilitated grade changes with responsible faculty, reported results to stakeholders

CircleIn App for Student Engagement

2024–2025

Faculty representative in planning meetings; assisted with successful pilot launch in Fall 2024 for select Math courses

Charles A. Dana Center Deepening Corequisites Across Texas (DCAT)

2024–2025

Professional Learning Series

Online sessions for corequisite faculty to discuss various ways to design and improve co-requisite courses

Teaching Through the Issues

2024

Faculty participant in course redesign, centered around topic of water

AASCU Leading from the Middle

2024

Invited to participate in workshop series for mid-level leaders

Host, Student Listening Sessions

2024

Invited students to attend and share opinions; coordinated food for events

- Coordinator, Professional Development Series for Engaged Teaching** 2024
Organized monthly faculty online professional development sessions on various topics: Active Learning (presenter Dr. April Strom); Alternative Assessment (presenter Dr. Amber Sarker); Best Practices for Neurodivergent Students (presenter Lindsay Masters); Course Design For Math Success (presenters UTSA faculty); Structured Collaborations for College Algebra Success (presenters UTSA faculty)
- Center for Academic Innovation presenter** 2024
Faculty brown bag session: “Lessons from Lilly: A Hodgepodge of Engagement Ideas”
- Association of College and University Educators (ACUE, ACUE.org) Facilitator** 2021–2022, 2022–2023
Faculty Professional Development – *Effective Teaching Practices Series* (25-week course)
Responsible for monitoring faculty participants’ engagement in content, encouraging completion of weekly tasks, and participating in discussions related to best practices in higher education teaching. Also coordinated end of year presentation, certificates of completion, and stipends for completing faculty. Micro-credentials covered: Creating an Inclusive and Supportive Learning Environment, Promoting Active Learning, Inspiring Inquiry and Preparing Lifelong Learners, Designing Student-Centered Courses
- Association of College and University Educators (ACUE, ACUE.org) Course Taker** 2021–2024
Faculty Professional Development – *Effective Teaching Practices Series* (25-week course; 2021-2022)
Engaged in weekly modules on a variety of pedagogical best practices in higher education. Lessons included video content, discussion boards, and reflections on how material would be implemented in the classroom. Micro-credentials earned: Creating an Inclusive and Supportive Learning Environment, Promoting Active Learning, Inspiring Inquiry and Preparing Lifelong Learners, Designing Student-Centered Courses
- Faculty Professional Development – *Inclusive Teaching for Equitable Learning Series* (6-week course; 2023)
Engaged in weekly modules on a variety of pedagogical best practices in higher education related to equity and inclusion. Lessons included video content, discussion boards, and reflections on how material would be implemented in the classroom. Micro-credentials earned: Managing the Impact of Biases, Reducing Microaggressions in Learning Environments, Addressing Imposter Phenomenon and Stereotype Threat, Creating Inclusive Learning Environments, Designing Equity-Centered Courses
- Faculty Professional Development – *Promoting Active Learning Online* (6-week course; 2024)
Engaged in weekly modules on a variety of pedagogical best practices in higher education related to online teaching and student engagement. Lessons included video content, discussion boards, and reflections on how material would be implemented in the classroom. Micro-credentials earned: Developing Effective Modules and Microlectures, Teaching Powerful Note-Taking Online, Using groups to Ensure Active Learning Online, Using the Active Learning Cycle in Online Courses, Planning Effective Online Discussions, and Facilitating Engaging Online Discussions
- Faculty Professional Development Presenter** 2021–2025
Workshops presented on various topics: Curriculum and assessment planning for various entry-level Math courses, MyMathLab assistance, Encouraging and Inclusive Practices, Games and Active Learning, Growth Mindset, Asset-Based Pedagogy, Cultural Relevance, Community Building
- Postsecondary Instructor Microcredential (PIM) Training** 2022
Badges earned: Building Community in an Online Environment (July 2022), Fostering College Student Motivation and Self-Regulation (August 2022), Embedding Learning Strategies into Curriculum (September 2022), Cultivating Growth Mindsets through Active Learning in Math (October 2022)

Charles A. Dana Center Focused Online Collaborative Interactions (FOCI)

2021

Professional Learning Series: Promoting Student Success in College Level Courses: *Designing and improving equitable and effective co-requisite courses*

Southern Methodist University Upward Bound program

2020

Teacher training for SAT Enrichment course

North Central Texas College Math Faculty Boot Camp

2019

Organized and taught six weekly workshops on pedagogy and best practices for mathematics faculty;
Topics included assessment, student engagement, curriculum planning, and teaching demonstrations

North Central Texas College Academic Leadership

2008–2020

Division Chair

Instructional Council

Achieving the Dream Core Leadership Team

North Texas Community College Consortium Assessment Leadership Institute (CALI)

2018–2019

SERVICE

*Institutional Service***Texas A&M University San Antonio****Committee work**

Member, Faculty Senate Workload Taskforce (2024-2025)

Member, Jaguar Jumpstart Summer Bridge Program Planning Committee (2024–2025)

Member, Mathematics Program committee for Annual Evaluation Rubric development (2024)

Member, Learning Communities Advisory Committee (2024)

Member, AV Refresh Committee (2024)

Chair, Search Committee for Lecturer Mathematics Dual Credit Faculty (2024–2025)

Chair, Search Committee for Professional Track Mathematics Faculty (2023–2024)

Chair, Search Committee for Lecturer Mathematics Faculty (2023–2025)

Member, Search Committee for Tenure-Track Mathematics Faculty (2023)

Member, Search Committee for Administrative Associate V position (2022, 2023)

Member, Search Committee for Associate Vice Provost of Student Success and Retention (2022)

Member, University Dual Credit and Early College High School Task Force (2022–2024)

Member, Distinguished Faculty Performance Awards Committee (2022)

Member, Search Committee for Academic Peer Tutors (2022)

Member, Search Committee for Director of Parent Engagement (2022)

Member, Search Committee for Supplemental Instruction tutors (2021, 2022)

Chair, Search Committee for Adjunct Mathematics Faculty (2021, 2022, 2023, 2024, 2025)

Administrative/Program related activities

Author, Developmental Education Program Survey (annual THECB report) (2022–2024)

Facilitator, MATH1314 College Algebra First Friday Workshops (2024)

Tutor, Preparation for TExES Math certification exam (2024)

Facilitator, JagsROAR Math 7-12 Certification Exam preparation session (2024)

Presenter, MATH1314 Final Exam Review Sessions for students (2023, 2024)

Faculty Lead, Inclusive Access textbook program (2023–2025)

Facilitator, A&M-SA Mathematics Faculty Retreat (2023, 2024)

Coordinator, Texas Instruments Technology Rewards Program (2022–2025)

Panelist, Dual Credit/Early College High School Faculty Orientation (2022, 2023)
 Placement advisor, New Student Orientation sessions (Math portion) (2022–2025)
 Coordinator, Jaguar Jumpstart Summer TSIA Workshops (Math portion) (2022–2025)
 Appointed note taker, Mathematics Program meetings (2022–2025)
 Coordinator, Summer MATH College Readiness Bootcamp (Accelerate) (2022–2025)
 Organizer, Mathematics Program collegial efforts (collect donations, host retirement party) (2022)
 Assisted with onboarding new math faculty (2021–2025)
 Coordinator, Math Placement Test through ALEKS PPL (2022)
 Co-chair, Developmental Education Advisory Committee (2021–2023, 2024 – 2025)
 Presenter, TSIA Workshop (2020, 2021)

University activities

Invited Panelist, New Faculty Orientation Faculty Award Panel (2023)
 Presenter, Academic Leadership Deans & Chairs Retreat (2023)
 Elected department representative, College of Arts & Sciences Strategic Plan Task Force (2023)
 Member, MPES Department Core Curriculum Assessment group (Math designee) (2022–2023)
 Presenter, New Faculty Orientation to share ACUE course invitation (2022, 2023)
 Mentor, Faculty Advising program for incoming freshman students (2022–2023)
 Co-Founder, Rising Star Awards for College of Arts & Sciences (2022–2025)
 Volunteer, General's Store Food Pantry (weekly, 2022–2023)
 Panelist, Transfer Student Welcome and Orientation Sessions (2021–2022)
 Facilitator, ACUE Effective Teaching Practices (2021–2023)
 Member, Upward Bound Math & Science Planning and Proposal team (2020–2022)
 Donor, State Employee Charitable Campaign (SECC) (2020–2024)
 Invited speaker, Supplemental Instruction training workshop (2021)
 Donor, Adopt-A-Family holiday program (2020, 2021, 2022, 2023, 2024)

North Central Texas College

Reviewer, Scholarship Committee (2018–2019)
 Member, Student Financial Aid Appeals Committee (2017–2020)
 Member, Instructional Council (2008–2012; 2015–2020)
 Member, Student Success & Institutional Excellence Committee (2014–2017)
 Member, College Preparatory Studies Committee (2013)
 Secretary, Strategic Planning Committee (2010–2011)
 Member, Quality Enhancement Program (QEP) Committee (2009–2011)
 Member, TRiO Advisory Board (2007–2008)

Southern Methodist University

Mentor, Dissertation coach for PhD candidate Brooke Istas (2022–2023)
 Expert Reviewer, Dissertation Survey tool for PhD candidate Tiffini Pruitt-Britton (2022)
 Qualitative Research Team Member, studying the effectiveness of Mercy Street mentoring program (2013–2015)
 Session Chair, Research in Mathematics Education Annual Conference (2013, 2014)

Eastfield College

Sponsor, Math Club (2005–2007)
 Organizer and volunteer tutor, Eastfield Math Spot (2006–2007)
 Presenter, Eastfield College Study Skills Week (2006)

Local ISD Service
Somerset ISD

Presenter, College Visit Pep Rally

Invited speaker to share information with SISD students on TSIA and College Readiness (2022)

East Central ISD

Presenter, College Visit Pep Rally

Invited speaker to share information with ECISD students on TSIA and College Readiness (2022)

Highland Park ISD

Grader, Social Studies UIL Regional Competition, Highland Park High School, Highland Park, TX (2013, 2014, 2015)

Carrollton-Farmers Branch ISD

Parent-Teacher Association President, Blanton Elementary School (2010–2012)

Honored with PTA Lifetime Membership Award (2012)

Regional Service

Event Coordinator, Fermi Questions event, San Antonio Regional Science Olympiad (2023–2024)

Co-Presenter, Dual Credit/Early College High School Faculty Professional Series (2023)

Designed and delivered online workshop on TSIA and its impact on dual credit opportunities for students, especially within the ASPIRE network.

Jaguar Recruitment Ambassador (2023)

Member, Region 20 Education Service Center College Preparatory Mathematics Vertical Alignment Team (2021–2023)

Revised and rewrote Semester 1 final exam for all local high schools to use in 2022-2023 College Prep courses; mentored secondary math teachers on college readiness issues

Member, Dual Credit and Early College High School Faculty Advisory Group (2022–2023)

Invited Panelist, Women in STEM Speaker event (2022)

Invited speaker to share perspectives for working in STEM fields with south Bexar county guests

Session Chair, 5th Coastal Bend Mathematics and Statistics Conference (2021)

Women in Natural Sciences (WINS) Networking Event (2020)

Invited alumni mentor to undergraduate students at the University of Texas at Austin

Texas Regional Alignment Networks (TXRAN), Denton County (2016–2020)

Presenter and Coordinator for annual regional college mathematics readiness symposium

Program Evaluation: Mercy Street, Dallas TX (2014-2016)

Reviewed program outcomes, interviewed stakeholders, analyzed interview data, redesigned survey instrument, documented survey redesign process in report

Program Evaluation: Champions of Hope, Dallas TX (2014)

Reviewed program outcomes, interviewed stakeholders, analyzed student and interview data, summarized findings in report

Program Evaluation: Education Opens Doors, Dallas TX (2013–2014)

Reviewed program outcomes, designed assessment instruments, analyzed student outcome data, summarized findings in reports

Texas Woman's University Comprehensive Student Success Program (CSSP) Advisory Council (2013)

State and National Service

Subject Matter Expert (Mathematics), TSIA 2.0 Verification Standards Committee

Convening in Austin TX to review and verify cut scores for state placement exam (2025)

Texas Conference on Student Success Conference Planning Committee

Guest Speakers subcommittee (2025)

Panel Reviewer, National Science Foundation (NSF)

Proposal review and discussion to make recommendations to program officers (2023, 2023, 2024)

Postsecondary Instructor Microcredential (PIM) Advisory Board

Discussions related to the development of professional development sessions for higher education faculty, hosted by Texas State University (2022)

Mentor, American Educational Research Association (AERA) Boyd Scholars

Invited faculty mentor for early-stage graduate students studying Educational Policy (2022)

Students from Ohio State University, Penn State University, and the University of Texas at Austin

Peer Reviewer for Journals & Conferences

American Mathematical Association of Two-Year Colleges MathAMATYC Educator (2013–2014, 2017–2025)

Journal of Research on Technology in Education (2019)

Journal of College Academic Support Programs (2018–2019)

Research Council on Mathematics Learning, Proposal Reviewer (2015–2018)

Journal for Research in Mathematics Education (2015–2017)

Southwest Educational Research Association, Proposal Reviewer (2013–2016)

Texas Higher Education Coordinating Board committee membership

Math Learning Outcome Group (2011)

Developmental Education Leadership Team, Student Success Sub-Committee (2011)

PROFESSIONAL AFFILIATIONS & MEMBERSHIPS (PAST AND PRESENT)

ASCD (formerly the Association for Supervision and Curriculum Development)

American Mathematical Association of Two-Year Colleges

American Educational Research Association

College Academic Support Programs/College Reading & Learning Association

College English Association

Mathematical Association of America (SIG: Research in Undergraduate Mathematics Education)

National Organization for Student Success (formerly known as National Association for Developmental Education)

National Council of Teachers of Mathematics

National Numeracy Network

Research Council on Mathematics Learning

Southwest Educational Research Association

Texas Council of Teachers of Mathematics

