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Jennifer Miller-Ray, Ph.D.

Professional Preparation

Sam Houston State University	Education Reading Specialist	2018-2020
University of North Texas	Cognitive Science & Learning Technologies	Ph.D. 2016
	UNT Innovative Research Award	2016
Tarleton State University	Education Leadership Principalship	2012
	Master of Science, Information Systems	2008
	Bachelor of Science and Student Teaching	2000

Peer Reviewed Book Chapters/Articles/Papers/ Presentations

- Miller, J. (2024). [Enhancing Educators' Cultural and Digital Literacies through Makerspace Development Activities](#). In Ashraf, MA (2024) STEM Education - Recent Trends and New Advances. Springer.
- Miller, J. (2024) La Frontera Mobile Makerspace Program: Serving Isolated Southwest Populations in the Middle Rio Grande Valley. Proceedings of UTRGV 7th Annual STEM Ed Conference. Mission at University of Texas Rio Grande Valley. [UTRGV 7th Annual RGV STEM Conference Program](#).
- Miller, J. & Brown, A. (2024). Attracting Rural Latina/Latino/Hispanic STEM Preservice Teachers through the Noyce en la Frontera Program. Proceedings of UTRGV 7th Annual STEM Ed Conference. Mission at University of Texas Rio Grande Valley. [UTRGV 7th Annual RGV STEM Conference Program](#)
- Aguero, J., Haas, M., & Miller, J. (2024). Implementing Universal Design for Learning through AI at the Noyce Western Conference. Portland. [Program | Western Regional Noyce Network](#)
- Miller, J. (2024). 20 Ideas to Integrate Tech to Build STEM Soft Skills at the Texas Computer Education Conference. Austin.
- Hartman, S., Miller, J., Ward, L., Cavallo, A. (2023). Robert Noyce Scholarship Program: Increasing Quality STEM Teaching and Leadership Pipeline. CSOTTE. San Marcos, TX.
- Miller, J. (2023). Integrating AI to Improve Critical Thinking and Media Literacy at Digital Education Summit. Online. United States: Sam Houston State University.
- Miller, J., Gloria, J., Pate, H. (2023). Noyce en la Frontera: A Rural Culturally Responsive Mentoring Program [Poster Abstract]. Noyce Summit at National Science Foundation: Washington DC. [2023 Noyce Summit \(nsfnoyce.org\)](#).
- Miller, J., Rivera, A., Rodriguez, G. (2023). Integrating Universal Design for Learning to Create a Culturally Responsive Classroom at Western Regional Noyce Conference. Sacramento, CA.
- Miller, J. & Serrano, W. (2022). Enhancing STEM Preservice Preparation, Efficacy and STEM Literacy through the Noyce en la Frontera Program. Proceedings of SITE Interactive Online Conference. Online, United States: Association for the Advancement of Computing in Education (AACE).

- Miller, J. (2022). Culturally Responsive Literacy Intervention Approaches for Diverse Learners at CSOTE. San Marcos.
- Miller, J. & Stocks, G. (2022). Universal Design: Process, Learning Principles, and Applications at 11th Annual Digital Education Summit: Online. United States: Sam Houston State University.
- Miller, J. (2022). Encouraging Self-Efficacy in STEM Education through the Noyce Scholars en la Frontera Program [Poster Abstract]. Noyce Summit at National Science Foundation: Washington DC. [2022 Noyce Summit \(nsfnoyce.org\)](https://www.nsfnoyce.org)
- Miller, J. (2022). The Noyce Scholars en la Frontera STEM Education Program [Poster Abstract]. Texas Hispanic Serving Institution Consortium Annual Conference. Corpus Christi. [Annual Conference – Texas Hispanic-Serving Institutions Consortium \(txhsic.org\)](https://www.txhsic.org)
- Miller, J. (2022). Designing culturally responsive makerspace pop-up activities for middle school populations at the Texas Computer Education Conference. Dallas.
- Miller, J., Quintanilla, B., Wallace, P., Hopkins, C. (2022). Addressing the Equity Gap in Educational Technology and Digital Literacy Post COVID-19 at the Texas Computer Education Conference. Dallas.
- Miller-Ray, J. (2021). [Supporting Early Literacy and English Learners in Makerspace Programs](#). In T. Bastiaens (Ed.), Proceedings of Innovate Learning Summit 2021 (pp. 294-301). Online, United States: Association for the Advancement of Computing in Education (ACE).
- Miller-Ray, J. (2021) Effective blogging to improve academic, communication, and reflective practices at 10th Annual Digital Education Summit; Online, United States: Sam Houston State University.
- Miller, J. & Tomas, T. (2021). Designing culturally responsive makerspace pop-up activities for middle school students at NSTA (National Science Teacher Association) Engage Conference, Online.
- Miller, J. & Tomas, T. (2021). Designing culturally responsive makerspace pop-up activities for elementary students at (National Science Teacher Association) NSTA Engage Conference, Online.
- Ray, B.J., Miller-Ray, J., and Peak, K. (2020). A Brave New World - The Science Behind Teaching Kinesiology Via On-line Format. 97th Annual TAHPERD Conference; Corpus Christi, Texas.
- Miller-Ray, J. (2020). Improving reading comprehension across disciplines through STREAM: a makerspace project-based literacy processes at the Texas Association for Literacy Education Conference, Midland.
- Miller-Ray, J. (2020). Building community presence, cognitive presence, and teaching presence in virtual learning spaces at the Learning Revolution online conference.
- Miller-Ray, J. (2019). [Investigating the Impact of a Community Makers' Guild Training Program on Elementary and Middle School Educator Perceptions of STEM \(Science, Technology, Engineering, and Mathematics\)](#). In Khine, M. & Areepattamannil (2019) STEAM Education (pp. 79-100). Springer.
- Miller, J. (2019) STEAM Approaches and Diverse Literacy Learners at the Texas Computer Education Conference.

- Miller, J. (2019). Incorporating the makerspace project-based learning process at the Innovative Learning Strategies Conference.
- Miller, J., Tomas, T., Maryboy, N., & Begay, D. (2018). A Rural Navajo Reservation Makerspace. *Dimensions*, (September/October), 50–52.
- Miller, J., Christensen, R., & Knezek, G. (2017). Effect of a Makerspace Training Series on Elementary and Middle School Educator Confidence Levels Toward Integrating Technology. In *Society for Information Technology & Teacher Education International Conference* (pp. 1015-1020). Association for the Advancement of Computing in Education (AACE).
- Miller, J., & Cline, T. (2017). Effect of Makerspace Professional Development Activities on Elementary and Middle School Educator Perceptions of Integrating Technologies with STEM. In *Society for Information Technology & Teacher Education International Conference* (pp.103-111). Association for the Advancement of Computing in Education (AACE).
- Miller, J. (2016). Effect of Makerspace Professional Development Activities on Elementary and Middle School Educator Perceptions of Integrating Technologies with STEM (Science, Technology, Engineering, Mathematics), dissertation; Denton, Texas. (digital.library.unt.edu/ark:/67531/metadc955091/; accessed May 11, 2017), University of North Texas Libraries, Digital Library, digital.library.unt.edu.
- Miller, J (2014), STEM K12 Research Initiatives and Teacher Preparation Programs, University of North Texas College of Information 20c13 Research Exchange Conference. Retrieved from http://ci.unt.edu/events/2014_04_07_REC
- Miller, J.. & Cline, T. (2012) Exploring STEM through a NASA MMS TransMedia Book, International Society for Technology Education Poster conducted from San Diego, CA. Miller, J., & Phillips, A. (2014, March). Middle School STEAM Camp Perspectives and Attitudes Towards STEM. In *Society for Information Technology & Teacher Education International Conference* (Vol. 2014, No. 1, pp. 1940-1944).
- Phillips, A., & Miller, J. (2014, March). Career Interests of Students in a STEAM Camp. *International Society for Information Technology & Teacher Education Conference* (Vol. 2014, No. 1, pp. 2277 2282).
- Miller, J. & Phillips, A. (2014, June). Exploring a rural robotic after-school program's impact toward stem attitudes. *International society of technology education*, Atlanta. Retrieved from https://www.isteconference.org/2014/program/search_all.php
- Miller, J., & Knezek, G. (2013, March). STEAM for Student Engagement. In *Society for Information Technology & Teacher Education International Conference* (Vol. 2013, No. 1, pp. 3288-3298).
- Kilgore, W., Mangrum, L.B., & Miller, J. (2014). Using VoiceThread in ARCS Instructional Design Approaches. *Journal of Media Education* 5(1), 16-22.
- Miller, J. NASA Wavelength, (2012). Take the MMS Challenge. Retrieved from NASA Wavelength website: <http://nasawavelength.org/resource/nw-000-000-003-949> .
- Miller, J. & Kilgore, W. (2014). STEM Professional Development MOOC Environments, University of North Texas College of Information 2013 Research Exchange Conference. Retrieved from http://ci.unt.edu/events/2014_04_07_REC .

- Miller, J (2014), STEM K12 Research Initiatives and Teacher Preparation Programs, University of North Texas College of Information 20c13 Research Exchange Conference. Retrieved from http://ci.unt.edu/events/2014_04_07_REC .
- Miller, J.& Wozniak, S. & Cline, T. (2013) STEAM After School Programs: Thinking with Hands- On Experiences for 6-8 Grade Students, International Society for Technology Education Poster conducted from, San Antonio, TX.

Peer Reviewer

- Miller, J. (2022). Society of Information Technology and Teacher Education 33rd Annual Conference, San Diego, 2022.
- Miller, J. (2019), Society of Information Technology and Teacher Education 31st Annual Conference, New Orleans 2020.
- Elayary, A. (2020) The Impact of Designing Transdisciplinary STEAM Curriculum Using Authentic Assessment on Transforming Students Learning, International Journal of STEM Education.

Non-Peer Reviewed Publications, Presentations, and Trainings

- Miller, J. (2024). Teaching with AI: Improving Productivity, Engagement, and Knowledge at TSTA-AE State Convention. San Marcos, TX.
- Miller, J., Rivera, A. Citizen CATE Eclipse 2023 Training. SRSU, Uvalde, TX.
- Miller, J.(2022). Best Practices in Managing Classrooms Across all Platforms. SWTJC Convocation Uvalde, TX.
- Miller, J. (2021). Community makerspace programs: enhancing creativity, innovation and STEM literacies to improve STEM self-efficacy of Hispanic and Indigenous communities. In HSI STEM Hub March 2021 Newsletter, <https://hsistemhub.org/portfolio-item/march-2021-newsletter> .
- Miller, J. (2020). Master of educational instructional technology online program handbook, Alpine, TX: Sul Ross State University.
- Miller, J. (2020). Master of education reading specialist online program handbook, Alpine, TX: Sul Ross State University.
- Miller, J. (2019). Master of education reading specialist online program handbook, Alpine, TX: Sul Ross State University.

Current Grant Education Research Projects

Creating and Sustaining Noyce Mentors en la Frontera: a HSI Collaborative Capacity Building Grant, Primary Investigator, \$149,521. [NSF Award Search # 2345011](#) [Noyce Mentors en la Frontera, \(2024\)](#).

Total Eclipses around Texas for National Science Foundation's SPECIAL PROGRAMS IN ASTRONOMY, (2023), Co-PI, \$42,356.00. [NSF Award Search: Award # 2327939 - Total Eclipses in the Heart of Texas](#)

Eclipse en la Frontera for the American Astronomy Society, Primary Investigator, \$10,000, [Jay M. Pasachoff Solar Eclipse Mini-Grant Awardees & Projects | Solar Eclipse Across America \(aas.org\)](#)

Noyce Scholars en la Frontera (Noyce Scholars on the Border) for National Science Foundation's Robert Noyce Scholarship Program, Track 1, (2021), Primary Investigator, **\$1,333,429.00**, [NSF Award Search: Award # 2050173 - Noyce Scholars en la Frontera \(Noyce Scholars on the Border\)](#).

Completed Grant Education Research Projects

NASA's Student And Teacher Computational Thinking Resources For NASA Multiscale Magnetosphere Mission - \$25,000

NASA MMS Makerspace Outreach and Training Program, \$25,000

NASA Multiscale Magnetosphere STEAM Student Launch Party and Art Car Program-\$16,000 NASA Mobile Makerspace Grant Birdville ISD-\$20,000

Raise Your Hand Texas Blended Learning Grant Contributor \$500,000

STEAM Camp and Robotics Texas Education Agency Connections Grant Summer 2012-90,000 NASA

MMS Fabrication Middle School STEM Camp Grant 2013-10,000

TEA Connection Dublin Grant Coordinator 2010-2013 -600,000

NSF ITEST Middle Schoolers Save The World Graduate Research Assistant

Additional Grant Projects (Non-Research)

STEM Mobile Makerspace Program with the Science Mill Museum, (2022), \$300,000

Caving Across STEM, 2022, with Museum of Big Bend, Donation

HSI STEM Hub Mini-Grant Semillas Grantmanship for NSF HSI Proposal, (2020),

\$12,500 Miller, J., Stocks, G. (2019), Innovation Grant for Reading Specialists, \$1,000.

STEAM Launch Party Grant via Carroll ISD and EIS PTO -4,500

University Teaching

Graduate Courses:

M.Ed. Reading Program:

ED 6318	Literacy Through Literature
ED 6313	Teaching Reading in Content Area
ED 7312	Practicum in Reading
ED 6317	Organization and Supervision of Reading Programs
ED 5308	Foundations of Literacy
ED 6311	Emergent Literacy and Language Development
ED 6314	Diagnosis and Correction of Reading Disabilities

M.Ed. Leadership Program

ED 7304	Ed Leadership Principalship
ED 6315	Design & Implementation of Instructional; Programs
ED 5332	Educational Research

M.Ed. General Education Master Program

ED 5316	Diversity in Public Education
ED 5312	Advanced Survey of Exceptional Children
ED 5321	Foundations of Special Education Law
ED 5320	Advanced Methodology for Exceptional Students

M.Ed. Educational Instructional Technology

ED 6376	Inquiry Based Research Methods
ED 6377	Instructional Design
ED 6381	Critical Issues in Education Technology
ED 6375	Foundations of Educational Technology
ED 6378	Integration of Technology into Curriculum
ED 6379	Implementation of EdTech in Education
ED 6383	Educational Technology Capstone & Portfolio Development
ED 7300	Advanced Media Applications

Undergraduate Education Courses

ED 3314	Language Arts & Social Studies Methodologies
ED 3308	Language Acquisition and Emergent Literacy
ED 4315	Reading Diagnosis & Remediation
ED 4308	Foundations of Reading
ED 4313	Reading Comprehension and Enrichment
EDSR 3307	Technology in Instructional Setting
EDSR 3305	Teach Strat & Class Mgt Sec Sc

Certifications

- Legacy Master Teacher Life
- Principal
- Reading Specialist
- Technology Applications K-12
- Blackboard Online Teaching Certificate
- TCEA Technology Director Certificate

K12 Texas Public Teaching and Leadership Experience, 1999-2017

- Weatherford ISD, Dublin ISD, Carroll ISD, Birdville ISD

Museum Teaching Experience, 2012-Present

- Perot Museum for Makerspace and STEM Camps, Kennedy Space Center for NASA MMS 2015 Mission, Dublin Historical Museums (TEA STEM Grant), Museum of the Big Bend Summer STEM programs. Mobile STEM Van with Science Mill Museum, NASA Goddard and Indigenous Education Institute for 2017 Solar Eclipse, 2023-2024 Eclipses with National Solar Observatory

University Committees and Service

TSUS Vice President	2024-Present
Faculty Assembly/Faculty Senate Secretary	2022-Present
Joint Curriculum Council, Chair	2018-Fall 2021
Online Distance Education Committee, Chair	2018-2022
Online Learning Strategic Plan, Chair	2020-2021
Instructional Technology Committee	2021-Present
Marketable Skills Committee	2019-2020
Quality Enhancement Plan Guide and Navigator	2019-Present
Research Symposium	2019-Present
Academic Assessment Committee	2018-2022
Principal Texas Examination Materials Review	2019
Science of Teaching Reading Texas Examination Review	2020-2022
Equity Assurance Panel Texas Education Agency	2019
Summer STEM Library Program and Presidio Library	2019
Texas State Teacher Education Aspiring Educators Advisor	2018-Present
Science of STEM Literacy Conference Chair	2018-Present
Baptist Student Ministry Faculty Advisor	2019-Present
Academic Survey Committee	2020-Present
QEP Faculty Guide	2019-Present
QEP Navigator	2019-2022
Facilitated Effective Online Teaching SRSU Book Study	2020-2021
Science of Teaching Reading Texas Examination Materials Review	Oct. 2020
Instructional Technology Team	2020-Present
University Survey Committee	2020-2022
Academic and Administrative Advisory Committee	2020-Present
La Vida Community Program with Alpine Public Library	2020-Present
Presidio Library STEM Makerspace Summer Reading Program	Summer 2021
Online Learning Strategic Planning Subcommittee Chair	2020-2021
Science of Teaching Reading Texas Examination Materials Review	Summer 2021
Caving Across STEM Middle School Camp	Summer 2022
My Path to NASA El Progreso Memorial Library Uvalde Event	Summer 2022
Eclipse Citizen CATE Southwest Texas Coordinator	2023-2024

Professional Memberships and Community Service

Frontier CASA, Board of Directors	2020-Present
Texas Association for Literacy Education	
Texas Computer Education Association	
International Society for Technology in Education	
Association for Supervision and Curriculum Development	
Society for Information Technology Education	
Association for Advancement of Computer in Education	
Delta Kappa Gama Beta Iowa Chapter	
American Legion Auxiliary Post 79, Chaplain	
National Science Teacher Association	
NSF HSI STEM Hub Member	
American Education Research Association	
First Baptist Church Alpine, Children's Committee, Finance Committee	2020-Present
College and Careers Book Study	2020-Present
El Progreso Public Library	2023-Present
Science Mill Museum	2022-Present

Awards

Robert Elliott Memorial Award for Outstanding Practicum at Tarleton State University, 2000	
Weatherford High School Teacher of the Year, 2001	
Texas Governor's STEM Coalition STEM Leadership Award for STEAM Camp Curriculum 2014	
University of North Texas Innovative Research Project Award, 2016	
Academic Program Director Award, 2020	
M.Ed. Reading Program Model SACSCOC Program Report, 2021	
M.Ed. Educational Instructional Technology, SACSCOC Program Report, 2021	
LaVida Lobo Award Recipient, 2021	
LaVida Lobo Award Recipient, 2022	
M.Ed. Educational Instructional Technology, SACSCOC Program Report 2022	
Texas State Teacher Association Advisor of the Year, 2022	
Outstanding Lobo Advisor, 2022	
Student Club Advisor Initiative Award, 2023	
Outstanding Teacher Award at Sul Ross State University, 2023	
Piper Professor Nomination, 2024	
TSUS Regent Professor Nomination, 2024	