

## Elizabeth Suazo-Flores, Ph.D.

Teaching, Leadership, and Professional Practice  
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### EDUCATION

Doctor of Philosophy in Curriculum and Instruction—Mathematics Education December 2017  
Purdue University, West Lafayette, IN, USA.  
Dissertation: *Two Mathematics Teachers' Personal Practical Knowledge: Experiences Making Curriculum Within the 3D Inquiry Space.*  
Major Professor: Signe E. Kastberg

Master's degree in mathematics October 2007  
University of Concepción, Concepción, Chile

Bachelor's degree in education January 2004  
University of Concepción, Concepción, Chile

Secondary Mathematics Teacher January 2004  
University of Concepción, Concepción, Chile

### ACADEMIC APPOINTMENTS

Assistant Professor, Department of Teaching, Leadership, and Professional Practice, College of Education August 2023 - Present  
University of North Dakota, ND, USA

Research Associate, Center for Advancing the Teaching and Learning of STEM May 2020 – July 2023  
Purdue University, West Lafayette, IN, USA

Visiting Assistant Professor, Department of Curriculum and Instruction Aug. 2019 - May 2020  
Purdue University, West Lafayette, IN, USA

Post-Doctoral Research Associate, Department of Biological Sciences Jan. 2018 – Aug. 2019  
Purdue University, West Lafayette, IN, USA

Research Assistant, Department of Engineering Education Aug. 2016 – Dec. 2017  
Purdue University, West Lafayette, IN, USA

Secondary Mathematics Teacher March 2008 – Jul. 2013  
Instituto Humanidades de Concepcion, Concepcion, Chile

Middle School Mathematics Teacher March 2007 – Dec. 2007  
Wessex School, Concepcion, Chile

### AWARDS

2021 *Leadership in Action Award*  
Purdue University, Susan Bulkeley Butler Center for Leadership Excellence

2019 *Graduate Student and Post-doctoral Fellows Research Award*

Purdue Sigma Xi, Purdue University

2016-2017 *Mike Keedy Graduate Fellowship in Mathematics Education*  
2015-2016 Purdue University, College of Education  
2014-2015 US\$1,000 each year  
2015 *Annual Graduate Student Education Research Symposium Award*  
Purdue University, College of Education

## RESEARCH

### *Refereed Publications*

**Suazo-Flores, E.,** & Roetker, L. (2024 in-press). Building painted cubes. *Mathematics Teacher: Learning and Teaching PK-12*.

**Suazo-Flores, E.,** Kastberg, S. E., Grant, M. & Chapman, O. (2023). Commentary on the special issue: Seeing self-based methodology through a philosophical lens. Special Issue at the *Philosophy of Mathematics Education Journal*, 40.

<https://education.exeter.ac.uk/research/centres/stem/publications/pmej/pome40/index.html>

Kastberg, S. E., **Suazo-Flores, E.,** Grant, M. & Chapman, O. (2023). Seeing self-based methodology through a philosophical lens. Special Issue at the *Philosophy of Mathematics Education Journal*, 40.

<https://education.exeter.ac.uk/research/centres/stem/publications/pmej/pome40/index.html>

**Suazo-Flores, E.,** & Roetker, L. (2021). Pack a truck: Decontextualizing and contextualizing a task. *Mathematics Teacher: Learning and Teaching PK-12*, 6(114), 468-472. <https://doi.org/10.5951/MTLT.2020.0289>

**Suazo-Flores, E.,** Alyami, H., Walker, W. S., III, Aqazade, M., & Kastberg, S. E. (2021). A call for exploring mathematics education researchers' interdisciplinary research practices. *Mathematics Education Research Journal*. <https://doi.org/10.1007/s13394-021-00371-0>

Gardner, S., **Suazo-Flores, E.,** Abraham, J. K., Karippadath, A., Meir, E., & Maruca, S., (2021). Biology undergraduate students' graphing practice in digital versus pen-and-paper graphing environments. *Journal of Science Education and Technology*, 30(3), 431-446. <https://doi.org/10.1007/s10956-020-09886-w>

Siverling, E., Moore, T., **Suazo-Flores, E.,** Mathis, C., & Guzey, S. (2021). What initiates evidence-based reasoning?: Situations that prompt students to support their design ideas and decisions. *Journal of Engineering Education*, 10(2), 294-317. <https://doi.org/10.1002/jee.20384>

Siverling, E. A., **Suazo-Flores, E.,** Mathis, C. A., Moore, T. J. (2019). Students' use of STEM content in design justifications during engineering design-based STEM integration. *School Science and Mathematics Journal*, 119(8), 457-474. <https://doi.org/10.1111/ssm.12373>

Kastberg, S. E., **Suazo-Flores, E.,** & Richardson, S. E. (2019). Mathematics educator teacher stories. *Revista Brasileira de Pesquisa (Auto) Biographical*, 4(10), 48-67. <https://doi.org/10.31892/rbpab2525-426X.2019.v4.n10.p48-67>

Kersey, E., Max, B., Akarsu, M., Bloome, L., **Suazo, E.,** & Hoffman, A. J. (2019). Use of written curriculum in applied calculus. *International Journal of Research in Education and Science (IJRES)*, 5(2), 457-467.

**Suazo-Flores, E.** (2018). Students' understanding of area: Combining practical and mathematical knowledge with a real world task. *International Journal for Research in Mathematics Education*, 8(1), 23-37.

### **Book Chapters**

**Suazo-Flores, E., & Alyami, H.** (2023). Transcending school mathematics and science while making art. In Harper, S. & Cox D. (Eds.). *Modern math tasks to provoke transformational thinking. Grades 9-12* (pp. 126-144). National Council of Teachers of Mathematics.

Meir, E., Gardner, S.M., Maruca, S., **Suazo-Flores, E.**, Abraham, J.K. (2023). Building a performance-based assessment of graph construction using evidence-centered design. In Spector, M.J., Lockee, B.B., Childress, M.D. (Eds.), *Learning, design, and technology*. Springer. [https://doi.org/10.1007/978-3-319-17727-4\\_187-1](https://doi.org/10.1007/978-3-319-17727-4_187-1)

Chapman, O., Kastberg, S. E., **Suazo-Flores, E.**, Cox, D., & Ward, J. (2020). Mathematics teacher educators' inquiry into their practice. In Beswick, K. & Chapman, O. (Eds.), *International handbook of mathematics teacher education, 2<sup>nd</sup> Edition. Volume 2: The mathematics teacher educator as a developing professional* (pp. 157-187). Brill-Sense Publishers. [https://doi.org/10.1163/9789004424210\\_008](https://doi.org/10.1163/9789004424210_008)

### **Refereed National and International Conference Proceedings**

**Suazo-Flores, E.**, Nuguid, L., & Kastberg, S. E. (2023). Urban girls' visuospatial reasoning: Maps as eco-cultural tools to leverage lived experiences and spatial reasoning. In Lamberg, T., & Moss, D., *Proceedings of the forty-fifth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (Vol. 1)*, (pp. 204). University of Nevada, Reno.

Haiduc, A. M., **Suazo-Flores, E.**, Kastberg, S. E., Kenney, R., Leach S., & Barber-Dansby, A. (2023). Mathematics teacher questioning: Cognitive and affective domains to nurture students' mathematical identity formation. In Lamberg, T., & Moss, D., *Proceedings of the forty-fifth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (Vol. 2)*, (pp. 96-104). University of Nevada, Reno.

**Suazo-Flores, E.**, Walker, W. S., III, Alyami, H., Kastberg, S. E., & Aqazade, M. (2022). Mathematics education researchers' practices in interdisciplinary collaborations: Embracing ways of knowing. In Lischka, A., Strayer, J., Lovett, J., Jones, R., & Dyer, E. (Eds.), *Proceedings of the forty-four annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 968-975). Middle Tennessee State University. <http://www.pmena.org/pmenaproceedings/PMENA%2044%202022%20Proceedings.pdf>

**Suazo-Flores, E.**, Kastberg, S., Grant, M., & Chapman, O. (2022). Philosophical underpinnings of mathematics teacher educators' work. In Lischka, A., Strayer, J., Lovett, J., Jones, R., & Dyer, E. (Eds.), *Proceedings of the forty-four annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 2184-2185). Middle Tennessee State University. <http://www.pmena.org/pmenaproceedings/PMENA%2044%202022%20Proceedings.pdf>

**Suazo-Flores, E.**, Walker, W. S., III, Alyami, H., Aqazade, M., & Kastberg, S. E. (2021). Conceptualizing practices in interdisciplinary groups from a mathematics education researcher's perspective. In D. Olanoff, K., Johnson, & S.M., Spitzer (Eds.), *Proceedings of the forty-third annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 824-828). Philadelphia, PA. <http://www.pmena.org/pmenaproceedings/PMENA%2043%202021%20Proceedings.pdf>

**Suazo-Flores, E.**, Kastberg, S., Grant, M., Ward, J., Richardson, S. E., & Chapman, O. (2021). Using self-based methodologies to unpack mathematics teacher educators' work. In D. Olanoff, K., Johnson, & S.M., Spitzer (Eds.), *Proceedings of the forty-third annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1907-1910). Philadelphia, PA. <http://www.pmena.org/pmenaproceedings/PMENA%2043%202021%20Proceedings.pdf>

- Zhou, L., **Suazo-Flores, E.**, Sapkota, B., Mbewe, R., & Newton, J. (2021) Image of mathematics in- and out-of-school: A case study of two original participants in an afterschool STEM club-girls excelling in math and science (GEMS). In D. Olanoff, K., Johnson, & S.M., Spitzer (Eds.), *Proceedings of the forty-third annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1210-1219). Philadelphia, PA. <http://www.pmena.org/pmenaproceedings/PMENA%2043%202021%20Proceedings.pdf>
- Richardson, S. E., **Suazo-Flores, E.**, & Rice, M. (2021). Developing STEM identity: Beyond STEM content knowledge in an informal STEM club. In D. Kollosche (Ed.), *Exploring new ways to connect: Proceedings of the Eleventh International Mathematics Education and Society Conference* (Vol. 3, pp. 839–848). Tredition. <https://doi.org/10.5281/zenodo.5457236>
- Suazo-Flores, E.**, & Walker, W., Alyami, H., Aqazade, M., & Kastberg, S. (2021). Understanding practices in an interdisciplinary group from a case study. In D. Kollosche (Ed.), *Exploring new ways to connect: Proceedings of the Eleventh International Mathematics Education and Society Conference* (Vol. 3, pp. 986-994). Tredition. <https://doi.org/10.5281/zenodo.5457236>
- Suazo-Flores, E.**, Richardson, S. E., & Zhou, L. (2021). *GEMS research projects*. In W. S. Walker, III, L. A. Bryan, S. S. Guzey, & E. Suazo-Flores (Eds.), *Proceedings of the sixth annual Indiana STEM Education Conference*. West Lafayette, IN. <https://docs.lib.purdue.edu/instemed/2021/posters/>
- Suazo-Flores, E.** (2020). A Mathematics teacher's curricular decisions. In Sacristan, A.I., Cortes-Zavala, J.C. & Ruiz-Arias, P.M. (Eds.), *Proceedings of the 42nd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 181-184). Cinvestav / AMIUTEM / PME-NA. <https://doi.org/10.51272/pmena.42.2020>
- Suazo-Flores, E.**, Ward, J., Richardson, S. E., Grant, M., Cox, D., Kastberg, S., & Chapman, O. (2020). Mathematics teacher educators using self-based methodologies. In Sacristan, A.I., Cortes-Zavala, J.C. & Ruiz-Arias, P.M. (Eds.), *Proceedings of the 42nd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 19181). Cinvestav / AMIUTEM / PME-NA. <https://doi.org/10.51272/pmena.42.2020>
- Suazo-Flores, E.**, Walker, W. S., III, Aqazade, M., Alyami, H., & Kastberg, S. E. (2019). Mathematics education researchers' interdisciplinary collaboration practices. In Otten, S., de Araujo, Z., Candela, A., Munter, C., & Haines, C. (Eds.), *Proceedings of the 41st annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. University of Missouri. <http://www.pmena.org/pmenaproceedings/PMENA%2041%202019%20Proceedings.pdf>
- Suazo-Flores, E.**, Kastberg, S. E., Cox, D., E., Ward, J., Chapman, O., & Grant, M. (2019). Mathematics teacher educators' exploring self-based methodologies. In Otten, S., de Araujo, Z., Candela, A., Munter, C., & Haines, C. (Eds.), *Proceedings of the 41st annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 2012-2019). University of Missouri. <http://www.pmena.org/pmenaproceedings/PMENA%2041%202019%20Proceedings.pdf>
- Suazo-Flores, E.**, Angra, A., & Gardner, S. (2018). Working on the edge of mathematics, statistics, and biology: Biology undergraduate students' graphs constructions. In Hodges, T. E., Roy, G.J., & Tyminski, A. M. (Eds.), *Proceedings of the 40th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 876-879). University of South Carolina & Clemson University. <http://www.pmena.org/pmenaproceedings/PMENA%2040%202018%20Proceedings.pdf>
- Walker, W. S., III, **Suazo-Flores, E.**, Aqazade, M., Alyami, H., & Kastberg, S. E. (2018). Nature, challenges, and strategies of stem research teams. In Hodges, T. E., Roy, G.J., & Tyminski, A. M. (Eds.), *Proceedings of the 40th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1366-1366). University of South Carolina & Clemson University. <http://www.pmena.org/pmenaproceedings/PMENA%2040%202018%20Proceedings.pdf>
- Suazo-Flores, E.**, Kastberg, E., Ward, J., Cox, D., & Chapman, O. (2018). Mathematics teacher educators' inquiry into their practice: Unpacking methodologies for professional and personal growth. In Hodges, T. E., Roy, G.J., &

Tyminski, A. M. (Eds.), *Proceedings of the 40th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1469-1477). University of South Carolina & Clemson University.  
<http://www.pmena.org/pmenaproceedings/PMENA%2040%202018%20Proceedings.pdf>

Siverling, E. A., **Suazo, E.**, Mathis, C. A., & Moore, T. J. (2018, June). STEM content in elementary school students' evidence based reasoning discussions (Fundamental). Paper presented at the *125th American Society for Engineering Education (ASEE), Annual Conference & Exposition*.

Miller, H., Moore, T. J., Glancy, A. W., Siverling, E. A., Guzey, S. S., Johnston, A. C., Merzdorf, H. E., **Suazo-Flores, E.**, & Akarsu, M. (2017). Mineral mayhem: Using engineering to teach middle school earth science. *124th American Society for Engineering Education (ASEE)*.

Siverling, E. A., **Suazo, E.**, Mathis, C. A., Moore, T. J., Guzey, S. S., & Whipple, K. S. (2017). Middle school students' engineering discussions: What initiates evidence-based reasoning? (Fundamental). Paper presented at the *124th American Society for Engineering Education (ASEE), Annual Conference & Exposition*.

Bofferding, L., Hoffman, A., & **Suazo, E.** (2015). Number line estimation with negatives. In Bartell, T. G., Bieda, K. N., Putnam, R. T., Bradfield, K., & Dominguez, H. (Eds.), *Proceedings of the 37th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 133-140). Michigan State University.  
<http://www.pmena.org/pmenaproceedings/PMENA%2037%202015%20Proceedings.pdf>

Kersey, E. Max, B. Akarsu, M. Bloome, L. **Suazo, E.**, & Hoffman, A. (2015). Use of written curriculum in applied calculus. In Bartell, T. G., Bieda, K. N., Putnam, R. T., Bradfield, K., & Dominguez, H. (Eds.), *Proceedings of the 37th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 112-115). Michigan State University.  
<http://www.pmena.org/pmenaproceedings/PMENA%2037%202015%20Proceedings.pdf>

An T., Richardson, S., **Suazo, E.**, & Yigit, M. (2014) Eighth-grade mathematics teachers' reflections on practice. In Oesterle, S., Nicol, C., Liljedahl, P., & Allan, D. (Eds.), *Proceedings of the 38th joint meeting of Psychology of Mathematics Education and 36th North American Chapter of the International Group for The Psychology of Mathematics Education* (vol. 6).  
<http://igpme.org>

### **Other Publications**

Yeo, S., Ramsay-Jordan, N., **Suazo-Flores, E.**, King, B., & Fernandes, A. (2022). The equity committee's responses to AMTE opening plenary 2022: What are our responsibilities to mathematics teacher education at this moment? *Connections*, 32(1). <https://amte.net/connections/2022/08/equity-committee%E2%80%99s-responses-amte-opening-plenary-2022-what-are-our>

**Suazo-Flores, E.**, Stoehr, K., & Fernandes, A. (2020). Mathematics teacher educators' conceptualizations of equity. *Connections*, 30(2). <https://amte.net/connections/2020/11/mathematics-teacher-educators'-conceptualizations-equity>

**Suazo-Flores, E.** (2016). Working together: A caring relation between a teacher and a mathematics educator. *Purdue Journal of Service-Learning and International Engagement*, 3(1), 34-37. <https://doi.org/10.5703/1288284316172>

### **Under Review**

Zhou, L., **Suazo-Flores, E.**, Sapkota, B., Mbewe, R., Newton, J. (2023, August). Image of mathematics: A case study of two women's in- and out-of-school experience. *Canadian Journal of Science, Mathematics, and Technology Education*.

## CONFERENCE PRESENTATIONS

### *National and International*

Max, B., **Suazo-Flores, E.**, & Kastberg, S. (2024, February). *Problem Posing and Geometry Standards: Building from Preservice Elementary Teachers' Initial Efforts* [Conference presentation]. Association of Mathematics Teacher Educators, Orlando, FL.

**Suazo-Flores, E.** (2023). *From a partnership liaison to a liaison of teachers and learners: An autoethnography*. AERA Annual Meeting, Chicago, IL.

Walker, W. S., **Suazo-Flores, E.**, Kastberg, S., Aqazade, M., & Alyami, H. (2023). *Practices that support mathematics education researchers' work in interdisciplinary collaborations*. AERA Annual Meeting, Chicago, IL.

**Suazo-Flores, E.**, Kastberg, S., & Grant, M. (2022, February 11). *Mathematics teacher educators' professional development on self-based methodologies* [working group]. Association of Mathematics Teacher Educators 2022 Annual Meeting, Las Vegas, NV.

Max, B., **Suazo-Flores, E.**, & Kastberg, S. (2022, February 10). *Collaborations among faculty to support preservice elementary teachers' development* [Conference presentation]. Association of Mathematics Teacher Educators, Las Vegas, NV.

Zhou, L. & Richardson, S., **Suazo-Flores, E.**, & Kastberg, S. (2022, February 10). *Mathematics teacher educators' promoting alternative views of mathematics* [Conference presentation]. Association of Mathematics Teacher Educators, Las Vegas, NV.

Ramsay-Jordan, N., **Suazo-Flores, E.**, Fernandes, A., & Edwards, B. (2022, February 10). *Troubling the equity waters: Continued discussions with the AMTE Equity Committee* [Conference presentation]. Association of Mathematics Teacher Educators, Las Vegas, NV.

Leiva-Lopez, C., Fernandes, A., Kalinec-Craig, C. & **Suazo-Flores E.** (2022, February 13). *Multiple perspectives on equity in mathematics education and AMTE's actions* [Conference presentation]. Association of Mathematics Teacher Educators, Orlando, FL.

**Suazo-Flores, E.**, & Roetker, L. (2020, April 17-21) *Personal practical knowledge: Reenvisioning mathematics teacher education* [Roundtable Session]. AERA Annual Meeting, San Francisco, CA <http://tinyurl.com/w4f2moj> (Conference Canceled)

**Suazo-Flores, E.**, Kersey, E. A., Richardson, S. & Bloome, L. (2020, April 17-21) *Becoming people and mathematics education researchers* [Conference presentation]. AERA Annual Meeting San Francisco, CA <http://tinyurl.com/u49gvtv> (Conference Canceled).

Alyami, H., **Suazo-Flores, E.**, Walker, W. S., Kastberg, S. E. & Aqazade, M. (2020, Apr 17 - 21) *Interdisciplinary research practices: The case of mathematics education researchers* [Poster session]. AERA Annual Meeting, San Francisco, CA <http://tinyurl.com/r96ugq4> (Conference Canceled).

**Suazo-Flores, E.**, Karippadath, A., Gardner S., Abraham, J., Meir, E., & Maruca, S. (2019, July 26-28). *Characterizing students' graphing practices in pen-and-paper and digital formats* [Poster session]. Society for the Advancement of Biology Education Research, Twin Cities, MN.

**Suazo-Flores, E.**, Gardner S., Abraham, J., Maruca, S., & Meir, E. (2019, July 26-28). *Going around the evidence-based design wheel to develop a digital assessment of undergraduate biology students' graphing ability* [Conference presentation]. Society for the Advancement of Biology Education Research, Twin Cities, MN.

- Abraham, J. & **Suazo-Flores, E.** (2019, July 26-28). *Identifying knowledge bases for graphing in biology: A student theoretical model* [Conference presentation]. Society for the Advancement of Biology Education Research, Twin Cities, MN.
- Kastberg, S. E., **Suazo-Flores, E.**, & Richardson, S. E. (2019, May 18). *Counter-narratives to teacher education: The role of teacher stories in MTE development* [Conference presentation]. Fifteenth International Conference of Qualitative Research, University of Illinois at Urbana-Champaign, IL.
- Suazo-Flores, E.**, Gardner, S., Abraham J. K., Karippadath, A., Meir, E., & Maruca, S. (2019, May 17). *Characterizing undergraduate biology students' graphing practices* [Poster session]. The United States Conference on Teaching Statistics, State College, PA.
- Suazo-Flores, E.** (2019, April 6). *Two mathematics teachers' personal practical knowledge* [Conference presentation]. AERA Annual Meeting, Toronto, Canada.
- Suazo-Flores, E.**, & Kastberg, S. E. (2019, February 8). *Inquiring into mathematics teacher educators' views of teacher stories* [Conference presentation]. Association of Mathematics Teacher Educators, Orlando, FL.
- Suazo-Flores, E.**, Angra, A., & Gardner, S. M. (2018, July 26-28). *Pushing the boundary to reveal student competence with graph choice and construction* [Conference presentation]. Society for the Advancement of Biology Education Research, Twin Cities, MN.
- Suazo-Flores, E.**, Allison-Bunnell, S. W., Maruca, S., Quick, J., Abraham, J. K., Meir, E., & Gardner, S. M. (2018, July 26-28). *Developing a digital tool to evaluate and teach graphing in introductory biology* [Poster session]. Society for the Advancement of Biology Education Research, Twin Cities, MN.
- Suazo-Flores, E.** (2018, May 17-19). *Two mathematics teachers' personal practical knowledge: Experiences making curriculum within the 3D inquiry space* [Conference presentation]. Fourteenth International Conference of Qualitative Research, University of Illinois at Urbana-Champaign, IL.
- Suazo-Flores, E.**, Kersey, E., Bloome, L., Richardson, S. E., & Burdick, J. (2018, May 17-19). *Implementing narrative inquiry studies in mathematics education: Tensions, challenges, and joys* [Panel]. Fourteenth International Conference of Qualitative Research, University of Illinois at Urbana-Champaign, IL.
- Suazo-Flores, E.**, Kastberg, S., Sanchez, W., Ward, J., & Cox, D. (2018, February 9). *Mathematics teacher educators' inquiry into their practice: Unpacking methodologies for professional and personal growth* [Conference presentation]. Association of Mathematics Teacher Educators, Houston, TX.
- Suazo-Flores, E.** (2016, May 21). *Working together: An example of a caring relation between a teacher and a mathematics educator* [Conference presentation]. Twelfth International Conference of Qualitative Research, University of Illinois at Urbana-Champaign, IL.
- Suazo-Flores, E.** (2017, October). *A mathematics teacher educator's learning experience: Unpacking relationships, mathematics, and emotions* [Conference presentation]. Mid-Western Educational Research Association, Evansville, Chicago, IL.

### ***State and Regional***

- Nuguid, M. E., **Suazo-Flores, E.**, Mbewe, R., & Jones, L. (2022, January 13). *Developing STEM practices: Three tasks to promote spatial thinking* [Conference presentation]. Seventh annual Indiana STEM Education Conference, Purdue University, West Lafayette, IN.
- Suazo-Flores, E.** (2019, April 3). *Characterizing undergraduate biology students' graphing practices* [Poster session]. Purdue Sigma Xi graduate student and post-doctoral fellows research awards competition. Purdue University, West Lafayette, IN.

Aqazade, M., **Suazo-Flores, E.**, Alyami, H., Walker, W. S., III, Hahn, S., & Kastberg, S. E. (2019, January 10). *Challenges and strategies for researchers in STEM research teams* [Conference presentation]. Fourth Annual Indiana STEM Education, Purdue University, West Lafayette, IN.

**Suazo-Flores, E.**, & Kastberg, S. (2018, November). *Narrative inquiry and self-study in a nutshell* [Conference presentation]. Indiana Council of Teachers of Mathematics, Indianapolis, IN.

**Suazo-Flores, E.**, & Roetker, L. (2017, November). *Two mathematics teachers working together: Unpacking our collaborative relationship* [Conference presentation]. Indiana Council of Teachers of Mathematics, Indianapolis, IN.

## CURRICULUM DESIGN

Gardner S. M., Abraham J. K., Meir E., Kerry J. K., **Suazo-Flores E.**, & Pope, D. *Understanding data*, Module for biology undergraduate students. Project supported by the National Science Foundation, award number 1726180. For more information visit: <http://simbio.com/>

- Create content knowledge embedded in the curriculum*
- Design interview protocol to elicit undergraduate biology students' thinking with the curriculum*
- Pilot the curriculum with ~75 undergraduate biology students and four instructors from Valparaiso and Purdue University*
- Conduct and disseminate research*

Siverling, E. A., **Suazo, E.**, Dare, E., Douglas, K., & Moore, T. (2017, August). *Ecuadorian Fishermen*, Grade 6-8, EngrTEAMS: Engineering to Transform the Education of Analysis, Measurement, and Science in a Team-Based Targeted Mathematics-Science Partnership. University of Minnesota & Purdue University Research Foundation. Retrieved from <https://sites.google.com/a/umn.edu/engrteams/curriculum>

- Design science lessons for the curriculum*
- Write lessons plans, evaluations, and guidelines for teachers*

## GRANTS

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|-----------|---|
| 2023      | A Village of Educators to Nurture Visuospatial Reasoning in Diverse Learners<br>National Academy of Education, US\$100,000<br>Principal Investigator  |
| 2023      | Data Science for High School Students' Experiences, Social Awareness, and STEM Career Aspiration<br>National Science Foundation, DRK-12, US\$3,000,000<br>Co-Principal Investigator   |
| 2021      | <i>Foregrounding the M in STEM: Co-Developing Mathematics Toolkits to Empower Girls Excelling in Math and Science (GEMS) Club Leaders</i><br>National Science Foundation, US\$2,668,490 (not funded)<br>Co-Principal Investigator |
| 2021      | <i>Foregrounding High School Mathematics in Project-Based Learning</i><br>Purdue Polytechnic High School Seed Grant, US\$20,000<br>Co-Principal Investigator  |
| 2020      | <i>Kazakhstan Education Research and Capacity-Building Program</i><br>Bolashak International Scholarship, US\$134,689 (not funded)<br>Co-Principal Investigator   |
| 2016-2017 | <i>Service-Learning Grant</i><br>Purdue University Service-Learning Grant Program (four projects funded), US\$2,000   |



Principal Investigator

2014

*Synergy Grant*

Purdue University, College of Education, US\$2,600

Principal Investigator

## TEACHING

### ***Undergraduate Courses: University of North Dakota***

#### **TL 400: Methods and Materials for Mathematics**

Mathematics methods course for secondary mathematics teachers.

- Plan and teach lessons to support teachers' mathematics teaching practice centered on learners' ways of being*
- Plan and teach lessons to support a view of mathematics as a practice*
- Supervise pre-service teachers in their field experience*

#### **TL 440: Mathematics Methods in Elementary School (TEAM)**

Mathematics methods course for elementary teacher candidates.

- Plan and teach lessons to support teachers' mathematics teaching practice centered on learners' ways of being*
- Supervise pre-service teachers in their field experience*

### ***Undergraduate Courses: Purdue University***

#### **EDCI 222: Knowing the world through mathematics**

Mathematics course for undergraduate students from fields different than mathematics.

- Plan and teach lessons focus on using mathematics to understand social justice situations.*
- Support graduate students in teaching a parallel version of the same course.*
- Mentor graduate students in the planification and teaching of a future version of the course.*

#### **EDCI 36400: Mathematics in the Elementary School (2019-2020, Fall 2022). Purdue University**

Mathematics methods course for prospective elementary mathematics teachers – taught it in person and online.

- Plan and teach lessons with focus on problem-solving and student-centered learning*
- Support prospective teachers in their development as elementary mathematics teachers*
- Support prospective teachers in their design and teaching of mathematics lessons with focus on student-centered*
- Supervise prospective teachers on a weekly field experience at a local elementary school*

#### **EDCI 42600: Teaching Mathematics in the Secondary School (Fall 2021). Purdue University.**

Mathematics methods course for prospective secondary mathematics teachers – taught it online and in-person.

- Design and teach lessons with focus on student-centered learning and issues of social justice*
- Support prospective teachers to use mathematics-specific technology for teaching*
- Support prospective teachers to write their edTPA documents*
- Mentor doctoral students in their planning, designing, and teaching of lessons for these courses*

### ***Graduate Courses: Purdue University***

#### **EDCI 54900: Assessment in STEM Education, Online Course (Fall 2019, 2021, 2022). Purdue University**

Assessment course for online and in-person graduate students and practicing teachers.

- Cultivate a community environment where online discussions are a priority.*
- Support students in their understandings of the course by providing prompt feedback and keeping fluent communication.*

**EDCI 59100: Curriculum and Instruction Online Seminar I (Summer 2021). Purdue University**

Orientation and preparation of core higher level education practices for graduate students

- Coach candidates to write position statements.*
- Coach candidates to write annotated bibliographies and to follow APA 7 style.*

**EDCI 59100: Curriculum and Instruction Online Seminar II (Summer 2021). Purdue University**

Orientation and preparation of core higher level education practices for graduate students

- Develop information literacy and mentor feedback practices.*
- Develop candidates' program portfolios.*

**EDCI 53600: Teaching and Learning Data Analysis and Probability (Spring 2020). Purdue University**

Course for online and on ground graduate students in mathematics education – taught it online.

- Support learners in their journeys to see themselves as doers of data analysis and statistics.*
- Cultivate a community environment and encourage online discussions.*
- Support students in their understandings of the course by providing prompt feedback and keeping constant communication.*

**EDCI 53300: Teaching and Learning in Number and Operations (Spring 2020). Purdue University**

Course for online and on ground master's students in mathematics education – taught it online.

- Support learners in their journeys to develop understanding of teaching and learning in the domain of numbers and operations.*
- Cultivate a community environment and encourage online discussions.*
- Support students in their understandings of the course by providing prompt feedback and keeping constant communication.*

**EDCI 52004: Teachers as Leaders, Online Course (Fall 2019, Summer 2020 & 2021). Purdue University**

Teacher leadership course for online graduate students – Taught it online.

- Support learners in their journeys to develop understanding of teaching and learning in the domain of numbers and operations.*
- Cultivate a community environment and encourage online discussions.*
- Support students in their understandings of the course by providing prompt feedback and keeping constant communication.*

***School Mathematics in Chile***

**Plan and facilitate high school mathematics lessons (2007-2013). Instituto Humanidades, Chile.**

- Teach honors mathematics courses to tenth and twelve grade students.*
- Design and teach algebra, algebra abstract, and calculus courses.*
- Provide emotional and academic support to students.*

**Plan and facilitate middle school mathematics lessons (2007). Wessex School, Chile.**

- Design and teach seventh-grade mathematics courses.*
- Communicate with families.*
- Attend departmental meetings.*
- Organize and facilitate the school mathematics Olympiads.*

**ENGAGEMENT**

**Liaison of the Indianapolis STEM Teacher Residency Program (ISTR) funded by the U.S. Department of Education (2020-2022).** <https://www.education.purdue.edu/catalyst/catalyst-programs/indy-stem-teacher-residency/>

- Supervise and mentor science teacher candidates.*
- Facilitate first year induction program.*
- Organize workshop to support in-service and prospective teachers.*

**Facilitator of a STEM activity as part of a Design STEM Kids Conference (Summer and Fall 2021).**

- Engage 43 classrooms and 1128 fifth-grade students over a two-day period.

**Facilitator of professional development experiences for ~50 K-8 teachers as part of the Indianapolis Teaching Fellows program (<http://tntpteachingfellows.org/indianapolis>) (Summer 2017). Indianapolis, Indiana.**

- Design lessons for K-8 mathematics teachers and 6-8 mathematics teachers
- Document teachers' and instructors' professional development experiences and debriefed regarding curricular and pedagogical changes to further engage teachers.

**Facilitator of the STEM professional development programs for middle school mathematics teachers (Summer 2017). West Lafayette, Indiana and St. Paul, Minnesota.**

- Design curriculum materials that framed teachers' professional development experience
- Support teachers in enacting the provided curriculum materials.
- Visit teachers' classrooms to document their experiences teaching the new curriculum materials.

**Facilitator of the STEM professional development programs for middle school mathematics teachers (~10 teachers) (Summers 2015-2017). Funded by Purdue's I-STEM Resource Network from the Indiana Commission for Higher Education and the U.S. Department of Education. South Bend, Indiana.**

- Design lessons for 5-8 mathematics teachers
- Engage and support teachers in discussions regarding teaching and learning mathematics with real-world contexts.

**Calculus Instructor of the Minority Engineering Summer Program (Summers 2015-2017). Purdue University (100 students in total)**

- Participate in workshops to develop talents in underserved students with Native American, African American, and Latino backgrounds.
- Design and teach calculus lessons with focus on student-centered and critical thinking.
- Support students in their self-initiated search for academic and emotional support

**Facilitator of mathematics activities (Summer 2015) as part of the Summer Gifted Education Research and Resource Institute. Purdue University.**

- Participate in online and in-person workshops to develop talents in underserved students with Native American, African American, and Latino backgrounds.
- Design and teach activities with focus on student-centered learning and mathematics embedded in real-world contexts (~34 seventh and eighth-grade students)

**Co-teacher of Algebra and Pre-Algebra lessons (2014-2017). Tecumseh Junior High School, Indiana.**

- Design and co-teach lessons with focus on student-centered learning and critical thinking.
- Support the classroom teacher in grading papers and self-initiated search for academic support.
- Support eighth-grade students with African American and Latino backgrounds

**Facilitator of professional development experiences for elementary mathematics teachers (~10 teachers) (Summer 2014). Washington Township, Indiana.**

- Design lessons and supported teachers in discussions regarding teaching and learning mathematics.
- Visit teachers' classroom to learn about their environments and teaching needs.

**Facilitator of professional development experiences for elementary mathematics teachers (~50 teachers) (2010-2013). Concepcion and Los Alamos, Chile.**

- Design lessons and engaged teachers in discussions regarding teaching and learning mathematics.
- Advise teachers in their individual and collective research projects.
- Visit teachers' classrooms to document their experiences teaching mathematics.

## SERVICE

### **Mentoring**

- 2022-2023 Graduate students: Lisa Nuguid and Ana Maria Haiduc  
2021 Undergraduate Research Trainee. Mentored an undergraduate student for the College of Education at Purdue University. <https://mailimages.purdue.edu/vo/?FileID=e96d6bd3-a6f6-4153-9af1-b1ae1909b112&m=9e536b42-f580-4b46-8154-0154c7c9e882&MailID=41303165&listid=121123&RecipientID=20346280383>
- 2020-2021 Karie Brown-Tess, Ph.D.; <https://www.ideals.illinois.edu/items/124991>
- 2018-2020 Hanan Alyami, Ph.D.; Mahtob Aqazade, Ph.D.; Lili Zhou, Ph.D.; Bima Sapkota, Ph.D.

### **Conference Proceeding Editor**

- 2023 W. S. Walker, III, L. A. Bryan, S. S. Guzey, & E. Suazo-Flores (Eds.), *Proceedings of the eighth annual Indiana STEM Education Conference*. West Lafayette, IN.
- 2022 W. S. Walker, III, L. A. Bryan, S. S. Guzey, & E. Suazo-Flores (Eds.), *Proceedings of the seventh annual Indiana STEM Education Conference*. West Lafayette, IN. <https://doi.org/10.5703/1288284317449>
- 2021 W. S. Walker, III, L. A. Bryan, S. S. Guzey, & E. Suazo-Flores (Eds.), *Proceedings of the sixth annual Indiana STEM Education Conference*. West Lafayette, IN. <https://doi.org/10.5703/1288284317306>

### **Invited Talks**

- 2023 *Cultivando las formas de saber de los educadores de matemáticas*. Segundo encuentro de formadores de profesores de matemáticas.
- 2021 *Cultivando trabajo e investigación interdisciplinaria*. Mayor University, Santiago, Chile. <https://www.youtube.com/watch?v=-anUXXZm2-U>
- 2020 *Metodologías dinámicas aplicadas a contenidos STEM*. Teachers from Colegio Maria Reiche, Lima, Perú.  
*Persistencia: La historia de una educadora de matemáticas* (November 2020). To high school students from Colegio Maria Reiche, Lima, Perú.  
*Investigando y cultivando el conocimiento práctico en Educación Matemática* (November 2020). To the mathematics education community from University of Concepcion, Chile.

### **Journal Reviewer**

- 2021 - *Journal for Research in Mathematics Education*
- 2019 - *Teaching for Excellence and Equity in Mathematics*  
 Special issue Teaching Mathematics with Multilingual Learners: Actions and Innovations.  
 Special Issue Antiracism in Mathematics Education.  
<https://toma.memberclicks.net/current-teem--noticias--enews?servId=7867>
- 2020 - Special Interest Group in Mathematics Education, *American Educational Research Association Annual Meeting*.  
Narrative and Research Special Interest Group, *American Educational Research Association Annual Meeting*.

Division K Teaching and Teacher Education, *American Educational Research Association Annual Meeting*.

- 2016 - Reviewer of Proceedings of the North American Chapter of the International Group for The Psychology of Mathematics Education (PME-NA) Annual Meeting
- 2019 Reviewer of The Self-Study of Teacher Education Practices (S-STEP) International Biennial Conference.

***Other Service***

- 2022 - 2023 Editor of a special issue of the *Philosophy of Mathematics Education* journal: Seeing Self-Based Methodology through a Philosophical Lens.
- 2020 - 2023 Member of the *Association of Mathematics Teacher Educators Equity Committee* part of the Advocacy, Equity, and Research Division (<https://amte.net/committee/equity-committee-2021>).
- 2019 - Facilitator of research and outreach activities for the Purdue Girls Excelling in Maths and Science (GEMS) organization, <https://gems.education.purdue.edu/>
- 2018 - 2021 Newsletter editor of the Hoosier Association of Mathematics Teacher Educators. (<https://hamte.org/>).
- 2017 Purdue graduate student leader of the Mathematics Education Mom's group.
- 2015 - 2017 Participant and organizer of the family mathematics nights in the Greater Lafayette area, IN.
- 2016 - 2018 Purdue graduate student representative for the Indiana Mathematics Education Research Symposium 2016-2018 and chair in 2017. Organized by graduate students from Indiana University Bloomington, Indiana University-Purdue University Indianapolis, Purdue University.