TEXAS STATE VITA

I. Academic/Professional Background

A. Name and Title

Name: Dr. Bikai Nie Title: Professor of Instruction

B. Educational Background

Degree	*Year*	*University*	*Major*	*Thesis/Dissertation*
MS	2013	University of Delaware	Statistics	
PHD	2004	East China Normal University	Curriculum and Pedagogy	
MED	2001	Guizhou Normal University	Curriculum and Pedagogy	
DIPL	1995	Hubei Normal University	Mathematics Education	

C. University Experience

Position	*University*	*Comments*	*Dates*
Associate Professor of Instruction, Mathematics	Texas State University		September 1, 2024 - Present
Senior Lecturer, Mathematics	Texas State University. San Marcos, TX, United States		September 1, 2019 - August 31, 2024
Lecturer, Mathematics	Texas State University. San Marcos, TX		September 1, 2015 - August 31, 2019
Research Associate, Instructor, Mathematical Sciences	University of Delaware. Newark, DE		November 15, 2005 - July 31, 2015
Assistant Professor/Lecturer, School of Mathematics and Statistics	Central China Normal University. Wuhan, China		July 1, 2004 - November 14, 2005

D. Relevant Professional Experience

Position	*Entity*	*Comments*	*Dates*
Math Teacher	Secondary Mathematics, Hubei Chang-Da Chemical Industry		July 1, 1987 - August 31, 1998

Position	*Entity*	*Comments*	*Dates*
	Company Attached School, Yichang, China		

II. TEACHING

A. Teaching Honors and Awards:

Award / Honor Nominee: Presidential Award for Teaching Excellence at the College Level, College of Science and Engineering.
February 2, 2023 - Present

Award / Honor Recipient: Teaching Excellence, Department of Mathematics.
December 2, 2022
Teaching Excellence-Nie-Fall22-1.pdf

B. Courses Taught:

Texas State University:

CI 4350 - MATH INT ELEM CURR

MATH 1300 - ELEMENTARY ALGEBRA

MATH 1315 - COLL ALGEBRA

MATH 1315 - COLLEGE ALGEBRA

MATH 1316 - SURVEY OF CONTEMPORARY MATH

MATH 1319 - MATH BUS & ECO I

MATH 1319 - MATH FOR BUSINESS & ECON I

MATH 1329 - MATH BUS & ECO II

MATH 1329 - MATH FOR BUSINESS & ECO II

MATH 2311 - PRINC OF MATH I

MATH 2311 - PRINCIPLES OF MATHEMATICS I

MATH 2312 - INFORMAL GEOMETRY

MATH 2321 - CALCULUS FOR LIFE SCIENCES I

MATH 2328 - ELEMENTARY STATISTICS

MATH 2328 - ELEMENTARY STATS

MATH 2471 - CALCULUS I

MATH 3305 - INTRO PROB & STATS

MATH 3305 - INTRO PROBABILITY & STATISTICS

MATH 5390 - STATISTICS

QMST 2333 - BUS STAT

University of Delaware:

Math 117 - Pre-Calculus for Scientists and Engineers

University of Texas at Austin:

SDS 302 - Data Analysis for the Health Sciences

D. Courses Prepared and Curriculum Development:

Math 2312: Informal Geometry, Curriculum Development, Texas State University. Approved: January 2025 - July 2025.
Online Course- Math 2312 -by Bikai Nie-1.pdf

G. Teaching Professional Development Activities Attended

Workshop, "The Course Transformation Project," Texas State University, San Marcos, TX, United States. (May 14, 2025 - Present).
PDs-CTP Project-Summer2025-1.pdf

Workshop, "Implementing Techtivities to Promote Covariational Reasoning and Instructional Transformation in College Algebra (ITsCRITiCAL)," NSF. (September 1, 2021 - July 31, 2024).
PDs-ITsCRITiCAL-1.pdf

III. SCHOLARLY/CREATIVE

A. Works in Print (including works accepted, forthcoming, in press):

1. Books:

a. Scholarly Monographs:

Refereed:

Nie, B., Zheng, T., Sun, W., & Cai, J. (2010). *Current mathematics education reform in the United States of America*. Beijing, China, China: People's Education Press.

d. Chapters in Books:

Refereed:

Peng, A., Li, J., Nie, B., & Li, Y. (2017). Characteristics of Teaching Mathematical Problem Solving in China: Analysis of a Lesson from the Perspective of Variation. In *Teaching and Learning Mathematics through Variation: Confucian Heritage Meets Western Theories* (pp. 111–125).

Cai, J., Jiang, C., Hwang, S., Nie, B., & Hu, D. (2016). Does textbook support the implementation of mathematical problem posing in classrooms? In *Problem solving in mathematics education: New advances and perspectives* (pp. 3–22). Springer.

Hwang, S., Cai, J., Shih, J., Moyer, J. C., Wang, N., & Nie, B. (2015). Longitudinally investigating the impact of curricula and classroom emphases on the algebra learning of students of different ethnicities. In *Large-scale studies in mathematics education* (pp. 45–60). Springer.

Cai, J., Silber, S., Hwang, S., Nie, B., Moyer, J. C., & Wang, N. (2014). Problem-solving strategies as a measure of longitudinal curricular effects on student learning. In *Proceedings of the Joint Meeting of PME 38 and PME-NA 36* (Vol. 2, pp. 233–240). PME.

Cai, J., Nie, B., Moyer, J. C., & Wang, N. (2014). Teaching mathematics using Standards-based and traditional curricula: A case of variable ideas. In *Mathematics curriculum in school education* (pp. 391–415). Springer.

Hwang, S., Cai, J., Shih, J., Moyer, J. C., Wang, N., & Nie, B. (2012). Longitudinally investigating the impact of curricula and classroom emphases on equity in algebra learning. In *Proceedings of the 34th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 49–56). Western Michigan University.

Cai, J., Moyer, J. C., Wang, N., & Nie, B. (2011). Examining students' algebraic thinking in a curricular context; A longitudinal study. In *Early algebraization: A global dialogue from multiple perspectives* (pp. 161–186). Springer.

cai, J., Moyer, J. C., Nie, B., & Wang, N. (2009). Learning mathematics from classroom instruction using Standards-based and traditional curricula: An analysis of instructional tasks. In *Proceedings of the 31st annual meeting of the North American Chapter of the International Group for the*

Psychology of Mathematics Education (Vol. 5, pp. 692–699). Georgia State University.

e. Creative Books:

Cai, J., Nie, B., & Xu, S. (2015). *Teachers as researchers*. Beijing, China: Beijing Normal University Publishing Group.

2. Articles:

a. Refereed Journal Articles:

Cai, J., Moyer, J. C., Wang, C., Wang, N., & Nie, B. (2024). Student learning and instructional tasks in different curricular contexts: A longitudinal study. *International Journal of Educational Research*, *125*, 1–15. https://doi.org/https://doi.org/10.1016/j.ijer.2024.102329
1-s2.0-S0883035524000168-main-1.pdf

Obara, S., & Nie, B. (2023). Mathematics Teachers' Geometric Thinking: A Case Study of In-service Teachers' Constructing, Conjecturing, and Exploring with Dynamic Geometry Software. *European Journal of Mathematics and Science Education4*, *4*(1), 65 – 78.
EJMSE_4_1_65-1.pdf

Obara, S., & Nie, B. (2019). Promoting Math Teacher Active Learning with the Lesson Study Approach: A Case Study of In-service Teachers' Perspectives. *International Journal for Lesson and Learning Studies*, *8*(2), 135 – 148.
Obara-BN-01-19-2019-1-1.docx
Lesson study-1.pdf

Obara, S., Nie, B., & Simmons, J. (2018). Teachers' Conceptions of Technology, School Policy and Teacher's Roles When Using Technology. *EURASIA Journal of Mathematics, Science and Technology Education*, *14*(4), 1337–1349. https://doi.org/10.29333/ejmste/83569
Teachers_ Conceptions of-1.pdf

Nie, B., Freedman, T., Hwang, S., Wang, N., Moyer, J. C., & Cai, J. (2013). An investigation of teachers' intentions and reflections about using standards-based and traditional textbooks in the classroom. *Zentralblatt Fuer Didaktik Der Mathematik (International Journal on Mathematics Education),*, (45), 699–711.

Cai, J., Moyer, J. C., Wang, N., Hwang, S., Nie, B., & Garber, T. (2013). Mathematical problem posing as a measure of curricular effect on students' learning. *Educational Studies in Mathematics*, *83*(1), 57–69.

Moyer, J. C., Cai, J., Nie, B., & Wang, N. (2011). Impact of curriculum reform: Evidence of change in classroom instruction in the United States. *International Journal of Educational Research*, *50*(2), 87–99.

Cai, J., Wang, N., Moyer, J. C., Wang, C., & Nie, B. (2011). Longitudinal investigation of the curricular effect: An analysis of student learning outcomes from the LieCal Project in the United State. *International Journal of Educational Research*, *50*(2), 117–136.

Cai, J., Nie, B., & Moyer, J. C. (2010). The teaching of equation solving: Approaches in Standards-based and traditional curricula in the United States. *Pedagogies: An International Journal*, *5*(3), 170–186.

Nie, B., Cai, J., & Moyer, J. C. (2009). How does a Standards-based curriculum differ from a traditional curriculum? *Zentralblatt Für Didaktik Der Mathematik (The International Journal on Mathematics Education)*, *41*(6), 777–792.

Cai, J., & Nie, B. (2008). roblem solving in Chinese mathematics education: Research and practice. *Zentralblatt Für Didaktik Der Mathematik (The International Journal on Mathematics Education),*, *39*(5-6), 459–473.

B. Works Not in Print:

2. Invited Talks, Lectures, and Presentations:

Nie, B. (Presenter), Statistics Seminar, "Student Misconceptions in Elementary Statistics Class," Math Department, Texas State University, San Marcos, TX, United States. (November 1, 2019).

Nie, B. (Presenter), Mathematics Education Seminar, "Longitudinal investigation of the curricular effect on students' learning of algebra," Texas State University, Texas State University, San Marcos, TX, United States. (February 12, 2016).

Nie, B. (Presenter), annual meeting of American Educational Research Association British Columbia, Canada, "Pedagogical and mathematical analyses of teaching equation solving in Standards-based and traditional curricula.," American Educational Research Association, American Educational Research Association, Vancouver, Canada. (April 13, 2012).

John, M. C. (Presenter), Research Pre-session of the National Council of Teachers of Mathematics annual meeting, "Approaches to developing function sense in three middle school curricula," National Council of Teachers of Mathematics, National Council of Teachers of Mathematics, Indianapolis, IA, United States. (April 11, 2011).

Nie, B. (Presenter), annual meeting of American Educational Research Association, "Teachers' intentions and reflections for classroom instruction in a curricular

context," annual meeting of American Educational Research Association, American Educational Research Association, New Orleans, LA, United States. (April 8, 2011).

John, M. (Presenter), annual meeting of American Educational Research Association., "Developing functional sense in middle school: Approaches in Standards-based and traditional curricula," NSF, Denver, CO, United States. (April 30, 2010).

Nie, B. (Presenter), annual meeting of American Educational Research Association, "Does a Standards-based curriculum really differ from a traditional curriculum: A case of variable," NSF, Denver, CO, United States. (April 30, 2010).

Cai, B. (Presenter), annual meeting of American Educational Research Association, "Impact of curriculum reform: Evidence of student learning outcomes in the United States.," NSF, Denver, CO, United States. (April 30, 2010).

Cai, J. (Presenter), annual meeting of American Educational Research Association, "Student learning and classroom instruction using Standards-based and traditional curricula: An analysis of instructional tasks," NSF, Denver, CO, United States. (April 30, 2010).

Cai, J. (Presenter), the 31st annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, "Learning from classroom instruction in a curricular content: An analysis of instructional tasks.," NSF, Atlanta, GA, United States. (September 2009).

Cai, J. (Presenter), the 33rd Conference of the International Group for the Psychology of Mathematics Education, "Curricular impact on the development of algebraic thinking: A longitudinal study," NSF, Thessaloniki, Greece. (July 2009).

Cai, J. (Presenter), A Research into Practice session presented the National Council of Teachers of Mathematics Annual Meeting, "The development of algebraic thinking: Insights from a longitudinal study," NSF, Washington, D.C., United States. (April 22, 2009).

Cai, J. (Presenter), the Research Pre-session of the National Council of Teachers of Mathematics Annual Meeting, "Curricular effect on algebra learning: A 3-year longitudinal study," NSF, Washington, D.C., United States. (April 20, 2009).

Cai, J. (Presenter), annual meeting of American Educational Research Association, "A longitudinal investigation of curricular effect on students' procedural and conceptual understanding of Algebra," NSF, San Diego, CA, United States. (April 13, 2009).

Moyer, J. (Presenter), annual meeting of American Educational Research Association, "Learning from instruction: Profiles of classroom experiences using Standards-based and traditional curricula," NSF, San Diego, CA, United States. (April 13, 2009).

Cai, J. (Presenter), annual meeting of American Educational Research Association, "The Development of middle school students' algebraic thinking: A longitudinal study," NSF, San Diego, CA, United States. (April 13, 2009).

Nie, B. (Presenter), School Science and Mathematics Association 2008 Annual Convention, "How does a Standards-based curriculum differ from a traditional curriculum?," NSF, Raleigh-Durham, NC, United States. (November 13, 2008).

Cai, J. (Presenter), he Research Pre-session of the National Council of Teachers of Mathematics Annual Meeting, "Longitudinal investigation of the effect of curricula on algebra learning: Initial findings from the first two years," NSF, Salt Lake, UT, United States. (April 7, 2008).

5. Other Works not in Print:

a. Works "submitted" or "under review":

Journal Articles:

Obara, S., & Nie, B. (Submitted / Under Review). Guided discovery learning: Preservice teachers' investigation using Geoboard on the general formulas of areas for the polygons. *Journal of Mathematics Teacher Education*. (September 5, 2022)
Verification Email of the Submission-2022-1.pdf

C. Scholarly / Creative Grants and Contracts:

1. Funded External Grants and Contracts:

Nie, Bikai (Co-Principal). Implementing Techtivities to Promote Covariational Reasoning and Instructional Transformation in College Algebra (ITsCRITiCAL), NSF, Federal, $1,599,774.00. (Submitted: December 3, 2019). Grant.
NSF Funded Project-Dr.Nie-1.pdf

2. Submitted, but not Funded, External Grants and Contracts:

Nie, Bikai. Collaborative Research: How Graphs Work: Cultivating a National Community to Transform Instruction in Introductory Mathematics, NSF, Federal, $110,993.00. (Submitted: July 15, 2025, Funded: August 1, 2026 - July 31, 2029). Grant.
Confirmation Letter from NSF-Submitted Proposal-1.pdf

IV. SERVICE

A. Institutional

1. University:

Participant, Texas State University Fall Commencements. (December 16, 2016 - December 10, 2022).

3. Department/School:

Organizer, Math 1315/1311 Teaching Forum. (September 1, 2024 - Present).

Mentor of Instructor, Math Department. (September 1, 2023 - Present).

Organizer, Math 1311/1315 Teaching Forum. (September 2022 - Present).

Member, Math 1315 Common Final Exam Committee. (September 2021 - May 2022).

Organizer, College Algebra Teaching Forum. (September 1, 2020 - May 2021).

Organizer, Teaching Forum for Math 2311/2312. (September 1, 2020 - May 2021).

Member, Library Committee. (September 1, 2020 - December 2020).

Member, Developmental Math Committee. (September 1, 2019 - May 2020).

B. Professional:

Reviewer / Referee, Journal for Research in Mathematics Education. (June 1, 2017 - Present).

Editorial Review Board Member, The first sourcebook on Asian research in mathematics education: China, Korea, Singapore, Japan, Malaysia and India. (2014 - 2016).

Reviewer / Referee, Journal of Mathematical Behavior. (June 2011 - October 2016).

Reviewer / Referee, Zentralblatt fuer Didaktik der Mathematik (The International Journal on Mathematics Education). (2009 - 2013).

D. Organization Memberships:

American Educational Research Association (AERA). (July 1, 2009 - Present).

National Council of Teachers of Mathematics (NCTM). (June 1, 2009 - Present).