
Lisa Lamb
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School of Teacher Education
College of Education
San Diego State University
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EDUCATION

<u>Institution</u>	<u>Years Attended</u>	<u>Degree</u>	<u>Major Field</u>
San Diego State/ UC San Diego	1994-1999	Ph.D.	Mathematics Education
San Diego State	1991-1993	M.A.	Mathematics (7-14 Math Ed)
William and Mary	1983-1987	B.S.	Mathematics

TEACHING POSITIONS AND RANKS

<u>Institution</u>	<u>Rank</u>	<u>Date</u>	<u>Major Subject</u>
San Diego State University	Professor	2014-present	Math Education
San Diego State University	Associate Professor	2005-2014	Math Education
San Diego State University	Assistant Professor	1998-2005	Math Education
San Diego State University	Research Assistant	1994-1998	Mathematics
La Jolla High School	Classroom Teacher	1991-1994	Mathematics
University City High School	Classroom Teacher	1990-1991	Mathematics
Osborn Park High School	Classroom Teacher	1987-1990	Mathematics

TEACHING

Program Coordination and Teaching Innovations

- Co-director, Master of Arts program in Education, K-8 Mathematics Education concentration, 2000-present.
- Co-leader, Single Subject Cohort of Mathematics and Science Credential Candidates, 2015-2017.

Awards

- Most Influential Faculty Member, selected by Most Outstanding Graduate Student for School of Teacher Education MA programs, 2014
- Outstanding Faculty Member, Center for Research in Mathematics and Science Education (CRMSE), College of Sciences Annual Award, 2013 and 2018.
- Outstanding Mathematics Teacher, Post-Secondary Level, 2004, Greater San Diego Mathematics Council.

Work with Graduate Students

- Co-chair, Doctoral Dissertation
LaRochelle, R. M. (2018). *Secondary Teachers' Professional Noticing of Students' Mathematical Thinking* (Doctoral dissertation, UC San Diego). Retrieved from <https://escholarship.org/uc/item/01c6v4kj>
- Doctoral dissertation committee member:
Martin, D. (2014-2016). *Student Worldview and Satisfaction Alignment in Post-secondary Education*.
Ernest, J. B. (2016). *Relationship Between Mathematics and Art in the Classroom*. (Unpublished doctoral dissertation). San Diego State University, San Diego.
Hawthorne, C. (2016). *Teachers' Understanding of Algebraic Generalization* (Unpublished doctoral dissertation). San Diego State University, San Diego.
Druken, B. (2015). *Sustaining Lesson Study: Resources and Factors that Support and Constrain Mathematics Teachers' Ability to Continue After the Grant Ends*. (Unpublished doctoral dissertation). San Diego State University, San Diego.
Thanheiser, E. (2006). *Prospective Teachers' Understanding of Multi-digit Whole Numbers*. (Unpublished doctoral dissertation). San Diego State University, San Diego.
- Doctoral program advisor, Ian Whitacre (2010-12), Spencer Bagley (2013), David Martin (2013-14), Raymond LaRochelle (2014-2018)
- 2nd Year Doctoral Exam Committee member:
La Rochelle, Raymond (2014); Hawthorne, Casey (2013); Ernest, Jessica Brooke (2011); Wawro, Megan (2009); Stevens, Becky (2009)
- Director, final projects of 28 Master of Arts students, 2000-2016
- MA Thesis external committee member:
McDonald, Meghan (2012). *Everyday Obamas: How Unattainable Role Models Affect Performance Under Threat*.
Cole, Christopher (2011). *The Impact Of Situational Cues On Women's Self-Perceptions In Stereotyped Situations*.
Blumenfeld, Howard (2006). *Student's Reinvention Of Straight-Line Solutions To Systems Of Linear Ordinary Differential Equations*.
- Undergraduate Honors Thesis Committee Member
Mitchell, Jenna (2012). *The Effects of Diagrams on Word Problems*.

SCHOLARLY WORKS

Refereed Journal Articles

- Lamb, L. L., Bishop, J.P., Philipp, R.A., Whitacre, I., & Schappelle, B.P. (in press). A Cross-Sectional Investigation of Students' Reasoning About Integer Addition and Subtraction: Ways of Reasoning, Problem Types, and Flexibility. *Journal for Research in Mathematics Education*.
- LaRochelle, R., Nickerson, S.D., Lamb, L.C., Hawthorne, C., Philipp, R.A., & Ross, D.L. (in press). Secondary practising teachers' professional noticing of students' thinking about pattern generalisation. *Mathematics Teacher Education and Development*.
- Nickerson, S.D., Vaughn, M., Lamb, L., Ross, D., Philipp, R.A., LaRochelle, R.A., & Williams, K. S. (2018). A Model for Selecting Exemplary Mathematics and Science Teacher Leaders. *Journal of School Administration Research and Development*, 3(1), 67-73.
- Whitacre, I., Azuz, B., Lamb, L.L., Bishop, J.P., Schappelle, B.P., & Philipp, R.A. (2017). Integer comparisons across the grades: Students' justifications and ways of reasoning. *Journal of Mathematical Behavior*, 45, 47-62.
- Bishop, J. P., Lamb, L. L., Philipp, R. A., Whitacre, I., & Schappelle, B. (2016). Leveraging structure: Logical necessity in the context of integer arithmetic. *Mathematical Thinking and Learning*, 18(3), 209-232.
- Bishop, J. P., Lamb, L. L., Philipp, R. A., Schappelle, B. P., & Whitacre, I. (2016). Unlocking the structure of positive and negative numbers. *Mathematics Teaching in the Middle School*, 22(2), 84-91.
- Whitacre, I., Bouhjar, K., Bishop, J. P., Philipp, R. A., Schappelle, B., & Lamb, L. L. (2016). Regular numbers and mathematical worlds, *For the Learning of Mathematics*, 36(2), 20-25.
- Bishop, J. P., Lamb, L.L., Philipp, R. A., Whitacre, I., Schappelle, B. P., & Lewis, M. (2014). Obstacles and affordances for integer reasoning: An analysis of children's thinking and the history of mathematics. *Journal for Research in Mathematics Education*, 45(1), 19-61.
- Bishop, J. P., Lamb, L.L., Philipp, R. A., Whitacre, I., Schappelle, B. P (2014). Using order to reason about negative numbers: The case of Violet, *Educational Studies in Mathematics*, 86(1), 39-59.
- Whitacre, I., Bishop, J. P., Philipp, R. A., Lamb, L. L., Bagley, S., & Schappelle, B. P. (2014). 'Negative of my money, positive of her money': Secondary students' reasoning about integers in relation to a money context. *International Journal of Mathematical Education in Science and Technology*, 1-16.
doi:<http://dx.doi.org/10.1080/0020739X.2014>

- Whitacre, I., Bishop, J.P., Philipp, R.A., Lamb, L.L., & Schappelle, B. (2014). Dollars and sense: Students' integer perspectives. *Mathematics Teaching in the Middle School* 20(2), 84-88.
- Lamb, L.L., Bishop, J.P., Philipp, R. A., Schappelle, B. P., Whitacre, I., Lewis, M. (2012). Developing Symbol Sense for the Minus Sign. *Mathematics Teaching in the Middle School*, 18 (1), 5-9.
- Lamb, L.L., Bishop, J. P., Philipp, R. A., Schappelle, B. P., Whitacre, I., & Lewis, M. (2012). High school students' conceptions of the minus sign. *Mathematics Teaching*, (227), 40-44.
- Whitacre, I., Bishop, J. P., Lamb, L.L., Philipp, R. A., Schappelle, B. P., & Lewis, M. L. (2012). Happy and sad thoughts: An exploration of children's integer reasoning. *Journal of Mathematical Behavior*, 31, 356-365.
- Bishop, J. P., Lamb, L.L., Philipp, R. A., Schappelle, B. P., & Whitacre, I. (2011). First graders outwit a famous mathematician. *Teaching Children Mathematics*, 17, 350-358.
- Jacobs, V.R., Lamb, L.L., & Philipp, R.A. (2010). Professional Noticing of Children's Mathematical Thinking. *Journal for Research in Mathematics Education*, 41 (2), 169-202.
- Lamb, L., & Jacobs, V. (2009). Establishing and maintaining program coherence in a cohort-based graduate program, *The Teacher Educator*, 4 (2), 126-142.
- Philipp, R., Ambrose, R., Lamb, L., Sowder, J., Schappelle, B., Sowder, L., Thanheiser, E., & Chauvot, J. (2007). Effects of early field experiences on the mathematical content knowledge and beliefs of prospective elementary school teachers: An experimental study. *Journal for Research in Mathematics Education*, 38 (5), 438-476.
- Jacobs, V. R., Ambrose, R.C., Clement (Lamb), L., & Brown, D. (2006) Supporting Teacher Learning: Using Teacher-Produced Videotapes of Student Interviews as Discussion Catalysts, *Teaching Children Mathematics*, 12 (6), 276-279.
- Article was selected for reprinting:*
- Jacobs, V. R., Ambrose, R. C., Clement, (Lamb) L., & Brown, D. (2008). Using teacher-produced videotapes of student interviews as discussion catalysts. In J. M. Bay-Williams & K. Karp (Eds.), *Growing professionally: Readings from NCTM publications for grades K-8* (pp. 76-82). Reston, VA: National Council of Teachers of Mathematics.
- Clement (Lamb), L., & Bernhard, J. (2005). A problem-solving alternative to using key words. *Mathematics Teaching in the Middle School*. 10, (7), 360-364.

Clement (Lamb), L. (2004). A model for understanding, using, and connecting representations. *Teaching Children Mathematics*, 11 (2), 97-102.

This article was selected to highlight how one might use a journal article as a professional development experience. NCTM created a reflection guide to support the use of this article.

Clement (Lamb), L. (2004). A mathematics teacher's transition toward inquiry-based discourse in a course for prospective elementary teachers. *AMATYC Review*, 26 (1), 47-62.

Clement (Lamb), L. (2004). Exploring students' errors in university mathematics classes. *Academic Exchange Quarterly*, 8 (2), 231-235.

Ambrose, R., Clement (Lamb), L., Philipp, R., & Chauvot, J. (2004). A methodological approach for developing research rubrics to assess elementary school teachers' beliefs about mathematics and mathematics learning. *School Science and Mathematics*, 104 (2), 56-69.

Clement (Lamb), L. (2004). Students' strategies for finding the area of trapezoids. *California Mathematics Communicator*, 28 (3), 32-35.

Philipp, R. A., Thanheiser, E., & Clement (Lamb), L.L. (2002). The role of a children's mathematical thinking experience in the preparation of prospective elementary school teachers. *International Journal of Educational Research*, 37, 195-210.

Clement (Lamb), L. (2001). What do your students really know about functions? *Mathematics Teacher*, 94, 745-748.

Lernhardt, M., & Clement (Lamb), L. (1999). Sharing reflections on teaching. *Mathematics Teaching in the Middle School*, 4, 542-545.

Refereed Book Chapters

Bishop, J. P., Lamb, L. L., Philipp, R. A., Whitacre, I., & Schappelle, B. P. (2018). Students' thinking about integer open number sentences. In L. Bofferding & N. M. Wessman-Enzinger (Eds.), *Exploring the integer addition and subtraction landscape: Perspectives on integer thinking*. Springer, 47-71.

Nickerson, S., Lamb, L., & LaRochelle, R. (2017). Challenges in measuring secondary mathematics teachers' professional noticing of students' mathematical thinking, in E.O. Schack, M.H. Fisher, & J.A. Wilhelm (Eds.), *Teacher noticing: Bridging and broadening perspectives, contexts, and frameworks*. New York: Springer, 381-398.

Jacobs, V. R., Lamb, L.L., Philipp, R. A., & Schappelle, B. P. (2011). Deciding how to respond on the basis of children's understandings. In M. G. Sherin, V. R., Jacobs, & R. A. Philipp (Eds.), *Mathematics teacher noticing: Seeing through teachers' eyes* (pp. 97-116). New York: Routledge.

- Lamb, L., Philipp, R., Jacobs, V., & Schappelle, B. (2009). Developing teachers' stances of inquiry: Studying teachers evolving perspectives, in D. Slavit, T. Holmlund Nelson, & A. Kennedy (Eds.), *Perspectives on Supported Collaborative Teacher Inquiry*, New York: Routledge: Taylor and Francis Group, 16-45.
- Clement (Lamb), L., & Sowder, J. (2003). Making connections within, among, and between unifying ideas in mathematics. In S.A. McGraw (Ed.), *Integrated mathematics: Choices and challenges* (pp. 59-72). Reston, VA: National Council of Teachers of Mathematics, Inc.
- Philipp, R.A., Clement (Lamb), L., & Siebert, D. (1999). The SDSU/UCSD Joint Doctoral Program in Mathematics and Science Education: An American example. In K. Hart & F. Hitt (Eds.), *Supervision of higher degrees in mathematics education: An international perspective* (pp. 57-68). Nottingham: University of Nottingham.
- Refereed Proceedings (Proposals for the proceedings for the *North American Chapter of the International Group for the Psychology of Mathematics Education*, are submitted blind and peer-reviewed by three reviewers.)
- LaRochelle, R., Lamb, L., & Nickerson, S. (2018). Using interpretive frames to inform selections of artifacts of student thinking. In T. Hodges, G. Roy, & A. Tyminski (Eds.) *Proceedings of the 40th Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Greensboro, SC.
- Lamb, L., Bishop, J., Philipp, R., Whitacre, I., & Schappelle, B. (2016). The relationship between flexibility and student performance on open number sentences with integers, *Proceedings of the 38th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (PME-NA 2016), Tucson, AZ, 171-178.
- Lamb, L., Bishop, J., Philipp, R., Whitacre, I., Stephan, M., Bofferding, L., Lewis, J., Brickwedde, J., Bagley, S., & Schappelle, B. (2013). Building on the emerging knowledge base for teaching and learning in relation to integers. *Proceedings of the 35th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (PME-NA 2013), Chicago, IL, 1358-1366.
- Bishop, J. P., Lamb, L. L., Philipp, R. A., & Schappelle, B.P. (2013). Opportunities for algebraic reasoning in the context of integers. In Steffe, L.P., Moore, K.C., & Hatfield, L.L (eds.) *Epistemic Algebraic Students: Emerging models of students' algebraic knowing: Papers from an invitational conference*, Wisdom^e Monograph, Vol. 4, University of Wyoming, Laramie, WY, 303-316.
- Whitacre, I., Pierson, J., Lamb, L., Philipp, R., Schappelle, B., & Lewis, M. (2012). What sense do children make of negative dollars? *Proceedings of the 34th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (PME-NA 2012), Kalamazoo, MI.
- Whitacre, I. M., Bishop, J. P., Lamb, L. L. C., Philipp, R. A., Schappelle, B. P., & Lewis, M. (2011). Integers: History, textbook approaches, and children's productive

- mathematical intuitions. In L. R. Wiest & T. Lamberg (Eds.), *Proceedings of the 33rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 913–920). Reno, NV: University of Reno.
- Pierson, J., Lamb, L., Philipp, R., Schappelle, B., & Whitacre, I. (2010). A Developing Framework for Children's Reasoning About Integers. In P. Brosnan, D. Erchick, & L. Flevares (Eds.) *Proceedings of the 32nd Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 695-702). Columbus, OH: The Ohio State University. Downloaded from <http://pmena.org/2010/>
- Lamb, L. (2009). *What is inquiry and how can one measure it?* Research on Collaborative Teacher Inquiry Skamania Conference, Washington State University, Vancouver.
- Lamb, L. & Thanheiser, E. (2006). Understanding integers: Using balloons and weights software. In S. Alatorre, J.L. Cortina, M. Sáiz, and A. Méndez (Eds), *Proceedings of the 28th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol.2, pp. 163-164). Mérida, México: Universidad Pedagógica Nacional. Article retrieved on January 23, 2007 from <http://www.pmena.org/2006/cd/ALGEBRAIC%20THINKING/ALGEBRAIC%20THINKING-0016.pdf>
- Clement (Lamb), L., Chauvot, J., Philipp, R., & Ambrose, R. (2003). A method for developing rubrics for research purposes. In N. A. Pateman , B. J. Dougherty & J. T. Zilliox (Eds.), *Proceedings of the 2003 Joint Meeting of PME and PMENA* (Vol. 2, pp. 221-227). Honolulu, HI: CRDG, College of Education, University of Hawaii.
- Ambrose, R., Philipp, R., Chauvot, J., & Clement (Lamb), L. (2003). A web-based survey to assess prospective elementary school teachers' beliefs about mathematics and mathematics learning: An alternative to Likert scales. In N. A. Pateman, B. J. Dougherty & J. T. Zilliox (Eds.), *Proceedings of the 2003 Joint Meeting of PME and PMENA* (Vol. 2, pp. 33-39). Honolulu, HI: CRDG, College of Education, University of Hawaii.
- Clement (Lamb), L., Philipp, R., & Thanheiser, E. (2002). Placing children between prospective elementary school teachers and mathematics: The mathematical early field experience. In D. S. Mewborn , P. Sztajn, D. Y. White, H. G. Wiegel, R. L. Bryant & K. Nooney (Eds.), *Proceedings of the twenty-fourth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol. 3, pp. 1097-1104). Athens, GA: ERIC.
- Jacobs, V., Ambrose, R. & Clement (Lamb), L. (2000) Tensions involved in providing professional development. *Proceedings of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (Vol. 2, p. 623), Tucson, AZ:ERIC.
- Clement (Lamb), L. (1998). A conceptually oriented teacher's image of teaching. Poster, in the *Proceedings of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (Vol. 2, p. 642), Raleigh-Durham, NC: ERIC.

Clement (Lamb), L. (1997). Students' understanding of functions. Poster, in the *Proceedings of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (Vol. 1, p. 203), Bloomington/Normal, IL: ERIC.

Non-refereed Publications

Lamb, L. L., Bishop, J.P., Whitacre, I., Philipp, R.A., Schappelle, B., & Lewis, M. (2017). *Seventh-Grade Students' Performance and Ways of Reasoning: Integer Addition and Subtraction Problems*. White Paper. Center for Research in Mathematics and Science Education.

Lamb, L., Whitacre, I., Bishop, J., Philipp, R., & Schappelle, B. (2013). Contribution to the chapter, Integers and other number sentences. In Sowder, J., Sowder, L., & Nickerson, S., *Reconceptualizing Mathematics*. New York, NY: W.H. Freeman and Company.

Clement (Lamb), L. (2002). Make a new puzzle. In G. Bright (Ed.), *Classroom activities for making sense of fractions, ratios, and proportions* (pp.43-45). Reston, VA: National Council of Teachers of Mathematics, Inc.

Bezuk, N., & Clement (Lamb), L. (2000). *Integrating the principles and standards for school mathematics: A sampler*. (Addendum to *Integrating principles and standards for school mathematics*). Columbus, OH: Merrill Prentice Hall.

Unpublished, Refereed Papers before Professional Conferences

Pierson, J., Lamb, L., Philipp, R., Schappelle, B., Whitacre, I. (2011), *An Investigation of Negative-Number Reasoning: The Case of Violet*, 2011 Annual Meeting of AERA New Orleans, LA.

Jacobs, V., Lamb, L., Philipp, R., & Schappelle, B. (2009) Professional noticing of children's mathematical thinking. in Rossella Santagata's (chair), *Teacher Learning About Student Mathematical Thinking: A Discussion of Various PD Models and Research Methodologies*, Division K, Teaching and Teacher Education, 2009 Annual Meeting of AERA, San Diego

Jacobs, V., Lamb, L., Philipp, R., & Schappelle, B. (2009). Responding on the Basis of Children's Mathematical Thinking, Paper presented at the session, *The Impact and Focus of Professional Development in Mathematics Education*, 2009 Annual Meeting of AERA San Diego, CA.

Lamb, L.L., Jacobs, V.R., Philipp, R.A., & Schappelle, B. (2008). *Studying teachers' evolving perspectives*, paper presented at the American Educational Research Association's Division K-Teaching and Teacher Education, in "An Examination of Support for Collaborative Teacher Inquiry (D. Slavits, Chair), New York, New York.

Jacobs, V., Lamb, L., Philipp, R., & Schappelle, B. (2007). *Professional Noticing of Children's Mathematical Thinking*. Paper presented at the American Educational Research Association's Division K-Teaching and Teacher Education

Ambrose, R. & Clement (Lamb), L. (2001, April) Inspiration or intrusion: An analysis of the classroom visit component of a professional development program . In J Remillard (Chair), *Through the Schoolhouse Door: Avenues for Professional Development*. Symposium conducted at the annual meeting of the American Educational Research Association, Seattle, WA.

Clement (Lamb), L. (1997, March). Stimulating and managing classroom discourse. In D. Peressini (Chair), *If They're Talking, They're Learning?: Teachers' Interpretations of Meaningful Mathematical Discourse*. Symposium conducted at the annual meeting of the American Educational Research Association, Chicago, IL (ERIC Document Reproduction Service ED414264).

Unpublished Master's Thesis

Clement (Lamb), L. (1993). *Students' understanding of functions*. Unpublished master's thesis, San Diego State University, San Diego CA.

Externally Funded Grants

SantaCruz, R(PI), Lamb, L. (coPI), and Ross (coPI). 2017-June 30, 2018. SDSU's Integrated Four-Year Mathematics and Science Teacher Education Program. \$249,000. CA Commission on Teacher Credentialing.

SantaCruz, R(PI), Lamb, L. (coPI), and Ross (coPI). 2017-June 30, 2018. SDSU's Integrated Four-Year Foundational Mathematics and Science Teacher Education Program. \$249,000. CA Commission on Teacher Credentialing.

Lamb, L (PI) and Soto, M. (coPI). (2017-2020). San Diego Math Project. UC Office of the President. \$60,000 per year.

Lamb, L (PI) and Santa Cruz (coPI). (2014-2016). San Diego Math Project. UC Office of the President. \$60,000 per year.

Lamb, L. (PI), Ross, D., Houle, M., Williams, K. & Pullman, D. (co-PIs), August 2014 – July 2019, *Supporting Science Teaching: SDSU's Noyce Science Interns and Scholars Program*. \$1,249,500, Noyce Track 1 Phase 1. National Science Foundation.

Lamb, L. (PI), Philipp, R.A, Nickerson, S., Ross, D., & Williams, K. (co-PIs), August 2012-July 2018, *SDSU Noyce Mathematics and Science Master Teaching Fellowship Program*, National Science Foundation, \$2,995,400.

We supported and investigated the work of 32 specially selected secondary mathematics and science teachers for five years. The Qualcomm Foundation provided an additional \$500,000 in matching funds to support the teachers' work.

Lamb, L. (PI), Philipp, R.A & Pierson (Bishop), J. (co-PIs), August 2009-July 2014, *Mapping Developmental Trajectories of Students' Conceptions of Integers*, National Science Foundation Discovery Research K-12, \$1,637,340.

Making sense of integers is particularly challenging for children and yet is foundational for success with first-year algebra coursework. In this research and development project, we propose to map developmental trajectories of students' conceptions of integers. We analyzed 160 interviews across K-12 students and 20 interviews of mathematics teachers. Collectively, the conceptions identified across these interviews will help us to map the terrain from informal to expert conceptions of integers.

Clement (Lamb), L., & Branca, N., Co-Directors (1999). *Mathematics Preparation Initiative*, Grant from the California State University's Chancellor's Office, \$70,951.

Contributions to Externally Funded Grants

Primary research team member, *Studying Teachers' Evolving Perspectives: A Cross-Sectional Snapshot of Teachers Engaged in Sustained Professional Development Focused on Children's Mathematical Thinking* (STEP). 2005-2010. In this multi-million dollar five-year project, we mapped a learning trajectory for elementary school teachers engaged in sustained professional development. Through a cross-sectional design, we studied the knowledge, beliefs, and practices of four groups of teachers who were engaged with sustained professional development for different amounts of time, 0 – 7 years. Data was collected through multiple measures that built on our past work. Children's mathematical thinking and classroom artifacts played prominent roles in our measures, analysis lens, and professional development contexts.

Primary research team member, *Integrating Mathematics and Pedagogy* (IMAP) grant (2000-2003). This \$2,800,000, 3-year grant investigated the effects of early structured field experiences on prospective teachers' beliefs and mathematical understanding. The positive findings have resulted in the institutionalization of a course at SDSU and at local community colleges, *Children's Mathematical Thinking* (MathEd 212). A browse version of the multi-media instrument is located at <http://www.sci.sdsu.edu/CRMSE/IMAP/survey/>

Project Team Member, *Math for America San Diego Noyce Fellowship Program*, August, 2009-July 2015. \$1,500,000. This project represents a collaboration among USCD, SDSU, and CSU San Marcos to recruit and support highly qualified prospective mathematics teachers from their credential programs and provide support for them into their first 4 years of teaching.

Internally Funded Grants

Lamb, L., Ross, D., & Houle, M. (2013). *SDSU's Grades 2-8 Mathematics and Science Camps*, President's Leadership Fund. \$7,500.

Philipp, R.A., Ross, D., & Lamb, L. (2013). *Facilities and Equipment Upgrade*, \$150,000.

Clement (Lamb), L. (2005-2007). *Research and development of a computer simulation to support students' understanding of integers*. Grants-in-aid award. \$5,974.

Clement (Lamb), L. (2005). *Investigating students' conceptions of integers*. Research, Scholarship, and Creative Activity award. \$2,000.

Clement, (Lamb), L. (2001). *The Development of Freeware to Assess Students' Knowledge of Multiplication*. Research, Scholarship, and Creative Activity award. \$2,000.

Presentations Before Professional Conferences

National Conferences, refereed:

Lamb, L., & Ross, D. (2018, July). Professional Noticing of Students' Scientific and Mathematical Thinking, Presentation at the Noyce Summit 2018. Washington, D.C.

LaRochelle, R., Lamb, L., & Nickerson, S. (2016, April). Secondary In-Service Teachers Professional Noticing, Poster Session presented at the National Council of Teachers of Mathematics (NCTM) Research Session, San Francisco, CA. (Only LaRochelle presented).

LaRochelle, R., Lamb, L., & Nickerson, S. (2016, Jan 29). Secondary Inservice Teachers' Professional Noticing of Students' Mathematical Thinking, Presentation at the annual meeting of Association of Mathematics Teacher Educators (AMTE). Irvine, CA.

Philipp, R., Hawthorne, C. & Lamb, L. (2016, Jan 30). Reconceptualizing a Mathematical Domain Around Ways of Reasoning: The Case of Integers Presentation at the annual meeting of Association of Mathematics Teacher Educators (AMTE). Irvine, CA.

Lamb, L., Pierson, J., Philipp, R., Schappelle, B., Whitacre, I., & Lewis, M. (2014, February 6-8). Presentation at the annual meeting of Association of Mathematics Teacher Educators (AMTE). Irvine, CA.

Lamb, L., Bishop, J., Philipp, R., Whitacre, I., Stephan, M., Bofferding, L., Lewis, J., Brickwedde, J., Bagley, S., & Schappelle, B. (November, 2013). Building on the emerging knowledge base for teaching and learning in relation to integers. Working Group Sessions at the 35th annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA 2013), Chicago, IL.

Lamb, L., Bishop, J., Philipp, R., Schappelle, B., Whitacre, I., & Lewis, M. (2012, 25 April). *Children's informal conceptions of integers*. Work Session presented at the National Council of Teachers of Mathematics (NCTM) Research Pre-session, Philadelphia, PA.

- Lamb, L., & Philipp, R. (2012, February 10). *Supporting prospective and practicing teachers: Sharing middle and high school students' conceptions of integers*. Presentation at the annual meeting of Association of Mathematics Teacher Educators (AMTE). Fort Worth, TX.
- Lamb, L., Pierson, J., Philipp, R., Whitacre, I., Schappelle, B., Lewis, M. (2011), *Understanding Students' Conceptions of Integers and Implications for Teacher Educators*. Pre-session at the 11th annual conference of the Association of Mathematics Teacher Educators, Irvine, CA.
- Lamb, L., Pierson, J., Philipp, R.A., & Whitacre, I. (2010). *Students' conceptions of integers*. Presentation at the 2010 NCTM Research Pre-session, San Diego, CA.
- Lamb, L. Jacobs, V. Pierson, J. Philipp, R. Schappelle, B. and Siegfried, J. (2010), *Teachers' Conversations about Video: Implications for Professional Development*. Session at the 10th annual conference of the Association of Mathematics Teacher Educators, Irvine, CA.
- Philipp, R., Jacobs, V, Lamb, L., Schappelle, B and Siegfried, J. (2010). *Using Artifacts of Practice in Professional Development*. Pre-session at the 10th annual conference of the Association of Mathematics Teacher Educators, Irvine, CA.
- Jacobs, V. & Lamb, L. (2009) *Professional noticing of children's mathematical thinking*. in Rossella Santagata's (chair), *Teacher Learning About Student Mathematical Thinking: A Discussion of Various PD Models and Research Methodologies*. 2009 Annual Meeting of AERA, San Diego.
- Jacobs, V. & Lamb, L. (2009). *Responding on the basis of children's mathematical thinking*, Paper presented at the session, *The Impact and Focus of Professional Development in Mathematics Education*, 2009 Annual Meeting of AERA San Diego, CA.
- Philipp, R., Jacobs, V., Sherin, M., van Es, E., Lamb, L., Nickerson, S. (2007, January). *Using Video As a Context for Teachers' Noticing*. Session at the 7th annual conference of the Association of Mathematics Teacher Educators, Irvine, CA.
- Jacobs, V., Ambrose, R., and Clement (Lamb), L. (2004, January). *Using Teacher-Produced Videotapes of Problem-Solving Interviews as a Professional Development Tool*. Symposium at the 5th annual conference of the Association of Mathematics Teacher Educators, San Diego, CA.
- Philipp, R., Bezuk, N., Clement (Lamb), L., Justeson, D, Thanheiser, E., and. Wiles, P. (2004, January). *Using Video Examples of Children's Mathematical Thinking to Explicate, Compare, and Critique Processes and Goals of Content and Pedagogy Instructors*. Symposium at the 5th annual conference of the Association of Mathematics Teacher Educators, San Diego, CA.
- Clement (Lamb), L., Chauvot, J., Philipp, R., & Ambrose, R. (2003, July). A method for developing rubrics for research purposes. Symposium at *The 2003 Joint Meeting of*

- the Psychology of Mathematics Education and the North American Chapter of the International Group for the Psychology of Mathematics Education*. Honolulu, HI.
- Philipp, R., Clement (Lamb), L., Thanheiser, E., and Sowder, J. (2003, April). *Integrating Mathematics and Pedagogy: An Investigation of the Effects on Elementary Pre-service Teachers' Beliefs and Learning of Mathematics*. Interactive session presented at the research pre-session of the annual meeting of the National Council of Teachers of Mathematics, San Antonio, TX.
- Ambrose, R., Philipp, R., Clement (Lamb), L., Chauvot, J., Vincent, C. and Thanheiser, E. (2002, April). *Mathematical Early Field Experiences for Pre-service Elementary School Teachers: Promoting Change or Confirming Tradition?* Interactive session presented at the research pre-session of the annual meeting of the National Council of Teachers of Mathematics, Las Vegas, NV.
- Ambrose, R., Philipp, R., Chauvot, J., and Clement (Lamb), L. (2002, January). *Integrating Mathematics and Pedagogy: A large scale research study of an intervention designed to change prospective teachers' beliefs about mathematics in order to maximize their mathematics learning*. Presentation at the joint annual meeting of the American Mathematical Society and the Mathematical Association of America, San Diego, CA.
- Ambrose, R., & Clement (Lamb), L. (2001, April). Inspiration or intrusion: An analysis of the classroom visit component of a professional development program. In J. Remillard (Chair) *Through the Schoolhouse Door: Avenues for Professional Development*. Symposium conducted at the annual meeting of the American Educational Research Association, Division K1a: Teacher Education & Learning (Math & Science)) Seattle, Washington.
- Clement (Lamb), L., Ambrose, R., Philipp, R., Portnoy, N., & Vincent, C. (2001, January). *Assessing and Changing Pre-service Elementary School Teachers' Beliefs About Mathematics and the Teaching and Learning of Mathematics*. Symposium at the 5th annual Association of Mathematics Teacher Educators conference, Los Angeles, CA.
- Bezuk, N., & Clement (Lamb), L. (2001, January). *Integrating Standards into Elementary Mathematics Methods Courses*. Symposium at the 5th annual Association of Mathematics Teacher Educators conference, Los Angeles, CA.
- Ambrose, B., Philipp, R., Sowder, J., and Clement (Lamb), L. (2000, April). *Assessing Pre-service Teachers' Beliefs: A Video Based Instrument*, Interactive session presented at the pre-session of the annual meeting of the National Council of Teachers of Mathematics, Chicago, IL.
- Clement (Lamb), L. & Bezuk, N. (2000, April). *Integrating Standards 2000 in Elementary Mathematics Methods Courses*. Report presented at the annual meeting of the National Council of Teachers of Mathematics, Chicago, IL. (This session was one of only six sessions sponsored by the Association for Mathematics Teacher Educators.)

- Clement (Lamb), L. (1998, November). A conceptually oriented teacher's image of teaching. Poster presented at *the North American Chapter of the International Group for the Psychology of Mathematics Education conference*, Raleigh-Durham, NC.
- Clement (Lamb), L. & Mellissinos, M. (1998, April). *Reflecting in teaching and learning*. Interactive session at the 76th annual meeting of the National Council of Teachers of Mathematics, Washington, D.C.
- Sowder, J., Sowder, L., Bernhard, J.Z., & Clement (Lamb), L. (1998, April). *Taking a fresh look at geometry and measurement in teacher education*. Session presented at the 76th annual meeting of the National Council of Teachers of Mathematics, Washington, D.C.
- Philipp, R., Branca, N., Clement (Lamb), L., & Bernhard, J.Z. (1998, January). *Changing prospective elementary mathematics teachers' beliefs and knowledge: Considering the difficulties and solutions from the different perspectives of content and methods instructors*. Symposium conducted at the 2nd annual meeting of the Association of Mathematics Teacher Educators, Pomona, California.
- Clement (Lamb), L. (1997, October). Students' understanding of functions. Poster presented at *the North American Chapter of the International Group for the Psychology of Mathematics Education conference*, Bloomington/Normal, IL.
- Peressini, D., Knuth, E., Elliott, R.L., & Clement (Lamb), L. (1997, March). Stimulating and managing classroom discourse. In D. Peressini (Chair), *If They're Talking, They're Learning?: Teachers' Interpretations of Meaningful Mathematical Discourse*. Symposium conducted at the annual meeting of the American Educational Research Association, Chicago, IL.
- Bernhard, J.Z., & Clement (Lamb), L. (1997, February). *The Role of Quantitative Analysis in Analyzing Mathematical Situations*. Paper presented at the annual meeting of the Association for Mathematics Teacher Educators, Washington, D.C.
- Thompson, P.W., Thompson, A.G., Philipp, R.A., Bernhard, J.Z., & Clement (Lamb), L. (1996, April). *Reform in mathematics teaching: Its many aspects and difficulties*. Interactive session presented at the pre-session of the annual meeting of the National Council of Teachers of Mathematics, San Diego, CA.
- Sowder, J., Sowder, L., Clement (Lamb), L., & Bernhard, J.Z. (1996, April). *Reforming the Preparation of Elementary and Middle School Teachers*. Report presented at the annual meeting of the National Council of Teachers of Mathematics, San Diego, CA.

Local and Regional Conferences

- Lewis, M., Pierson, J., & Lamb, L. (2012, February 3). Children's conceptions of and strategies with integers. Presentation at the annual meeting of the Greater San Diego Mathematics Council, San Diego, CA.

- Philipp, R.A., Jacobs, V.R., & Lamb L. (2009, February). *Teachers' noticing of children's thinking: A cross-sectional study of teacher growth*. SDSU College of Education on behalf of the Professional Activities Committee, San Diego, CA.
- Clement (Lamb), L., Thanheiser, E., Meckstroth, P., & Justeson, D. (2003, March). *Using Videos of Children's Thinking in Math Courses* Interactive session presented at the eighteenth annual conference of the California Mathematics Council Community Colleges South, Anaheim, CA.
- Clement (Lamb), L. (1999, November). *The Number Strand and its Logical Connection to the 4-7 curriculum*. Interactive session presented at California Mathematics Council annual meeting, Palm Springs, CA.
- Philipp, R., Jacobs, V., Clement (Lamb), L., Bullock, C., Clay, M., Poznanski, J., & Spatafore, C. (1999, February). *Hey Buddy, Can I Borrow a Ten? What is the Big idea of Subtraction?* Interactive session presented at the annual conference of the Greater San Diego Mathematics Council, San Diego, CA.
- Mellissinos, M., & Clement (Lamb), L. (1997, February). *Sharing reflections on teaching*. Interactive session presented at the annual conference of the Greater San Diego Mathematics Council, San Diego, CA.
- Sowder, J., Bowers, J. & Clement (Lamb), L. (1996, October). *A Description of the Quantitative Reasoning Materials developed by the Teacher Enhancement and Preparation Project at San Diego State University*. Presented at the annual meeting for the California Mathematics Project, Rancho Santa Fe, CA.

Invited Presentations

- Lamb, L. (2017, September). Professional Noticing of Students' Mathematical Thinking. California Mathematics Project meeting, San Diego, CA.
- Lamb, L. & Ross, D. (2017, September). Noyce Mathematics and Science Master Teaching Fellowship Project: Project Learn, with SDSU faculty at School of Teacher Education Meeting.
- Lamb, L. & Bishop, J. (2017, October). Students' Integer Reasoning. Virtual presentation with graduate students at the North Carolina State University, Greensboro, NC.
- Lamb, L. (2017, January). *Professional Noticing of Students' Mathematical Thinking*, SweetPD17 Conference, Sweetwater Union High School District, Chula Vista, CA.
- Lamb, L. (2017, February). *Professional Noticing of Students' Mathematical Thinking*, presented at the Western Regional Noyce Conference, Fresno, CA.
- Lamb, L. (2017, April 21-22). *Professional Noticing of Students' Mathematical Thinking*, presented at *From Awareness to Action* Lesson Study Conference Santa Rosa, CA.

- Lamb, L. (2016, March). *Students' ideas about negative numbers*. Teachers' Development Group Leadership Seminar, Portland, OR.
- Lamb, L. & Woodward, Z. (2016, July). *Aztec Science Camp: Interns as Counselors*. Poster presented at Annual Noyce PI conference, Washington, DC.
- Lamb, L. & Houle Vaughn, M. (2013, May 30). *Project Learn: Noyce master teaching fellows*. Poster presented at Annual Noyce PI conference, Washington, DC.
- Lamb, L. (2013, March 4). *Students' understanding of integers*. Invited presentation to MATHED 605 students.
- Philipp, R.A., Jacobs, V., Lamb, L., Sigfried, J. (2012). *Teachers' noticing of children's mathematical thinking*. Invited presentation to San Diego State Research Foundation staff.
- Lamb, L., Bishop, J. P., & Philipp, R. A. (2012, June 14). *Mapping Developmental Trajectories of Students' Conceptions of Integers, Year 3*. Poster presented at DR K-12 Principal Investigator Conference, Washington, DC.
- Lamb, L., & Bishop, J. P. (2011, December 9). *Witches, astrology, and negative numbers*. Colloquium presented for the Center for Research in Mathematics and Science Education and the School of Teacher Education at San Diego State University, San Diego, CA.
- Jacobs, V. & Lamb, L. (2009). Cognitively Guided Instruction Post Conference, August 2, 2009. Professional Noticing of Teachers.
- Jacobs, V., & Lamb, L. (2008). Presentation at the Conference on Teacher Noticing, Chicago, IL. Miriam Sherin, Vicki Jacobs, Randy Philipp, organizers.
- Lamb, L. (2007, March) *Your Doctorate: Pathway to Success*, One of three invited panelists for the Doctoral Student Council in Education. San Diego, CA.
- Lamb, L. (2006, June). *Mathematical Proficiency: What is it and how might one support its development?* Presentation at the PMET Summer Workshop Fresno State University, Fresno, CA.

SERVICE

Service for the University

- Chair, Teacher Education Director's Search Committee, 2016-2017
- Member, COE Policy Council, 2014-present
- Member, Credential Programs Council, 2014-2017
- Member, Strategic Leadership Team of the School of Teacher Education, 2016-present

- Graduate Faculty Adviser, First Year students, Mathematics and Science Education Doctoral (MSED) Program, 2012-2015
- Member, SDSU/UCSD Mathematics and Science Education Doctoral Program Steering Committee, 2016-present
- Member, SDSU/CGU Joint Doctoral Program Steering Committee, 2013-2015
- Member, Personnel Committee, 2007 – 2010, 2013-15, 2016-present
- Member, Single Subject Admissions and Retention Committee, 1999-2002, 2003-2005, 2007-2008, Chair, 2010-2012, 2014-2015, 2017 - present
- Member, University Research Council, 2012-2014
- Member, University Grants and Lectureship Committee, 2012-2014
- Chair, School of Teacher Education Graduate Programs Committee, 2012-2013
- Member, College of Education Dean's Search Committee, 2012-2014
- Member, Mathematics and Science Education Doctoral Program Admissions Committee, 2012-13
- CRMSE Advisory Panel Member, 2010-present
- NCATE review planner for MA program in K-8 mathematics education, 2009
- Student Research Symposium Judge, 2009, 2010, 2013, 2015
- Chair, College of Education Research Committee, 2008-2010, 2002-2004
- Member, College of Education Doctoral Programs Committee, 2007 – present
- Co-Chair, Mathematics Education Search Committee, 2007-2008
- Member, School of Teacher Education Ad Hoc Policies and Procedures Committee, 2007 – 2008
- Member, Mathematics Education Search Committee, 2006-2007, 2013-2014
- Associate Director, Center for Research in Mathematics and Science Education, 2003-2008, Interim Associate Director, CRMSE, Spring 2011
- Member, School of Teacher Education Curriculum Committee, 2003-2004, 2006-2008
- Mentor, Computer Science, Engineering and Mathematics (CSEM) Scholars Program, 2003 – 2004
- Member, College of Education Graduate Council, 2001-2010
- Co-director, Master of Arts in Education with a Concentration in K-8 Mathematics Education, Spring, 2000-present
- Reader, Phil Halfaker Outstanding Student Teacher Award, 2000, 2001, 2002, 2004, 2005, 2008, and Outstanding Graduate Student Award, 2005

- Member, Mathematics Subject Area Action Team, Teacher Education Blended Program Development Team; Fall, 2000-2001
- Member, Center for Research in Mathematics and Science Education, Fall, 1999-present
- Convener, Mathematics Subject Area Action Team, Teacher Education Blended Program Development Team; Spring, 1999-2000.
- Invited speaker to Master of Arts courses in the field of mathematics education, July, 1999; April, 2000.
- Planner/Presenter, EPT/ELM Articulation Conferences (March 23, 1999; November 8, 1999).
- Member, Precollegiate Academic Development Advisory Board, 1999-2000.
- Invited speaker to secondary mathematics methods classes, April & October, 1998; July, 1999; September, 2003; September and December, 2004.

Professional Community Service

- Strand Co-Leader, 2017 PME-NA Conference, Indianapolis. Early Algebra, Algebra & Number Concepts strand (January -March 2017).
- Mathematics Support for College Avenue Compact, 2013 – 2015.
- External Reviewer for RTP Process, Santa Clara University, 2013.
- S-STEM Panel Reviewer (September 2012), National Science Foundation.
- Inservice to Grades 3-8 Teachers in Cajon Valley and National City (July 2012), *Understanding Students' Conceptions of Integers*.
- Review panelist, Division C, Section 3 (Mathematics) for the 2010 AERA Annual Meeting, Denver, Colorado.
- Program Committee Member, California Association of Mathematics Teacher Educators, 2010.
- Article reviewer, *Educational Studies in Mathematics*, *Journal for Mathematics Teacher Education*, *Journal for Research in Mathematics Education*, *Journal of Mathematical Behavior*, *Mathematical Thinking and Learning*, *Mathematics Teacher*; *School Science and Mathematics*, *Teaching Children Mathematics*, ongoing.
- Volunteer, Village Elementary school, 2007 – 2012.
- Advisory Board Member, Upward Bound Math/Science Regional Center Advisory Board 2007-2008.
- Jacobs, V., Ambrose, R., & Clement. (Lamb), L. (1999-2000). *Children's mathematical thinking group*.
- Volunteer, Crown Point Elementary School, 1999- 2000.
- Workshop leader, Corona Norco, May, 1999. Conducted a workshop for high school teachers about SAT I and SAT II tests, and the ELM exam.
- Volunteer, Mathematics Field Day, March, 1999, March, 2000.
- Proposal reviewer, Psychology of Mathematics Education –North American Chapter (2016), California Mathematics Council North and South, CAMTE sessions (2009), annual meetings of the American Educational Research Association's Special Interest Group for Research in Mathematics Education, 1998, 1999, 2000, 2006, annual meeting of the Association of Mathematics Teacher Educators, 1999.

- Textbook reviewer, 1991-92.