

TEXAS STATE VITA**I. Academic/Professional Background**

A. Name and Title

Name: Dr. Kate Melhuish

Title: Assistant Professor

B. Educational Background

<i>Degree</i>	<i>Year</i>	<i>University</i>	<i>Major</i>	<i>Thesis/Dissertation</i>
PHD	2015	Portland State University	Mathematics Education	
MS	2010	Western Carolina University	Applied Mathematics	
BS	2008	Gwynedd Mercy University	Mathematics	

C. University Experience

<i>Position</i>	<i>University</i>	<i>Comments</i>	<i>Dates</i>
Assistant Professor, Department of Mathematics	Texas State University. San Marcos, TX		August 2016 - Present
Postdoctoral Research Fellow	Teachers Development Group. West Linn, OR		September 2015 - August 2016
Instructor of Record/Teaching Assistant, Fariborz Maseeh Department of Mathematics and Statistics	Portland State University. Portland, OR		July 2010 - August 2015
Instructor of Record/Teaching Assistant, Department of Mathematics and Statistics	Western Carolina University. Cullowhee, NC		August 2008 - August 2010

II. TEACHING

B. Courses Taught:

Texas State University:

MATH 2311 - PRINC OF MATH I

MATH 2312 - INFORMAL GEOMETRY

MATH 2471 - CALCULUS I

MATH 2472 - CALCULUS II

MATH 3315 - MOD GEOMETRY

MATH 4307 - MODERN ALGEBRA

MATH 7306 - RESRCH IN MATH ED

MATH 7324 - CURR DSGN & ANLYS

MATH 7366A - TCHNG POST-SEC SDT

MATH 7386 - INDPNT STDY MTH ED

Portland State University:

Mth 111 - College Algebra

Mth 211 - Elementary Mathematics for Teachers

Mth 251 - Calculus 1

Mth 252 - Calculus II

Mth 254 - Multivariable Caclulus

Western Carolina University:

Math 101 - Mathematical Concepts

C. Directed Student Learning (i.e. theses, dissertations, exit committees, etc.):

Supervisor / Chair, Dissertation, Status: Proposal. (May 2019 - Present).

Student(s): Michael Hicks, Doctoral, Mathematics Education.

Supervisor / Chair, Dissertation, "Proof Validation at the Introduction to Proof Level:

Framing and Designing a Multiple-Choice Assessment", Status: Completed. (January 2017 - July 2019). Mathematics, Texas State University.

Student(s): Joshua Fagan, Doctoral, Mathematics Education PhD.

F. Other:

Guest Lecture, MATH 7366A Teaching Post-Secondary Students. (November 9, 2016).

Guest Lecture, Math 692: Research Methodology and Design, Portland State University. (November 5, 2016).

Guest Lecture, MATH 7306 Current Research in Math Education. (September 29, 2016).

G. Teaching Professional Development Activities Attended

Seminar, "College Mathematics Instructor Development Source." (July 12, 2018 - July 14, 2018).

Program for Excellence in Teaching and Learning. (August 2016 - April 2017).

"Allies Training." (April 10, 2017).

"The Guide on the Side: Strategies for Mentoring Graduate Students." (March 8, 2017).

III. SCHOLARLY/CREATIVE

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

1. Books:

d. Chapters in Books:

Refereed:

Melhuish, K. M., & Hicks, M. (2019). A Validity Argument for an Undergraduate Mathematics Concept Inventory. In J. Bostic, E. Krupa, & J. Shih (Eds.), *Quantitative Measures in Mathematics Education (Research in Mathematics Education Series)*. Netherlands: Springer.

Melhuish, K. M., & Fagan, J. (2018). Connecting Group Theory Concept Assessment Results to Core Concepts at the Secondary Level. In N. Wasserman (Ed.), *Connecting abstract algebra to secondary mathematics, for secondary mathematics teachers (Research in Mathematics Education Series)* (pp. 19–45). Netherlands: Springer.

Melhuish, K. M., & Thanhesier, E. (2017). Using formative evaluation to support teachers in increasing student reasoning. In L. West & M. Boston (Eds.), *Annual perspectives in mathematics education 2017: Reflective and collaborative processes to improve mathematics teaching* (pp. 183–199). National Council of Teachers of Mathematics.

Larsen, S., Glover, E., & Melhuish, K. M. (2015). Beyond good teaching: The benefits and challenges of implementing ambitious teaching. In D. Bressoud, V. Mesa, & C. Rasmussen (Eds.), *Insights and Recommendations from the MAA National Study of College Calculus* (pp. 93–105). MAA Press.

2. Articles:

a. Refereed Journal Articles:

- Melhuish, K. M., & Czocher, J. A. (Accepted / In Press). Division is Pretty Much Just Multiplication. *For the Learning of Mathematics*.
Additional Comments: Original submission July 2019; Decision: R&R.
- Melhuish, K. M., Lew, K. M., & Hicks, M. D. (Accepted / In Press). Comparing Student Proofs to Explore a Structural Property in Abstract Algebra. *PRIMUS*.
- Johnson, E., Andrews-Larson, C., Keene, K., Melhuish, K. M., Fortune, N., & Rachel Keller. (Accepted / In Press). Inquiry and Inequity in the Undergraduate Mathematics Classroom. *Journal for Research in Mathematics Education*.
- Melhuish, K. M., Ellis, B., & Hicks, M. D. (2020). Group Theory Students' Perceptions of Binary Operation. *Educational Studies in Mathematics*, 103(1), 63–81.
- Czocher, J., Melhuish, K. M., & Kandasamy, S. S. (2019). Building mathematics self-efficacy of STEM undergraduates through mathematical modelling. *International Journal of Mathematical Education in Science and Technology*, 1–28.
- Melhuish, K. M., Larsen, S., & Cook, S. (2019). When students prove a theorem without explicitly using a necessary condition: Digging into a subtle problem from practice. *International Journal of Research in Undergraduate Mathematics Education*, 5(2), 205–227.
- Melhuish, K. M., Thanheiser, E., & Fagan, J. (2019). The Student Discourse Observation Tool: Focusing Teachers on Justifying and Generalizing. *Mathematics Teacher Educator*, 7(2), 57–74.
- Thanheiser, E., & Melhuish, K. M. (2019). Leveraging variation of historical number systems to build understanding of the base-ten place-value system. *ZDM*, 51(1), 39–55.
- Melhuish, K. M. (2019). The Group Theory Concept Assessment: Measuring Conceptual Understanding in Introductory Group Theory. *International Journal of Research in Undergraduate Mathematics Education*, 5(3), 359–393.
- Melhuish, K. M., Thanheiser, E., & Guyot, L. (2018). Elementary teachers' noticing of mathematical reasoning forms. *Journal of Mathematics Teacher Education*, 1–33.
- Melhuish, K. M., & Thanheiser, E. (2018). Reframing Replication Studies as Studies of Generalizability: A Response to Critiques of the Nature and Necessity of Replication. *Journal for Research in Mathematics Education*, 49(1), 104–110.

Melhuish, K. M. (2018). Conceptual Replications in Group Theory. *Journal for Research in Mathematics Education*, 49(1), 9–38.

Fasteen, J., Melhuish, K. M., & Thanheiser, E. (2015). Multiplication by 10 base-5: Making Sense of Place Value Structure Through an Alternate Base. *Mathematics Teacher Educator*, 3(2), 83–98.

3. Conference Proceedings:

a. Refereed Conference Proceedings:

Lew, K. M., Melhuish, K. M., & Dawkins, P. C. (Accepted / In Press). Proving Activities of Abstract Algebra Students in a Group Task-based Interview.

Melhuish, K. M., Lew, K. M., Baumgard, T. B., & Ellis, B. (Accepted / In Press). Adapting K-12 Teaching Routines to the Advanced Mathematics Classroom.

Sorto, M. A., Melhuish, K. M., Thanheiser, E., Zied, K., Koehne, C., Sugimoto, A., ... Strickland, S. K. (2019). Components of High-Quality Mathematics Classrooms: Attending to Learning Opportunities for English Language Learners. In S. Otten, A. G. Candela, Z. de Araujo, C. Haines, & C. Munter (Eds.), *Proceedings of the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)* (pp. 1594–1603).

Melhuish, K. M., Lew, K. M., Kandasamy, S. S., & Hicks, M. D. (2019). Function Coherence in Advanced Mathematics. In S. Otten, A. G. Candela, Z. de Araujo, C. Haines, & C. Munter (Eds.) *Proceedings of the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)* (pp. 961–966).

Melhuish, K. M., & Strickland, S. K. (2019). Abstract Algebra Instructors' Noticing of Students' Mathematical Thinking. In Weinberg, A., Moore-Russo, D., Soto, H., & Wawro, M. (Eds.). (2019). *Proceedings of the 22nd Annual Conference on Research in Undergraduate Mathematics Education*. (pp. 428–436).

Melhuish, K. M., Lew, K. M., Hicks, M., & Kandasamy, S. (2019). Abstract Algebra Students' Function-Related Understanding and Activity. In Weinberg, A., Moore-Russo, D., Soto, H., & Wawro, M. (Eds.). (2019). *Proceedings of the 22nd Annual Conference on Research in Undergraduate Mathematics Education*. Oklahoma City, Oklahoma. (pp. 419–427).

Johnson, E., Andrews-Larsen, C., Keene, K., Melhuish, K. M., Keller, R., & Fortune, N. (2019). Inquiry Does Not Guarantee Equity. In Weinberg, A., Moore-Russo, D., Soto, H., & Wawro, M. (Eds.). (2019). *Proceedings of the 22nd Annual Conference on Research in Undergraduate Mathematics Education*. (pp. 154–163).

- Kandasamy, S. S., Czocher, J. A., & Melhuish, K. M. (2019). Participation in a Mathematical Modelling Competition as an Avenue for Increasing STEM Majors' Mathematics Self-Efficacy. In *Proceedings of 22nd Annual Conference on Research in Undergraduate Mathematics Education*.
- Melhuish, K. M., & Hicks, M. (2018). Student Understanding of the General Binary Operation Concept. In *Hodges, T.E., Roy, G. J., & Tyminski, A. M. (Eds.). (2018). Proceedings of the 40th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 548–555).
- Fagan, J., & Melhuish, K. M. (2018). Proof norms in introduction to proof textbooks. In *In (Eds.) A. Weinberg, C. Rasmussen, J. Rabin, M. Wawro, and S. Brown, Proceedings of the 21st Annual Conference on Research in Undergraduate Mathematics Education* (pp. 743–751).
- Melhuish, K. M., Bergman, A., & Czocher, J. A. (2018). Revisiting Reducing Abstraction in Abstract Algebra. In *Proceedings of the the twenty-first annual Conference on Research in Undergraduate Mathematics Education*.
- Fagan, J., Melhuish, K. M., Thanheiser, E., Fasteen, J., Guyot, L., & Rosencrans, B. (2017). Connecting teachers' buy-into professional development with classroom habits and practices. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 459–462). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators.
- Guyot, L., Melhuish, K. M., & Fagan, J. (2017). Effect of Teachers' Participation in a Professional Development on Student Achievement: A Longitudinal Large-Scale Study. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 537).
- Melhuish, K. M., & Fagan, J. (2017). Exploring Student Conceptions of Binary Operation. In A. Weinberg, C. Rasmussen, J. Rabin, M. Wawro, & S. Brown (Eds.), *Proceedings of the 20th Annual Conference on Research in Undergraduate Mathematics Education* (pp. 166–180). San Diego, CA.
- Thanheiser, E., Rosencrans, B., Melhuish, K. M., Fagan, J., & Guyot, L. (2017). Increasing student cognitive engagement in the math classroom through sustained professional development. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 478–482). Hoosier Association of Mathematics Teacher Educators.
- Melhuish, K. M., & Fagan, J. (2017). Reducing Abstraction in the Group Concept Inventory. In A. Weinberg, C. Rasmussen, J. Rabin, M. Wawro, & S. Brown

(Eds.), *Proceedings of the 20th Annual Conference on Research in Undergraduate Mathematics Education* (pp. 1577–1578). San Diego, CA.

- Melhuish, K. M., & Fasteen, J. (2016). Results from the Group Concept Inventory: Exploring the Role of Binary Operation in Introductory Group Theory Task Performance. In T. Fukawa-Connelly, N. Infante, M. Wawro, & S. Brown (Eds.), *19th Annual Conference on Research in Undergraduate Mathematics Education* (pp. 1098–1103). Pittsburgh, PA.
- Riffel, A., Melhuish, K. M., & Thanheiser, E. (2016). The language of professional development leaders. In M. B. Wood, E. E. Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th Conference of the Psychology of Mathematics Education-North America* (pp. 391–394). Tucson, AZ: The University of Arizona.
- Melhuish, K. M. (2015). Determining What To Assess: A Methodology For Concept Domain Analysis As Applied To Group Theory. In T. Fukawa-Connelly, N. Infante, K. Keene, & M. Zandieh (Eds.), *Proceedings of the 18th Annual Conference on Research in Undergraduate Mathematics Education* (pp. 753–761). Pittsburgh, PA.
- Fasteen, J., Thanheiser, E., Melhuish, K. M., & Dominguez, H. (2015). Teacher Buy-In for Profession Development: 4 Distinct Profiles. In T. G. Bartell, K. N. Bieda, R. T. Putnam, & K. Bradfield (Eds.), *37th Conference of the Psychology of Mathematics Education-North America* (pp. 960–9063). East Lansing, MI: Michigan State University.
- Melhuish, K. M., Fasteen, J., Thanheiser, E., & Fredericks, J. (2015). Teacher Noticing of Justification: Attending to the Complexity of Mathematical Content and Practices. In T. G. Bartell, K. N. Bieda, R. T. Putnam, K. Bradfield, & H. Dominguez (Eds.), *Proceedings of 37th Conference of the Psychology of Mathematics Education-North America* (pp. 748–755). East Lansing, MI: Michigan State University.
- Melhuish, K. M. (2014). An Investigation Into Students' Use Of Given Hypotheses When Proving. In T. Fukawa-Connelly, G. Karakook, K. Keene, & M. Zandieh (Eds.), *Proceedings of the 17th Conference on Research in Undergraduate Mathematics Education, Denver, CO* (pp. 868–874). Denver, CO.
- Melhuish, K. M., Larsen, S., Glover, E., Johnson, E., Fukawa-Connelly, T., Karakook, G., ... Zandieh, M. (2014). Characteristics of successful programs in college calculus at bachelor's granting universities. In *Proceedings of the 17th Conference on Research in Undergraduate Mathematics Education, Denver, CO* (pp. 880–883). Denver, CO.
- Melhuish, K. M., Johnson, E., Glover, E., Fukawa-Connelly, T., Karakook, G., Keene, K., & Zandieh, M. (2014). Instructors' Beliefs On The Role Of Calculus. In *Proceedings of the 17th Conference on Research in*

Undergraduate Mathematics Education, Denver, CO (pp. 875–879). Denver, CO.

Melhuish, K. M., & Glover, E. (2014). Investigating Instructors' Views on the Role of Calculus. In P. Liljedahl, C. Nicol, S. Oesterle, & D. Allan (Eds.), *Proceedings of the 38th Conference of the International Group for the Psychology of Mathematics Education and the 36th Conference of the North American Chapter of the Psychology of Mathematics Education* (Vol. 6, p. 172). Vancouver, Canada: PME.

Melhuish, K. M. (2013). Bringing the familiar to the unfamiliar: The use of knowledge from different domains in the proving process. In S. Brown, G. Karakok, K. H. Roh, & M. Oehrtman (Eds.), *Proceedings of the 16th Annual Conference on Research in Undergraduate Mathematics Education* (Vol. 2, pp. 580–584). Denver, CO.

10. Other Works in Print:

Other:

Melhuish, K. M., & Lew, K. M. (2019). The Dysfunction of Functions in Abstract Algebra. In *AMSBlog: On Teaching and Learning Mathematics*. Retrieved from <https://blogs.ams.org/matheducation/2019/11/21/the-dysfunction-of-functions-in-abstract-algebra/#more-2879>

B. Works Not in Print:

1. Papers Presented at Professional Meetings:

Melhuish, K. M., Shaughnessy, M., Fagan, J., White, A., 2018 Research Conference, "The Efficacy of the Mathematics Studio Model Professional Development," National Council of Teachers of Mathematics, Washington, DC, United States. (April 25, 2018).

Melhuish, K. M., Thanheiser, E., White, A., Fagan, J., Rosencrans, B., Twenty-Second Annual Conference of the Association of Mathematics Teacher Educators, "The Impact of a Sustained Professional Development Model in Third- Fifth Grade Mathematics Classrooms," Houston, TX. (February 2018).

Melhuish, K. M., 20th Annual Conference on Research in Undergraduate Mathematics Education, "Exploring Student Conceptions of Binary Operation.," San Diego, CA. (February 2017).

Rosencrans, B., Melhuish, K. M., Thanheiser, E., 21st Annual Conference of the Association of Mathematics Teacher Educators, "The Mathematically Productive Habits and Routines Tool: Connecting Teacher Moves and Student Reasoning (Discussion Session)," Orlando, FL. (August 2016).

- Fagan, J., Melhuish, K. M., 39th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, "Connecting teachers' buy-into professional development with classroom habits and practices.," Indianapolis, IN. (October 2017).
- Rosencrans, B., Melhuish, K. M., "Increasing student cognitive engagement in the math classroom through sustained professional development," 39th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Indianapolis, IN. (October 2017).
- Melhuish, K. M., Fasteen, J., NCTM Research Conference for Mathematics Educator, "Teacher Conceptions on Justifying and Generalizing in the Classroom.," San Antonio, TX. (April 2017).
- Melhuish, K. M., Rosencrans, B., 21st Annual Conference of the Association of Mathematics Teacher Educators, "Elementary Teachers' Conceptions of Generalizing," Orlando, FL. (February 2017).
- Riffel, A., Melhuish, K. M., Thanheiser, E., 38th Conference of the Psychology of Mathematics Education-North America, "The language of professional development leaders," Tucson, AZ. (November 2016).
- Melhuish, K. M., Thanheiser, E., 13th International Congress on Mathematical Education, "Teacher noticing of justifying and Generalizing in the Elementary Classroom.," Hamburg. (July 2016).
- Vroom, K., Melhuish, K. M., Annual Meeting of the Pacific Northwest Section of the Mathematical Association of America and the Northwest Undergraduate Mathematics Symposium, "Student Conceptions of Isomorphism," Corvallis, OR, United States. (April 2016).
- Melhuish, K. M., Fasteen, J., 19th Annual Conference on Research in Undergraduate Mathematics Education, "Results from the Group Concept Inventory: Exploring the Role of Binary Operation in Introductory Group Theory Task Performanc," Pittsburgh, PA. (February 2016).
- Melhuish, K. M., Joint Meetings, "The State of Student Understanding in Introductory Group Theory: Results from the Group Concept Inventory," MAA. (January 2016).
- Thaneiser, E., Melhuish, K. M., Foreman, L., Shaughnessy, M., National Council for Supervisors of Mathematics, "Teacher "Buy- In" and Its Relation to Professional Development. Presentation." (2015).
- Melhuish, K. M., Fasteen, J., Thanheiser, E., The Nineteenth Annual Conference of the Association of Mathematics Teacher Educators (AMTE), "Teacher Noticing of Mathematical Practices in a Sustained Professional Development.," Orlando, FL. (February 14, 2015).

Melhuish, K. M., MAA Southeastern Section, "Galois Groups of Quartic Polynomials.." (2010).

Melhuish, K. M., MAA Southeastern Section, "The Equation $x^n = e$ and Cyclic Groups." (2009).

2. Invited Talks, Lectures, and Presentations:

Musgrave, S., Ellis, J., Melhuish, K. M., Thanheiser, E., Wawro, M., Joint Math Meetings, "MPWR-ing Women in RUME: Continuing Support.," San Diego, CA. (January 2018).

Melhuish, K. M., "The Math Habits Tool," UT Stem Education Center, Austin, TX. (December 2019).

Melhuish, K. M., Lew, K. M., Mathematics Education Seminar, "Developing and refining research questions in math ed," Texas State University, San Marcos, TX, United States. (November 2019).

Melhuish, K. M., Connecting Secondary and Advanced Mathematics (CASM), "Connecting the Secondary to Advanced Level in Mathematics: Issues facing the field in the next years," NSF, MN. (May 20, 2019).

Shaughnessy, M., Melhuish, K. M., Thanheiser, E., Fredericks, J., TDG Leadership Seminar, "The Math Habits & Routines Classroom Observation Tool: connecting teacher moves and student reasoning," Teachers Development Group, Portland, OR. (March 2017).

Melhuish, K. M., Mathematics Colloquium, "Introducing the Group Theory Concept Inventory.," University of Portland. (April 2016).

Shaughnessy, M., Melhuish, K. M., Fredericks, J., Teachers Development Group Leadership Seminar, "Learning targets: A lens for examining the cognitive level of student reasoning in classrooms.." (March 2016).

Fredericks, J., Melhuish, K. M., Thanheiser, E., Shaughnessy, M., Foreman, L., Teachers Development Group Leadership, "Teacher Noticing of Justification: Attending to the Complexity of Mathematical Content and the Habits of Mind." (2015).

5. Other Works not in Print:

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

Journal Articles:

Melhuish, K. M., Lew, K. M., Hicks, M., & Kandasamy, S. (Submitted / Under Review: Revise & Resubmit). Students' Function Coherence in Abstract Algebra. *The Journal of Mathematical Behavior*.

Melhuish, K. M., Thanheiser, E., Rosencrans, B., White, A., Foreman, L., Shaughnessy, J. M., ... Riffel, A. (Revise & Resubmit). The Efficacy of the Mathematics Studio Model (MSM) Professional Development: A Three-Year Randomized Cluster Experiment. *Journal for Research in Mathematics Education*.

Czocher, J. A., Melhuish, K. M., Kandasamy, S. S. S., & Roan, E. A. (Revise & Resubmit). Validating measures of mathematical modeling competency and self efficacy. *International Journal for Research in Undergraduate Mathematics Education*.

c. Other Works Not in Print:

Keynote / Plenary Addresses:

Melhuish, K. M., Oklahoma-Texas Conference on Research in Undergraduate Mathematics Education, "An Introduction to the Group Theory Concept Assessment: The Design Process and Preliminary Results Comparing Class Types," Stillwater, OK. (April 21, 2018).

Panels:

Hsu, E., White, N., Ellis, J., Melhuish, K. M., Mathfest, "Lessons from Successful Calculus Programs," MAA. (2014).

Rasmussen, C., Hsu, E., Burn, H., Melhuish, K. M., Network for Academic Renewal Conference, "Features and Practices of Successful Calculus Programs: Insights from Case Studies at Seventeen Institutions," AAC&U. (2013).

Posters:

Hicks, M. D., Guajardo, L. R., Melhuish, K. M., Lew, K. M., Dawkins, P. C., The 23rd Annual Conference on Research in Undergraduate Mathematics Education, "An overview of the Orchestrating Discussion Around Proof (ODAP) Project." (December 2019).

K, A., Athey, B. E., Guajardo, L. R., C, O.-W., Lew, K. M., Melhuish, K. M., The 23rd Annual Conference on Research in Undergraduate Mathematics Education, "Designing proof comprehension tests in real analysis." (December 2019).

Fagan, J., Melhuish, K. M., 20th Annual Conference on Research in Undergraduate Mathematics Education, "Reducing Abstraction in the Group Concept Inventory," MAA, San Diego, CA. (February 2017).

Abili, M., Hewer, E., Lew, K. M., Melhuish, K. M., Sigley, R., "How Diagrams are Leveraged in Introduction to Proof Textbooks." (February 2018).

Ellis, J., Musgrave, S., Wawro, M., Thanheiser, E., Melhuish, K. M., Joint Mathematics Meetings, "MPWR 2016 and Beyond: Fostering sustainable networks for women in RUME," AMS / MAA. (January 2017).

Melhuish, K. M., Thanheiser, E., Rosencrans, B., 38th Conference of the Psychology of Mathematics Education-North America, "Measuring Fidelity of Implementation in a Large-Scale Professional Development Efficacy Study." (November 2016).

Bergmann, A., Melhuish, K. M., D. K., Wellek, B., 3th Annual Student Research Symposium of the Columbia-Willamette Chapter of Sigma Xi, "The multiple representations of the group concept," Portland, OR, United States. (November 2016).

C. Scholarly / Creative Grants and Contracts:

1. Funded External Grants and Contracts:

Krupa, Erin (Principal), Bostic, Jonathon (Principal), Melhuish, Kathleen Mary (Supporting). Evidence for Measurement in Mathematics Education (VM2Ed), National Science Foundation, Federal, \$1,390,727.00. (Funded: August 1, 2019 - July 31, 2024). Grant.

Additional Comments: Synthesis Group Leader: Undergraduate Mathematics Education Measures

Melhuish, Kathleen Mary (Principal), Heaton, Ruth (Co-Principal), Thanheiser, Eva (Co-Principal), Strickland, Sharon K (Supporting). Using Technology to Capture Classroom Interactions: The Design, Validation, and Dissemination of a Formative Assessment of Instruction Tool for Diverse K-8 Mathematics Classrooms, NSF, Federal, \$1,984,657.00. (Submitted: November 2, 2017, Funded: September 4, 2018 - August 31, 2022). Grant.

Melhuish, Kathleen Mary (Principal), Lew, Kristen Marie (Co-Principal), Sigley, Robert (Other), Morey, Susan (Supporting), Dawkins, Paul Christian (Co-Principal), Bishop, Jessica Lynn (Supporting). Orchestrating Discussions Around Proof, National Science Foundation, Federal, \$299,847.00. (Submitted: May 1, 2018, Funded: November 1, 2018 - October 31, 2021). Grant.

Mejía-Ramos, Juan Pablo (Principal), Lew, Kristen Marie (Co-Principal), Melhuish, Kathleen Mary (Co-Principal), Weber, Keith (Co-Principal), Gitomer, Drew (Co-Principal). Developing and Validating Proof Comprehension Tests in Real Analysis, National Science Foundation, Federal, \$600,000.00. (Submitted: December 13, 2017, Funded: October 1, 2018 - September 30, 2021). Grant.

Melhuish, Kathleen Mary (Co-Principal), Foreman, Linda (Principal), Fredericks, Julie (Co-Principal), Thanheiser, Eva (Co-Principal), Shaughnessy, J. Michael

(Co-Principal). Enhancing Mathematics Teaching and Learning in Urban Elementary Schools: A Cluster-Randomized Efficacy Trial of a Novel Professional Development Approach, NSF, Federal, \$2,488,354.00. (Funded: September 1, 2013 - August 31, 2017). Grant.

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

Sigley, Robert (Principal), Czocher, Jennifer Ann (Co-Principal), Melhuish, Kathleen Mary (Co-Principal), Strickland, Sharon K (Co-Principal), Morey, Susan (Supporting). IUSE: Orchestrating Discussions About Proof, NSF IUSE, Federal, \$289,833.00. (Submitted: November 2016). Grant.
Additional Comments: Received 4 very good (second highest after excellent). Reviews are attached.

3. Funded Internal Grants and Contracts:

Melhuish, Kathleen Mary. Scaling Up Research in Advanced Undergraduate Mathematics Education, Texas State University, \$8,000.00. (Submitted: October 2016, Funded: January 2017 - June 2018). Grant.

4. Submitted, but not Funded, Internal Grants and Contracts:

Strickland, Sharon K (Co-Principal), Melhuish, Kathleen Mary (Co-Principal). Undergraduate Mathematics Instructor Noticing of Students' Mathematical Thinking, Texas State University, \$15,000.00. (Submitted: October 2019). Grant.

Strickland, Sharon K (Co-Principal), Melhuish, Kathleen M (Co-Principal). Undergraduate Mathematics Instructor Noticing of Students' Mathematical Thinking, Texas State University, Texas State University, \$13,200.00. (Submitted: October 2018). Grant.

D. Scholarly / Creative Fellowships, Awards, Honors:

Award / Honor Recipient: Research Excellence Award.
December 2019
December 2018

Award / Honor Recipient: College Achievement Awards for Excellence in Scholarly/Creative Activities.
August 2018

Fellowship Recipient: STaR Fellow, Association of Mathematics Teacher Educators.
June 24, 2017 - February 2018

E. Scholarly / Creative Professional Development Activities Attended:

"Competing for Funding at the National Science Foundation." (January 12, 2017).

IV. SERVICE

A. Institutional

1. University:

Member, Alliance. (August 2016 - Present).

2. College:

Member, PI Council. (September 2017 - Present).

3. Department/School:

Member, Committee on Committees. (September 2017 - Present).

Organizer, Mathematics Education Seminar. (September 2017 - Present).

Member, Library Committee. (2016 - 2019).

Member, Colloquium Committee. (August 2018 - May 2019).

Organizer, Revamping the Curriculum Qualifying Exam Question. (July 2018 - December 2018).

Organizer, Proof Instruction Research Group. (September 2017 - May 2018).

Presenter, 8th Annual Math Department Symposium and Recruitment Fair. (November 10, 2017).

Presenter, Math Ed Seminar: Exploring the Efficacy of the Mathematics Studio Model Professional Development. (September 29, 2017).

Additional Comments: Co-presenting with graduate students: Joshua Fagan and Layla Guyot

Panel Coordinator, Math Ed Seminar: Theoretical Frameworks Panel: What are they and why do we care? (March 31, 2017).

Presenter, 7th Annual Math Department Symposium and Recruitment Fair. (November 18, 2016).

Presenter, Math Ed Seminar: An Overview of Current Mathematics Education Research in Group Theory. (November 11, 2016).

Presenter, Math Ed Seminar: Preparing yourself to land an academic job in mathematics education. (September 9, 2016).

B. Professional:

Reviewer / Referee, JMTE. (2017 - Present).

Reviewer / Referee, JRME. (2017 - Present).

Reviewer / Referee, NCTM Research Conference. (2016 - Present).

Reviewer / Referee, AMTE. (2015 - Present).

Reviewer / Referee, RUME. (2014 - Present).

Member, Ad-Hoc Committee for the Advancement of LGBTQIA+ Inclusion in the RUME Community. (September 2018 - April 2019).

Coordinator / Organizer, Mentoring & Partnerships for Women in RUME. (August 2016 - May 2018).

Coordinator / Organizer, AMTE Conference (Task Force for Equity). (2017).

Reviewer / Referee, National Science Foundation. (2017).

Strand Leader, PME-NA. (January 9, 2017 - March 9, 2017).

D. Organization Memberships:

Association of Mathematics Teacher Educators.

National Council of Teachers of Mathematics.

North American Chapter of the International Group for the Psychology of Mathematics Education.

SIGMAA on Research in Undergraduate Mathematics Education.