CURRICULUM VITAE

Enrique Ortiz

Professor
Mathematics Education
University of Central Florida
College of Community Innovation and Education
School of Teacher Education
Orlando, FL 32816-1250
Office: (407) 823-5222; Email: Enrique.Ortiz@ucf.edu
CCIE Website: https://ccie.ucf.edu/profile/?smid=1885

ACADEMIC BACKGROUND

Ed.D. 1982-1987	Louisiana State University, Baton Rouge, Louisiana Secondary School Mathematics with Statistics Honors: Department of Curriculum and Instruction Assistantship Dissertation: A comparative study of a computer programming approach and a textbook approach in teaching the concept of variable. Co-Major Advisors: Drs. Kim McGregor and L. Diane Miller. Retrieved from https://digitalcommons.lsu.edu/gradschool_disstheses/4414/. ***121 Downloads since 2017***
M.A. 1978-1981	Phoenix University, Puerto Rico Resident Center Administration and Supervision of Schools with Statistics Honors: Puerto Rico Department of Instruction Scholarship
B.A. 1973-1976	Inter-American University, Rio Piedras, Puerto Rico Secondary Education Minor: Mathematics Honors: Magna Cum Laude, Mathematics Achievement Medal and Received the Puerto Rico Legislative Scholarship

PROFESSIONAL EXPERIENCE

08/2020-Present	**Professor** – School of Teacher Education, College of Community Innovation and Education, University of Central Florida, Orlando Campus.
08/1994-2020	**Associate Professor** – School of Teacher Education, College of Community Innovation and Education, University of Central Florida (1994-1999, Daytona Beach Campus; 1999-present, Orlando Campus).
08/89-07/94	**Assistant Professor** - Department of Instructional Programs, College of Education, University of Central Florida, Daytona Beach Campus, Florida.
08/87-07/89	**Assistant Professor** – Department of Curriculum and Instruction, College of Education, University of New Orleans, New Orleans, Louisiana.
08/83-07/87	**Instructor** - Department of Curriculum and Instruction, College of Education, Louisiana State University, Baton Rouge, Louisiana.
08/86-12/86	**Mathematics Teacher** (part time) – Glen Oaks Middle School, East Baton Rouge Parish, Baton Rouge, Louisiana. Taught mathematics to sixth-grade students through computer programming.

04/86-05/86 **Evaluator** – Department of Mathematics, East Baton Rouge Parish, Baton Rouge, Louisiana. Evaluated elementary school teachers' performance after in-service training on using manipulatives to teach mathematics.

08/81-07/82 **Research Evaluator –** Project Follow Through, Puerto Rico Department of Education Central Office, Hato Rey, Puerto Rico. Developed and administered criterion-referenced elementary school mathematics tests (K-8); participated in the analysis of data and development of reports; provided in-service training to teachers; and served as Acting Assistant Superintendent for one (1) semester (January–July, 1982).

06/81-07/81 **Mathematics Teacher** – Facundo Bueso Intermediate School, San Juan II School District, San Juan, Puerto Rico. This was a one-month position for an intensive summer camp for secondary school students struggling with mathematics.

08/80-05/81 **Mathematics Specialist** – Chapter II Federal Program, San Juan II School District, San Juan, Puerto Rico. Provided in-service training to teachers (K-12); provided performance evaluation of teachers; and developed instructional materials for mathematics teaching (K-12).

05/80-08/80 **Mathematics Supervisor (Grades 7-12)** – Rio Piedras IV School District, Department of Education, Rio Piedras, Puerto Rico.

08/76-05/80 **Mathematics Teacher (Grades 7-12)** – Rio Piedras II School District, Department of Education, Rio Piedras, Puerto Rico.

HONORS, AWARDS AND RECOGNITIONS

University Level:

- *University of Central Florida Scroll & Quill Society* (October 29, 2019). I was inducted into the UCF Scroll and Quill Society. This distinct honor was bestowed in recognition of sustained and outstanding achievements in research and/or creative activities at UCF, which have played an important role in bringing national/international recognition to UCF. During Spring 2016, Faculty Excellence relaunched a streamlined and contemporary UCF Scroll & Quill Society. This society is based on two prestigious faculty clubs established in the 1980s to honor faculty members who brought recognition to the university through: (a) The Quill, to recognize authored books and (b) The Scroll, to recognize significant and sustained peer reviewed publications in national and international journals.
- *Scholarship of Teaching and Learning* (*SoTL*) Award of the State University System of Florida (2013-2014, 2006-2007). The *UCF SoTL* awards recognize discovery, reflection, and using evidence-based methods to research effective teaching and student learning. While the implementation of SoTL outcomes may result in teaching excellence and increased teaching effectiveness, this award recognizes scholarly efforts beyond teaching excellence. Award recipients receive $5,000 increase to their salary.
- *Teaching Incentive Program* (TIP) of the State University System of Florida (2015-2016, 2009-2010, 2004-2005, 1999-2000, 1995-96). The *UCF TIP* rewards teaching productivity and excellence. It recognizes in-unit employee contributions to the university's key goals of offering the best undergraduate education available in Florida and achieving international prominence in key programs of graduate study. Award recipients receive $5,000 increase to their salary.
- *Research Incentive Award* (*RIA*) of the State University System of Florida (2006-2007, 2001-2002). The *UCF RIA* program supports outstanding research, scholarly, and creative activity that advances the body of knowledge in a particular field, including interdisciplinary research and collaborations. This award recognizes employee contributions to UCF's key goal of achieving international prominence in research and creative activities. Award recipients receive $5,000 increase to their salary.
- *University Excellence in Graduate Teaching Award* of the University of Central Florida (2013-2014). In order to receive this award, recipients must also receive the *College Excellence in Graduate Teaching Award*.

- University *Excellence in Faculty Advising Award* of the University of Central Florida (2003-2004). In order to receive this award, recipients must also receive the *College Excellence in Graduate Teaching Award*.

College Level:

- College of Community Innovation and Education *Excellence in Graduate Teaching Award* of the University of Central Florida (2018-2019). The criteria for evaluating applicants' files include three major categories: innovations to improve graduate teaching, graduate teaching accomplishments/honors and evidence of impact on graduate teaching.
- College of Community Innovation and Education *Excellence in Undergraduate Teaching Award* of the State University System of Florida (2017-2018). The criteria for evaluating applicants' files include three major categories: innovations to improve undergraduate teaching, undergraduate teaching accomplishments/honors and evidence of impact on undergraduate teaching.
- College of Education and Human Performance *Excellence in Graduate Teaching Award* of the University of Central Florida (2013-2014, 2004-2005).
- *UCF Excellence in Research Award* (2002-2003). The criteria for evaluating applicants' files include three major categories: cumulative value and impact of research efforts at UCF within the discipline and to society, recognition of research impact by the individual's peers in the same or in related disciplines and publication/dissemination and presentation of research results.
- College of Education *Excellence in Faculty Advising* Award of the University of Central Florida (2003-2004). UCF sponsors the *Excellence in Faculty Academic Advising* awards to recognize the outstanding efforts of UCF's faculty advisors in retaining undergraduate students, improving communication of information to peers and students, and helping undergraduate students realize their potential. Each academic college submits materials for up to two candidates for consideration.
- College of Education and Human Performance *Excellence in Undergraduate Teaching Award* of the State University System of Florida (1999-2000, and 1995-1996).

External Level:

- Teaching Children Mathematics Journal Editorial Panel*,* National Council of Teacher of Mathematics (NCTM) – *Year Favorite Selection, Volume 23* (**2017**). Each year the editorial panel of each NCTM journal selects one article as the favorite. The article "Get the Goof" by Michelle H. Pace, a graduate of the UCF K-8 Mathematics and Science M.Ed. (2014) and Enrique Ortiz was selected for this recognition.

RESEARCH AND CREATIVE ACTIVITIES

Research Foci

- Investigating the use of the *TeachLive* immersive, mixed-reality classroom simulator, which includes the features of real classroom with desks, teaching materials, whiteboards, and students. While not seen by the teacher, the avatars are operated by an adult TeachLive "interactor." This unique platform provides teachers the opportunity to practice their pedagogy in a no-risk yet realistic environment. (See the simulator in action at https://vimeo.com/95448615.) *TeachLive* was developed by the University of Central Florida. In this environment, participants are presented with real and virtual worlds that are combined to give them a sense of immersion and presence, and interaction with student-avatars in real time, holding authentic discussions. I have conducted studies involving undergraduate and graduate students using this approach in mathematics diagnostic tasks. It also involves the development of the Mathematics Diagnostic and Assessment Self-efficacy scale, a protocol to help students conduct effective diagnostic tasks and a checklist of expected behaviors during and assessment or diagnostic task. Developing and investigating assessment/diagnostic and learning interventions that will help understand students' strengths and weaknesses as they learn mathematics. Part of these efforts are supported by a *QEP Funded Award Project: Program Innovation Award*. *What's Next*. This research area includes the *Optical Topography/functional Near Infrared* (*fNIR*) (a helmet type brain scanning devise) to study students' development of mathematics ability (a research publication and professional presentations have resulted from these efforts involving *fNIR*), development of a *Math Clinic* involving volunteers from mathematics methods courses and elementary school students from Orange and Seminole Counties, and development of *TeachLive* diagnostic episodes. NSF funding is being pursued to support these research activities involving *TeachLive*.
- Investigating students' use of learning levels, Concrete (C), Pictorial (P) and Abstract (A) (also known as CPA levels), with the proposed addition of the Virtual level (V) (*CPAV*), as they learn mathematics (K-12 students) and develop mathematics instruction (pre- and in-service teachers). The virtual level involves virtual manipulatives in the form of Apps and Applets. This area of research has been supported through the Toni Jennings Exceptional Education Special Initiative Award. I have used findings from this study to analyze my teaching practices. I am in the process of developing follow up study involving the implementation of the findings from this study. The *CPVA* studies have resulted in two research publications and professional presentations. This area of research also involves developing and researching best teaching practices (e.g., using games, puzzles, manipulative materials, creative curriculum approaches and technology) that promote students' mathematics learning, and help pre- and in-service teachers develop content, pedagogical and pedagogical content knowledge (make decisions about how to help students learn at different cognitive levels). These activities include the development of the *Triangle Puzzle*, *Rectangularix Puzzle*, *Origami Interactive Handouts* and *Teaching Mathematics for Social Justice* (*TMfSJ*) tasks.

Recent Publications

Google Scholar Citations and Index Levels (updated on 08/04/2020):

Retrieved from https://scholar.google.com/citations?hl=en&user=O4xxNi4AAAAJ

Citations: 110 **h-index:** 6 **i10-index:** 1

Articles:

National/International:

- **Ortiz, Enrique** (In press, 2020). The beauty of mathematics and art. In *For the Love of Mathematics Department* of the *Mathematics Teacher: Learning and Teaching Pre-K–12*, 113(8), p. 684. Retrieved from https://pubs.nctm.org/view/journals/mtlt/mtlt-overview.xml. (double-blind peer-review process) This is a new journal published by the National Council of Teachers of Mathematics (NCTM). The first issue was published in January, 2020. It is an online-based journal. This article is based on my creative work involving art and mathematics. It involves geometric abstraction style, only circles and arcs, and the harmonic color scheme called square color scheme.

  The *For the Love of Mathematics Department* involves visual and fun, engaging, and inspiring entries. This reader-driven department is intended for the teacher, rather than for direct use with students.
  Instagram link: https://www.instagram.com/p/B5372vFnT-s/?utm_source=ig_web_copy_link

- **Ortiz, Enrique** (July, 2020). Preservice teachers involvement in the dynamic, messy and nonlinear problem-solving process. *Issues in the Undergraduate Mathematics Preparation of School Teachers (IUMPST): The Journal (Pedagogy)*, *2*, pp. 1–15, Retrieved from http://www.k-12prep.math.ttu.edu/journal/2.pedagogy/volume.shtml or pdf: http://www.k-12prep.math.ttu.edu/journal/2.pedagogy/ortiz01/article.pdf (double-blind peer-review process) (online journal) ISSN 2165-7874 (30% acceptance rate from Journal Citation Reports by Cabells Scholarly Analytics). This article provides a model for further study of the problem-solving process with national and international implications.
- **Ortiz, Enrique**, Eisenreich, Heidi & Tapp, Laura (2019). Physical and virtual manipulative framework conceptions of undergraduate pre-service teachers. *International Journal for Mathematics Teaching and Learning*, *20*(1), 62-84. Retrieved from https://www.cimt.org.uk/ijmtl/index.php/IJMTL/article/view/116. (double-blind peer-review process) (acceptance rate was under 30% according to editorial panel for 2017-2018)
  Drs. Eisenreich and Tapp were Ph. D. Mathematics Education at UCF. It is based on an original framework developed as a **research study** involving undergraduate pre-service students in the mathematics methods course for elementary education. These efforts were supported in part by a Toni Jennings internal grant.
- **Ortiz, Enrique** (2018). The secret life of prime numbers. *Teaching Children Mathematics*, *24*(4), pp. 228-234. (double-blind peer-review process) (17% acceptance rate from Journal Citation Reports by Cabells Scholarly Analytics) (over 60,000 member) NCTM Website: https://www.nctm.org/Publications/Teaching-Children-Mathematics/2018/Vol24/Issue4/The-Secret-Life-of-Prime-Numbers/

  Founded in 1920, the National Council of Teacher of Mathematics (*NCTM*) is the world's largest mathematics education organization, with 60,000 members and more than 230 Affiliates throughout the United States and Canada. The *Teaching Children Mathematics* (*TCM*) journal is one of the practitioners journals published by this international organization.

  This article was published as a Featured Article of the NCTM Teaching Children Mathematics journal, which is the leading elementary education journal in the area of mathematics education. It is based on

an original learning activity developed as an **independent practitioner research study** involving elementary school students at a local public elementary school.

- **Ortiz, Enrique** (2017). Pre-service teachers' ability to identify and implement cognitive levels in mathematics learning. *Issues in the Undergraduate Mathematics Preparation of School Teachers (IUMPST): The Journal (Technology), 3*, pp. 1–14, Retrieved from http://www.k-12prep.math.ttu.edu/journal/3.technology/volume.shtml or pdf: http://www.k-12prep.math.ttu.edu/journal/3.technology/ortiz01/article.pdf (double-blind peer-review process) ISSN 2165-7874 (30% acceptance rate from Journal Citation Reports by Cabells Scholarly Analytics).
- Pace, Michelle H. & **Ortiz, Enrique** (2016). Get the goof. *Teaching Children Mathematics, 23*(3), pp. 138-143. (double-blind peer-review process) (17% acceptance rate from Journal Citation Reports by Cabells Scholarly Analytics) NCTM website: http://www.nctm.org/Publications/Teaching-Children-Mathematics/2016/Vol23/Issue3/Get-the-Goof!/.

  This article was published as a *Featured Article* of the *NCTM Teaching Children Mathematics* (*TCM*) journal, which is the leading elementary education journal in the area of mathematics education. It was co-authored with a graduate student in the K-8 mathematics and science teaching master's program. It was part of the *TCM 2016 Focus Issue: Revealing the Facets of Assessment*. It is based on our **practitioner research efforts** involving elementary school students' discourse as part of the mathematics learning process. It is based on an original learning activity involving a local public elementary school.

  Selected by the ***TCM*** **Editorial Panel - Year Favorite - Volume 23** – *NCTM TCM Journal* (August, 2017). The editorial panel looks back at the past volume year and selects one published article to highlight. It was made available for general/free distribution.

- Goodwin, Chris & **Ortiz, Enrique** (May, 2015). It's a Girl: Random Numbers, Simulations, and the Law of Large Numbers. *Mathematics Teaching in the Middle School, Mathematical Explorations Department: Classroom-ready activities, 20*(9), pp. 561-564. (double-blind peer-review process) Retrieved from https://www.nctm.org/Publications/Mathematics-Teaching-in-Middle-School/2015/Vol20/Issue9/It_s-a-Girl!-Random-Numbers,-Simulations,-and-the-Law-of-Large-Numbers/. (25% acceptance rate from Journal Citation Reports by Cabell's Scholarly Analytics).
- Pace, Michelle H. & **Ortiz, Enrique** (2015). Oral language needs: Making math meaningful. *Teaching Children Mathematics, 21*(8), pp. 495-500. Retrieved from https://www.nctm.org/Publications/teaching-children-mathematics/2015/Vol21/Issue8/Oral-Language-Needs_-Making-Math-Meaningful/. (double-blind peer-review process) (17% acceptance rate from Journal Citation Reports by Cabells Scholarly Analytics).
- **Ortiz, Enrique** (2014). Optical topography of evoked brain activity during mental tasks involving whole number operations. *International Journal for Mathematics Teaching and Learning* (online journal), pp. 1-36. Retrieved from http://www.cimt.org.uk/journal or pdf: http://www.cimt.org.uk/journal/ortiz2.pdf. (double-blind peer-review process) (27.5% acceptance rate according to editorial panel for 2014).
- Avila, Cheryl & **Ortiz, Enrique** (2012). Produce intrigue with Crypto! *Teaching Middle School Mathematics*, *18*(4) 212-220. Retrieved from https://www.nctm.org/Publications/mathematics-teaching-in-middle-school/2012/Vol18/Issue4/Produce-Intrigue-with-Crypto!/. (double-blind peer-review process) (25% acceptance rate from Journal Citation Reports by Cabell's Scholarly Analytics)
- Siegel, Aryn, & **Ortiz, Enrique** (2012). Perimeter and beyond! *Teaching Children Mathematics*, *19*(1) 38-41. Retrieved from https://www.nctm.org/Publications/teaching-children-mathematics/2012/Vol19/Issue1/Perimeter-and-Beyond/. (double-blind peer-review process) (17% acceptance rate from Journal Citation Reports by Cabells Scholarly Analytics).
- **Ortiz, Enrique** (2011). An analysis of Middle School Mathematics Pre-service Teachers' Assessment of Teaching Goals. *International Journal for Mathematics Teaching and Learning* (online journal) (http://www.cimt.org.uk/journal/), pp. 1-14. Retrieved from http://www.cimt.org.uk/journal/ortiz.pdf. ISSN 1473 – 0111. (double-blind peer-review process) (27.5% acceptance rate according to editorial panel).

Florida:

- **Ortiz, Enrique** (Winter, 2016). The problem-solving process in a mathematics classroom. *Transformations, a publication by Florida Association of Mathematics Teachers (FAMTE)* (online journal), *1*(1), pp. 4-14. Retrieved from http://www.amazon.com/Transformations-Publication-Association-Mathematics-Educators/dp/1523495936/ref=sr_1_1?ie=UTF8&qid=1456099123&sr=8-1&keywords=Transformations%3A+FAMTE, and https://nsuworks.nova.edu/cgi/viewcontent.cgi?article=1000&context=transformations. (single-blind peer-review process).
- **Ortiz, Enrique** (Spring, 2015). The development of fraction ideas and use of learning levels: Part II. *Dimension in Mathematics*, *35*(1), pp. 23-31 (single-blind peer-review process).
- **Ortiz, Enrique** (Fall, 2014). The development of fraction ideas and use of learning levels: Part I. *Dimension in Mathematics, 34*(2) pp. 17-26. (single-blind peer-review process)
- **Ortiz, Enrique** (Summer Issue, 2008). Vice President for College Report. In *Additional Dimensions: Official Newsletter of the Florida Council of Teachers of Mathematics, 17*(2).
- **Ortiz, Enrique** (Fall Issue, 2008). Vice President for College Report. In *Additional Dimensions: Official Newsletter of the Florida Council of Teachers of Mathematics, 17*(1).
- **Ortiz, Enrique** (Fall Issue, 2007). Vice President for College Report. In *Additional Dimensions: Official Newsletter of the Florida Council of Teachers of Mathematics, 16*(1).
- Dixon, J. & **Ortiz, Enrique** (2004). The Florida Association of Mathematics Teacher Educators (FAMTE). *Dimension in Mathematics*, *24*(2), p. 6. (single-blind peer-review process)
- **Ortiz, Enrique** (Fall, 2002). Games for teaching basic facts operations. *Dimensions in Mathematics.* (single-blind peer-review process)
  This article is based on my teaching and research work related to graduate and undergraduate mathematics methods (MAE 4326, MAE 2801, MAE 6517, MAE 5318, and MAE 5327) courses, and in-service teachers.
- **Ortiz, Enrique** (1997). An interdisciplinary activity involving hats and show-and-tell. *Dimensions in Mathematics, 17*(2), pp. 9-13. (single-blind peer-review process)
- **Ortiz, Enrique**, Everett, R., & Holt, L. (1994). Results of a College of Education technology survey: A follow-up study. *Florida Science Teacher Journal, 9*(2), pp. 18-20. (single-blind peer-review process)
- **Ortiz, Enrique**, Holt, L., & Everett, R. (1993). InTech training final report: The infusion of technology in the methods courses (graduate and undergraduate). *Florida Science Teacher Journal, 8*(2), pp. 16-22. (single-blind peer-review process)
- **Ortiz, Enrique** (1992). Talking about connections: The NCTM Standards, some human developments and the mathematics curriculum needs for change. *Dimensions in Mathematics, 12*(3), pp. 17-21. (single-blind peer-review process)
- **Ortiz, Enrique** (1990). Using Logo to teach the mathematics concept "variable". *Dimensions in Mathematics, 10*(2), 13-20. (single-blind peer-review process).

Monograph:

A monograph is a special type of book written on a single specialized topic, devoted mainly for research works. A Monograph has some common characteristics with books and review papers.

- **Ortiz, Enrique** (1992). Perceived robustness in a computer-managed learning environment. In B. Fraser (Ed.). *The Study of Learning Environments Monographs, 7* (double-blind peer-review process).
- **Ortiz, Enrique** & Ellett, C. (1990). Learning, retention, and perceived robustness in a computer-assisted learning environment. In B. Fraser (Ed.). *The Study of Learning Environments Monographs, 4*, 32-39 (double-blind peer-review process).

Bibliography:

- Kitchen, Richard, Rodriguez, Rita, & **Ortiz, Enrique** (Editors) (Spring, 2007). *TODOS: Mathematics for ALL: Bibliography of Diversity and Equity in Mathematics Education*, Second Edition. The second edition of the bibliography was published as part of volunteer work for the TODOS: Mathematics for ALL, which is an international organization. The document is also available digitally. https://www.todos-math.org/assets/documents/Bibliography/todosbibliography2007.pdf.

Conference Proceedings:

- **Ortiz, Enrique** (2018). Use of mixed reality simulation to assess diagnostic competence self-efficacy. In Fulchini, A. & Hynes, M. C. (Conference Organizing Committee), Virtual Human Interactive Performance. Paper presented at the Sixth Annual TeachLive 2018 Conference, University of Central Florida, Orlando, FL, May 23-24 (pp. 64-84). Retrieved from http://teachlive.org/wp-content/uploads/2018/09/2018TeachliveProceedings.pdf.
- **Ortiz, Enrique** & Pace, Michelle H. (February 18–20, 2016). Wealth distribution as a context for teaching mathematics for social justice. Proceedings of the *International Conference on Poverty, Globalization and Schooling: A Holistic Approach*. University of Central Florida campus, Orlando, FL.
- **Ortiz, Enrique** (January 4–6, 2016). A framework for using virtual manipulative tools such as apps and applets. Proceedings of the *2016 International Education Conference*, Orlando, FL.
- **Ortiz, Enrique** (February 26–28, 2015). Challenges and opportunities of teaching mathematics for social justice. Proceedings of the *International Conference on Poverty, Globalization and Schooling: A Holistic Approach*. University of Central Florida campus, Orlando, FL. http://education.ucf.edu/form/PGS_reg.cfm?id=4, http://education.ucf.edu/form/docs/2015PGS_proceedings.pdf, or http://education.ucf.edu/form/docs/2015PGS_papers.pdf.
- **Ortiz, Enrique** (April 8–12, 2011). How the brain's performance during mathematics and reading fluency tests compare. The ERIC Clearinghouse on Teaching and Teacher Education. Washington, D.C. This article is included in ERIC as ED520161 http://eric.ed.gov/?q=enrique+ortiz&id=ED520161, and AERA Online Paper Repository (http://www.aera.net/repository/).
- **Ortiz, Enrique** (April 30–May 4, 2010). The Use of Neuroimaging to clarify how human brains perform mental calculations. The ERIC Clearinghouse on Teaching and Teacher Education. Washington, D.C. This article is included in ERIC as ED511223 http://eric.ed.gov/?q=enrique+ortiz&id=ED511223, and AERA Online Paper Repository (http://www.aera.net/repository/).
- **Ortiz, Enrique** (2007). Using *CRA* levels for the development of learning activities and SoTL. Proceedings of the *5th International Conference on the Scholarship of Teaching and Learning (SoTL).* London, England.
- **Ortiz, Enrique** (February, 2003). Research findings from games involving basic fact operations and algebraic thinking at a PDS. Paper presented at the *Annual Holmes Partnership Conference*. Washington, D.C. https://eric.ed.gov/?id=ED476699.

Invited Book Reviews Published in Journals:

- **Ortiz, Enrique** (2011). Reviewing and viewing: Review of Math Jokes 4 Mathy Folks by Patrick Vennebush, Corwin Press. *Teaching Children Mathematics*, *17*(8), 508.
- **Ortiz, Enrique** (2008). Reviewing and Viewing: Review of Math Matters en Español Books: Henry Lleva la Cuenta by Daphne Skinner and ¡A Limpiar el Campamento! by Lucile Recht Penner. *Teaching Children Mathematics*, *14*(9), 547-548.

- **Ortiz, Enrique** (2007). Reviewing and Viewing: Review of Math Matters en Español Books: La limonada de Lulú by Barbara deRubertis and ¡Ya era hora, Max! by Kitty Richards. *Teaching Children Mathematics*, *13*(7), 398.

Books

- Andreasen, J., Spalding, Lee-Anne, & **Ortiz, Enrique**. (February, 2015). *CliffsNotes FTCE: Elementary Education K-6: Test Prep,* Second Edition. Boston, MA: Houghton Mifflin Harcourt. 360 pages, and online exam. ISBN-13: 978-0544313538, Paperback: http://www.amazon.com/CliffsNotes-FTCE-Elementary-Education-Second/dp/0544313534/ref=sr_1_1?ie=UTF8&qid=1425833226&sr=8-1&keywords=enrique+ortiz. Graduate and undergraduate candidates use this book as they prepare to take the Florida Teacher Certification Exam (FTCE) for Elementary Education, Grades K-6.
  This book is a **based on my expertise as a practitioner and researcher**.
- Andreasen, J., Spalding, Lee-Anne, & **Ortiz, Enrique** (2010). *CliffsNotes FTCE: Elementary Education K-6: Test Prep*. Indianapolis, IN: Wiley Publishing, Inc. 360 pages. ISBN: 978-0-470-49906-1, Paperback.
- **Ortiz, Enrique**, Little, Mary and Robertson, Shelby (2009). *Mathematics Concepts and Skills Checklist by Grade Level (Grades K-8)*. Effective Instruction Practices Grant, RtI Teaching Learning Connections. Exceptional Education and Student Services, Florida Department of Education. Tallahassee, FL.
  I used this document as a resource for undergraduate and graduate courses. This was one of many publications available through the Bureau of Exceptional Education and Student Services, Florida Department of Education, designed to assist school districts, state agencies that support educational programs, and parents in the provision of special programs for exceptional students.

  This document was developed by RtI Teaching Learning Connections, a special project funded by the State of Florida, Department of Education, Division of Public Schools and Community Education, Bureau of Exceptional Education and Student Services, through federal assistance under the Individuals with Disabilities Education Act (IDEA), Part B.
- Feldman, C., Heeres, D., **Ortiz, Enrique**, Kallemeyn, E., Regis, T., & Singer, M. (2008). *Pre-Transition Mathematics*. Usiskin, A., Project Director and McConnell, J., Team Leader. University of Chicago School Mathematics Project (UCSMP). Upper Saddle River, New Jersey: Prentice Hall Publishing Company. Visit the following website for more details:
  http://ucsmp.uchicago.edu/secondary/curriculum/pre-transition/
  This is a mathematics textbook intended for 7th grade to be used nationally. I was selected a one of the authors out of 6 finalists for this writing team from 70 applicants from around the world. The Pilot Version of the book was written during eight weeks at the University of Chicago, summer 2005. Pilot testing occurred during the fall and spring 2005. Revisions of the Pilot Test version of the book were completed during eight weeks at the University of Chicago, summer 2006. A Trial Version of the book was completed and will be tried out during the fall and spring 2006. The Final Version is to be ready by August 2007. The UCSMP includes mathematics textbooks for all the other K-12 grades except for this new book for grade 8. Their elementary school mathematics textbooks (K-6) are best sellers around the country.
- **Ortiz, Enrique**, & Andreasen, J. (2007). *CliffsTest Prep CSET Mathematics*. Indianapolis, IN: Wiley Publishing, Inc. 240 pages.

Book Chapter:

- **Ortiz, Enrique** (2020). Pat II: Social justice mathematics lessons: 5.4 Estimated wealth distribution in the United States and the World. In Berry III, Robert Q., Conway IV, Basil M., Lawler, Brian R., & Staley, John W., Eds. *High School Mathematics Lessons to Explore, Understand, and Respond to Social Justice*, pp. 99-108. Thousand Oaks, CA: Joint publication: Corwin Press (SAGE Publications) and National Council of Teachers of Mathematics. (single-blind peer-review process).

Link to the information pages: Corwin https://us.corwin.com/en-us/nam/high-school-mathematics-lessons-to-explore-understand-and-respond-to-social-injustice/book262378 and at NCTM https://www.nctm.org/Store/Products/High-School-Mathematics-Lessons-to-Explore,-Understand,-and-Respond-to-Social-Injustice/
Preview:
https://www.google.com/books/edition/High_School_Mathematics_Lessons_to_Explo/lHjEDwAAQBAJ?hl=en&gbpv=0

- **Ortiz, Enrique** (2001). Logo computer language. In Louisen S. Grinstein, and Sally Lipsey, Editors. *Encyclopedia of Mathematics Education*. New York, NY: Garland Publishing. (Peer reviewed.) I was ***invited*** to write an entry for this work because of my research background in this area. The following books are used for as resources in methods courses and workshops (graduate and undergraduate).

Self-published Books:

- **Ortiz, Enrique** (2018). *Ten elephants and a spider's web: A traditional Latin American counting rhyme and other activities: Spanish/English: Second Edition*. Morrisville, NC: Lulu Publishing (http://www.lulu.com/shop/enrique-ortiz/ten-elephants-and-a-spiders-web-a-traditional-latin-american-counting-rhyme-and-other-activities-spanishenglish-second-edition/ebook/product-23276991.html). ISBN: 978-1-387-13155-6. 24 pages. *Copies sold:19.*
  This is the second edition of a children's picture written and illustrated by the Enrique Ortiz. It is a bilingual counting book based on a Latin-American rhyme. Reading time and other tasks were added to this edition. 20 pages.
- **Ortiz, Enrique** (2018). *Playing with shapes*. Morrisville, NC: Lulu Publishing (http://www.lulu.com/shop/enrique-ortiz/playing-with-shapes/hardcover/product-23529326.html). ISBN: 978-1-387-60317-6. 20 pages. 32 pages. ***Copies sold: 18.***
  This book provides learning experiences involving visualization, problem solving, and creativity. It presents explorations using Tangrams and geometric shapes. Among other topics, you will find ideas related to counting, geometric shape recognition, sorting and classifying geometric shapes, transformational geometry (rotation, reflection and translation), and composition and decomposition of shapes. Tangrams can be made using a model of the puzzle provided at the end of the book. Possible solutions of the tasks are provided. The book is very entertaining and can also help with children's brains active and engaged.
- **Ortiz, Enrique** (2009). *Ten elephants and a spider's web: A traditional Latin American counting rhyme and other activities: Spanish/English*. Morrisville, NC: Lulu Publishing (http://www.lulu.com/content/4618650). ISBN: 978-0-615-26124-9. 20 pages. ***Copies sold: 55.***
  This is a children's picture book written and illustrated by the Enrique Ortiz. It is a bilingual counting book based on a Latin-American rhyme available as electronic or paperback copy.
- **Ortiz, Enrique** (2008). *Natalie and the gumball machine: A counting model for understanding the value of quarters*. Morrisville, NC: Lulu Publishing (http://www.lulu.com/content/4280796). ISBN: 978-0-578-00135-7. 24 pages. ***Copies sold: 60.***
  This is a children's picture book written and illustrated by the Enrique Ortiz. It provides a research-based approach to teach the value of coins available as electronic or paperback copy.
- **Ortiz, Enrique**, Gresham, Gina, & Brumbaugh, Douglas (2008). *TAG-Middle school math is it!* Morrisville, NC: Lulu Publishing (http://www.lulu.com/author/content_revise.php?fCID=4221270). ISBN: 978-0-615-25637-5. 120 pages. ***Copies sold: 150.***
  This is the middle school version of the TAG-Math is it! Grades 3-5.
- Gresham, Gina, **Ortiz, Enrique**, Brumbaugh, & Douglas (2008). *TAG-Math is it! Grades 3-5*. Morrisville, NC: Lulu Publishing (http://www.lulu.com/author/content_revise.php?fCID=4250285). ISBN: 978-0-615-25622-1. 91 pages. ***Copies sold: 618.***

Infographics:

Each infographic is a clipped compound of "information" and "graphics." It is a graphic visual representation of information, data or knowledge intended to present information quickly and clearly.

- **Ortiz, Enrique** (2016). *Problem Solving Process* – Second Edition. Canvas Infogram. Retrieved from https://www.canva.com/design/DACAPA2cSg8/YvjqLAqxBudWdUH-4c7zlA/view?utm_content=DACAPA2cSg8&utm_campaign=designshare&utm_medium=link&utm_source=sharebutton. This Infogram has been used in classes and conferences. I have shared with teachers over 300 free copies.
- **Ortiz, Enrique** (2016). *Proceso de Solución de Problemas*. Canvas Infogram. Retrieved from https://www.canva.com/design/DACA6z4dj6w/5zlfV5VDKAWnDTdZJpRYgQ/view?utm_content=DACA6z4dj6w&utm_campaign=designshare&utm_medium=link&utm_source=sharebutton. This Spanish version of the problem-solving Infogram has been used in combination with the English version in classes and conferences. I have shared with teachers over 800 free copies.
- **Ortiz, Enrique** (2016). Problem Solving Process. Canvas Infogram. Retrieved from https://www.canva.com/design/DACAPA2cSg8/YvjqLAqxBudWdUH-4c7zlA/view?utm_content=DACAPA2cSg8&utm_campaign=designshare&utm_medium=facebook&utm_source=publish. This Infogram has been used in classes and conferences. I have shared with teachers over 500 free copies.

Modules/Documents:

These are documents and modules developed for instructional purposes and disseminated in three-ring binders and/or digital files as part of workshops offer as professional development to pre and inservice teachers in the areas of special, elementary or secondary education.

- **Ortiz, Enrique** (2018). *Mathematics Concepts and Skills Checklist by Grade Level (Grades K-8): Revised to align with the Common Core State Standards*.
- **Ortiz, Enrique** (2010). *Problem Solving Modules: UCARE Inventory*. Project Central Grant. Florida Department of Education.

Articles Submitted for Peer Review Publication:

- **Ortiz, Enrique** (2020). *The shape of art: Mathematics connections.* In the *For the Love of Mathematics Department* of the *Mathematics Teacher: Learning and Teaching Pre-K–12*. (double-blind peer-review process) This another article based on my creative work involving art and mathematics. It involves geometric abstraction style, geometric shapes, and the three different harmonic color schemes of *The Shape of Art* original image. The harmonic color schemes form geometric shape using a color wheel with 12 colors.
  Instagram link: https://www.instagram.com/p/CC_Y0qMHBJi/?utm_source=ig_web_copy_link

Design Variation 1
Triad or *Triangular Color Scheme*
Equilateral triangle Shape
(green, violet, orange)

Design Variation 2
Tetrad or *Square Color Scheme*
Square Shape
(yellow, blue-green, violet, red-orange)

Design Variation 3
Analogous Color Scheme
Pentagon Shape
(yellow, yellow-green, green, blue-green),

- **Ortiz, Enrique** (2019). Effects of instructional games on students' knowledge of operation facts and use of variables. (double-blind peer-review process).
- **Ortiz, Enrique** (April, 2019). Games for teaching addition and subtraction operations and algebraic thinking. *Teaching Children Mathematics*. (double-blind peer-review process) This article is based on my teaching and research work related to graduate and undergraduate mathematics methods (MAE 4326, MAE 2801, MAE 6517, MAE 5318, and MAE 5327) courses, and in-service teachers.
- **Ortiz, Enrique** (2019). Diagnosing students' algebraic knowledge. *Mathematics Teacher* (double-blind peer-review process).

Books Submitted:

- **Ortiz, Enrique** (2019). *24 Rectangularix Puzzles*. Hand2Mind Company.
- **Ortiz, Enrique** (2019). *Triangle Puzzle Activities*. Hand2Mind Company.

Presentations/Workshops/Posters at Meetings or Conferences

International:

Paper Presentations:

- (May 20-22, 2020). Preservice teachers' reflections after a TeachLive math diagnostic simulation. Paper presentation at the 1st Center for Research in Education Simulation Technology (CREST) 2020 Conference. Orlando, Florida. http://teachlive.org (Conference Cancelled)
- (May 22-24, 2019). Using TeachLive for pre-service teachers' development of diagnosis assessment self-efficacy. Paper presentation at the 7th *Annual International TeachLive Conference*. Orlando, FL. This presentation involves an innovative and original diagnostic of mathematics activity and virtual simulation technology developed for teaching mathematics methods to undergraduate and graduate students and investigates their thinking process during the implementation of project. This presentation provides a model for further study of the simulation technology (TeachLive) with national and international implications.
- (May 23-25, 2018). Using TeachLive for pre-service teachers' development of diagnosis assessment self-efficacy. Paper presentation at the *6th Annual International TeachLive Conference*. Orlando, FL.
- With Pace, Michelle H. (February 18–20, 2016). Wealth distribution as context for teaching mathematics for social justice. Research paper presentation at the *International Conference on Poverty, Globalization and Schooling: A Holistic Approach*. University of Central Florida campus, Orlando, Florida.
- (January 4–6, 2016). A framework for using virtual manipulative tools such as apps and applets. *2016 International Education Conference* in Orlando. Disney's Boardwalk Inn, Lake Buena Vista, Florida.
- (February 26–28, 2015). Challenges and opportunities of teaching mathematics for social justice. Research paper presentation at the *International Conference on Poverty, Globalization and Schooling: A Holistic Approach*. University of Central Florida campus, Orlando, Florida.
- (May 31–June 3, 2012). Important Ideas Related to Matching Teaching Goals to Teaching and Assessment Practices. Research paper presentation at the *2012 Lilly Conference on College and University Teaching*. Washington, D.C.
- (November, 2006). Assessing the development of teaching goals of pre-service teachers. Paper presentation at the *Lilly Conference on College Teaching*. Miami University, Oxford, Ohio.
- (May 12-13, 2005). Learning levels of teaching and learning. Paper presentation at the *5th International Conference on the Scholarship of Teaching and Learning (SoTL)*. London, England.

Poster Presentations:

- (May 23-25, 2018). Use of Mixed Reality Simulation to Assess Diagnostic Competence Self-efficacy. Poster presentations at the *6th International Annual TeachLive Conference*. Orlando, FL.
- (May 28–30, 2009). How the Human Brain Performs Mental Calculations. Poster presentation at the *Second Biennial of the International Mind, Brain and Education Society*. Philadelphia, PA.
- (September 24–27, 2009). How the Human Brain Performs Mental Calculations. Poster presentation at the *Ninth Annual Lilly Conference on College Teaching*. Traverse City, Michigan.
- (October 13-15, 2005). Using CRA levels for the development of learning activities and SoTL. Poster presentation at the *35th Annual Conference of the International Society for Exploring Teaching and Learning*. Hilton Cocoa Beach Oceanfront, Cocoa Beach.

National:

Recent Paper Presentations:

- (submitted, February 11-13, 2021). Pre-service teachers' development of mathematics diagnostic competence. *Association of Mathematics Teacher Educators Twenty-fifth Annual Conference*. Orlando, Florida.

- (submitted, April 21-24, 2021). Supporting all students' development of geometric understanding. Annual Meeting of the National Council of Teachers of Mathematics. St. Louis.
- (April 1, 2020). Pre-service teachers' development of mathematics diagnostic competence. Research report at the *2020 Research Symposium of the National Council of Teachers of Mathematics*. Chicago, IL. https://www.nctm.org/Conferences-and-Professional-Development/Research-Conference/ or https://www.nctm.org/News-and-Calendar/News/NCTM-News-Releases/NCTM-Events-and-COVID-19/ (Conference cancelled)
- (April 1-4, 2020). Have you read any good math for social justice lately? Paper presentation. *Annual Meeting of the National Council of Teachers of Mathematics*. Chicago, IL. https://www.nctm.org/100/ or https://www.nctm.org/News-and-Calendar/News/NCTM-News-Releases/NCTM-Events-and-COVID-19/ (Conference cancelled)
- (February, 2019). Preservice teachers' participation in a virtual classroom simulator involving mathematics diagnostic tasks. *Association of Mathematics Teacher Educators Annual Conference*. Orlando, Florida.
- (April 3-6, 2019). Have you read any good math lately? *Annual Meeting of the National Council of Teachers of Mathematics*. San Diego, CA.
- With Eisenreich, Heidi, and Tapp, Laura (April 27-May 1, 2017). Pre-service Teachers' Implementation of Cognitive Levels in Mathematics. Research roundtable presentation at the *2017 American Educational Research Association Annual Meeting*. San Antonio, Texas.
- With Eisenreich, Heidi, and Tapp, Laura (April 3-5, 2017). Pre-service teachers' conceptions of virtual manipulatives. Research paper presentation at the *National Council of Teachers of Mathematics 2017 Research Conference*. San Antonio, Texas.
- With Eisenreich, Heidi, and Tapp, Laura (February 9-11, 2017). Pre-service teachers' conceptions and misconceptions of physical and virtual manipulatives. Paper presentation at the *Twenty-First Annual Association of Mathematics Teacher Educators Conference*. Orlando, FL.
- With Pace, Michelle H. (April 13-16, 2016). Wealth distribution as a context for mathematics for social justice. *Annual Meeting of the National Council of Teachers of Mathematics and TODOS Annual Conference* strand. San Francisco, CA.
- (February 25-27, 2016). Pre-service teachers' implementation of physical and virtual manipulatives. Paper presentation at the *Research Council for Mathematics Learning Annual Conference*. Orlando, Florida.
- (January 4-7, 2016). A framework for using virtual manipulative tools such as apps and applets. Paper presentation at the *Annual Meeting of the College Teaching and Learning Conference*. Orlando, Florida.
- (February, 2015). Challenges and Opportunities of Teaching Mathematics for Social Justice. *Association of Mathematics Teacher Educators Annual Conference*. Orlando, Florida.
- (April, 2014). Teaching Mathematics for Social Justice as a context for CCSS. *Annual Meeting of the National Council of Teachers of Mathematics and TODOS Annual Conference* strand. New Orleans, Louisiana.
- (April 15–April, 19, 2013). How the brain's performance during mathematics and reading fluency tests compare. Research poster and paper presentation at the *Annual Research Pre-session Meeting of the National Council of Teachers of Mathematics*. Denver, Colorado.
- (April 25-28, 2012). Using Origami Activities to Teach Mathematics. Paper presentation at the *Annual Meeting of the National Council of Teachers of Mathematics*. Philadelphia, Pennsylvania.
- (April, 2011). The Problem Solving-Response to Intervention alternative to meet students' needs. Paper presentation at the *Annual Meeting of the National Council of Teachers of Mathematics*. Indianapolis, Indiana.
- Little, Mary and Ortiz, Enrique (July 19-21, 2010). Response to Intervention (RtI) developments at a higher education institution. *Invited* presentation at the *Annual OSEP Project Directors' Conference of the U.S. Office or Special Education (OSEP) Programs*. Washington, D.C.

- (July 7–9, 2010). Using a teaching goals inventory to analyze Noyce Scholars' development of teaching and assessment practices. Workshop presentation at the Noyce Foundation Principal Investigators Conference. Washington, D.C.
- (April 30–May 4, 2010). Use of Neuroimaging to Clarify How Human Brains Perform Mental Calculations. Research paper presentation at the *Annual Meeting of the American Educational Research Association*, Denver, Colorado.
- (April 30–May 4, 2010). How the Human Brain Performs Mental Calculations. Poster presentation at the *Annual Meeting of the American Educational Research Association*, Denver, CO.

Poster Presentations:

- (April 8–April 12, 2011). How the brain's performance during mathematics and reading fluency tests compare. Research poster and paper presentation at the *Annual Meeting of the American Educational Research Association*. New Orleans, Louisiana.
- (July 7–10, 2010). *Update of Research Findings Related to the Transition into Mathematics and Science Teaching* (T-MAST) Scholars. Poster presentation at the Noyce Foundation Principal Investigators Conference. Washington, D.C.
- (July 1–3, 2009). Research Findings Related to the *Transition into Mathematics and Science Teaching (T-MAST) Scholars*. Poster presentation at the *Noyce Foundation Principal Investigators Conference*. Washington, D.C.
- (June 27-June 29, 2008). Research Findings Related to the *Transition into Mathematics and Science Teaching (T-MAST) Scholars*. Poster presentation at the *Noyce Foundation Principal Investigators Conference*. Washington, D.C.
- (June 27-June 29, 2007). *Transition into Mathematics and Science Teaching* (*T-MAST*) Scholars. Poster presentation at the *Noyce Foundation Principal Investigators Conference*. Washington, D.C.
- (January 26-28, 2006). Using the levels of learning as an interpretive framework for mathematics methods. Poster presentation at the *Association of Mathematics Teacher Educators*. Tampa, Florida.

Florida State:

Paper Presentations:

- (submitted, October 1-3, 2020). Teaching mathematics for social justice. Paper presentation at the Florida Council of Teacher of Mathematics Annual Conference: Virtual Conference. Orlando, Florida.
- (October 17-19, 2019). Have you read any good math lately? Paper presentation at the Florida Council of Teacher of Mathematics Annual Conference. Jacksonville, Florida.
- (October 6, 2018). Pre-service teachers' participation in a virtual classroom simulator for math diagnostic task. Paper presentation at the *Annual Meeting of the Florida Council of Teachers of Mathematics*. Daytona Beach, Florida.
- (October 6, 2018). Have you read any good math lately? Paper presentation at the Annual Meeting of the *Florida Council of Teachers of Mathematics. Daytona Beach*, Florida.
- (April 6, 2018). Have you read any good math lately? Paper presentation at the 20th Annual Literacy Symposium. University of Central Florida, Orlando, Florida.
- (April 7, 2017). Reading in a mathematics context: What do we mean by mathematics language? Paper presentation at the *19th Annual Literacy Symposium. University of Central Florida*, Orlando, Florida.
- (October 20-22, 2016). Using a new triangular-pieces puzzle to teach mathematics. Paper presentation at the Annual Meeting of the Florida Council of Teachers of Mathematics. Orlando, FL.
- (April 1, 2016). Going bananas with mathematics: Challenges children may have when learning the language of mathematics. Paper presentation at the 18th Annual Literacy Symposium. University of Central Florida, Orlando, Florida.
- (November 6-8, 2015). *Teacher Efficacy Academy II. Delta Foundation Conference. Teaching mathematics for social justic*e. *UCF* Florida. This presentation was presented twice.

- (October 15-17, 2015). Using a new triangular-pieces puzzle to teach mathematics. Paper presentation at the Annual Meeting of the *Florida Council of Teachers of Mathematics*. Orlando, Florida.
- (April 3, 2015). Possible connections between writing and mathematical thinking. Paper presentation at the 17th Annual Literacy Symposium. University of Central Florida, Orlando, Florida.
- (October 23-25, 2014). Supporting creative and innovative thinking with outside the box mathematical reasoning. Paper presentation at the *Annual Meeting of the Florida Council of Teachers of Mathematics*. Orlando, Florida.
- (October 17-19, 2013). Teaching Mathematics for Social Justice (TMfSJ) as a context for the CCSS Mathematics Practice Standards. Paper presentation at the *Annual Meeting of the Florida Council of Teachers of Mathematics*. Orlando, Florida.
- (July 23-24, 2013). Content-Based English Language Learning Strategies: Mathematics: Workshop. English Language Certificate Program. Business Administration Building, *UCF*, Orlando, Florida. (51 participants from Brazil)
- (July 22, 2013). Teaching Mathematics for Social Justice (TMfSJ) as a context for implementing the *Common Core State Standards for Mathematical Practices*. Presentation for the LAE 5337 students who are part of the RTP3 Grant: STEM Science 6-12: Mathematics and Science. Teaching Academy, *UCF*, Orlando, Florida. (80 participants)
- (April 5, 2013). Teaching Mathematics for Social Justice (TMfSJ) as a context for implementing the CCSS Mathematical Practices. Paper presentation at the 15th Annual Literacy Symposium. *UCF*, Orlando, Florida.
- With Levin, Judith, Walker-Hopp, Carolyn, Stewart-Lue, Martha, and (April 5, 2013). Common Core, Diverse and Urban Learners: Challenges and Opportunities. Presentation at the 15th Annual Literacy Symposium. *UCF*, Orlando, Florida.
- Ehren, Barbara, Clements, Taylar, Skipper, Suzanne (SCPS Representative), Ortiz, Enrique, Puig, Enrique, Alvarez, Jasmin (April 5, 2013). Common Core State Standards (CCSS) Panel Presentation. *Invited* panel presentation at the *15th Annual Literacy Symposium*. *UCF*, Orlando, FL.
- (October 18-20, 2012). Games That Support Students' Development of Reasoning and Proof. Paper presentation at the *Annual Meeting of the Florida Council of Teachers of Mathematics*. Orlando, Florida.
- (April 6, 2012). Brain activity and students' efficiency with solving arithmetic mental tasks. Paper presentation at the 14th Annual Literacy Symposium. *UCF*, Orlando, Florida.
- (November 1-4, 2011). Optical Topography of Evoked Brain Activity during Mental Tasks Involving Whole Number Operations. *56th Annual Meeting of the Florida Educational Research Association*. Orlando, Florida.
- (October 13–15, 2011). Using Origami Activities to Teach Math. Paper presentation at the Annual Meeting of the Florida Council of Teachers of Mathematics. Jacksonville, Florida.
- Chancellor, Carrie (Brevard Schools), Hoover, John (University of Colorado at Boulder), Little, Mary, Kelley, Michelle, Puig, Enrique, Oliver, Edwards, Ortiz, Enrique (April 1, 2011). Response to Instruction/Intervention (RtI) Panel Presentation and Town Hall Celebration. Panel presentation at the *13th Annual Literacy Symposium*. *UCF*, Orlando, Florida.
- (April 1, 2011). Problem Solving, RtI and Mathematics Education. *Invited* paper presentation at the 13th Annual Literacy Symposium. University of Central Florida, Orlando, Florida.
- (Sept. 30–Oct. 2, 2010). How to use the Problem Solving-Response to Intervention alternative. Paper presentation at the Annual Meeting of the Florida Council of Teachers of Mathematics. Champions Gate, Florida.
- (June 29-30, 2010). Mathematics Concepts and Skills Checklist by Grade Level (Grades K-8). Presentation at the *Summer Mathematics Institute 2010 of the RtI-TLC Grant*. Lake Buena Vista, Florida.

Poster Presentations:

- (January 24-27, 2017). Analyzing Virtual Manipulatives used for Teaching and Learning. Poster presentation at the 37th Annual National Future of Education Technology Conference (FETC). Orange County Convention Center in Orlando, FL.

Funded Research Grants/Endowments/Contracts

External:

- Dieker, L. (Director) (Summer, 2002-present) *Transition to Mathematics and Science Teaching (T-MAST) program*. $2.5 million endowment from *Lockheed Martin Corporation*. ***Faculty Advisory Committee:*** **Ortiz, E.** (Coordinator of the *T-MAST* program, Summer 2012), and other mathematics and science education faculty members.

  This endowment is part of the *Lockheed/UCF Academy/Endowment* programs. It provides monetary support to students accepted in the *T-MAST* program. The graduate students in this program become part of a cohort involving the middle or secondary school mathematics or science teacher certification. These are students who have completed their bachelor's degrees in an area other that mathematics or science education (*STEM areas*), want to complete a *Master of Arts in Middle School Mathematics or Science Education* and transition into the middle or secondary school teaching profession.

  The *Faculty Advisory Committee* is charged with the task of developing the *T-MAST program*. This committee developed this program, has regular meetings for the development of courses, research activities and program sequence.

  I helped developed the middle school mathematics track of the *Master of Arts in Teaching* (*MAT*) *program* and complete National Council for Accreditation of Teacher Education (NCATE, now Council for the Accreditation of Teacher Preparation, CAPE) institutional effectiveness reports for this track.

  Also, I am the coordinator of Master of Arts in Teaching (*MAT*) Track and the Mathematics portion of the *T-MAST program*. We meet regularly to coordinate the offerings of this program. *T-MAST* serves as a support program for students in the *MAT* in middle school mathematics graduate program by providing mentoring and financial assistance. I developed and taught the middle school mathematics methods course.

- Dieker, L. (Director) (Spring, 1992-present). *K-8 Lockheed/UCF Academy for Teaching Science and Mathematics.* $500,000 endowment from *Lockheed Martin Corporation.* ***Faculty Advisory Committee:*** **Ortiz, E.** (Coordinator of the *M.Ed. in K-8 Mathematics and Science program,* Summer 2019) and other mathematics and science faculty members. *Lockheed/Martin (LM)* agreed to contribute $1,005,000 over four years to the UCF foundation for the purpose of endowing the Academy. UCF has been granted to the *State University System* through its *Eminent Scholars Program* for money ($758,000) to match the LM gift when it is complete. Funds for start-up phase of the Academy have been received through the *Teacher Enhancement program of NSF* ($875,000), and additional partners have been sought to support the start-up phase of the Academy and to augment the planned activities of the Academy. The purpose Academy is to assist school districts in the improvement of the teaching and learning of mathematics and science. In the program elementary and middle school teachers known as *Scholars* will be trained to serve as school-based leaders in mathematics and science education. While in the Academy, Scholars will improve their content knowledge, learn about new methods of instruction, and receive leadership training. This partnership involves *LM* and UCF as sponsors, *Orange*, *Seminole* and *Osceola Counties*, the *State University System,* and the *National Science Foundation*. The funding concept provides for the longevity of the program. The candidate's involvement and association with the Academy has been in terms of curriculum, research and program developments. The *Math/Science Group* has been formed and meets regularly in order to create and take action in different initiatives. I have participated in development of the Strategic Plan and the *LM/UCF Program Brochure*. In terms of research, I have collected and analyze qualitative data regarding some of the *Scholars'* personal curriculum knowledge and teaching goal development. Paper presentations and articles have been developed based on research efforts.

Also, I am the coordinator of *K-8 Mathematics and Science Master of Education Program* (Summer 2019-present). I teach the curriculum and capstone course (*EDG 6329, Quality Teaching Practices*) of the program, which include guiding Scholars' **action research project** (see *Teaching* section for more details). I have revised the capstone course to emphasize the development of a poster presentation and coordination of action research studies with faculty mentors. I was the mentor of 5 of the 21 students in the fall 2019 semester. I developed this course (fall 2019) as a mixed-mode course and am the course shepherd of this course.

Awards: *Christa McAuliffe Award for Excellence in Teacher Education* (2004). *UCF* received this national award from the American Association of State Colleges and Universities. This was given in recognition of its efforts to improve mathematics and science education.

- PI: Little, Mary, Co-PIs: **Ortiz, Enrique,** and Scharlach, Tabatha (Fall 2009-Summer 2010). *Response to Intervention - Teaching Learning Connections (RtI-TLC)* - Account Number: 14277072. NSF Grant managed by FL Department of Education. $887,000.00. Materials from this grant are being used as resources in my graduate and undergraduate courses.
- **Ortiz, Enrique** (2004-2010). *Robert Noyce Foundation Teacher Scholarship Program for Transition to Mathematics and Science Teaching (T-MAST) Scholars*. This is an NSF grant managed by the *Noyce Foundation*. $352,939.00. PI - #14236004. Annual follow-up reports have been completed for this grant (2010-present). This includes contacting the *Scholars* and reporting finding to the *Noyce Foundation*. The funding supported graduate students in the *MAT* in middle school mathematics program. I was involved as a recruiter, academic advisor and mentor for the participants.

  The Noyce Foundation is completely dedicated to improving instruction in math, science, and early literacy in U.S. public schools. The Foundation funds and develops organizations that support the improvement of teaching in these core areas as well as research and policy initiatives to inform and support policymakers at all levels to use resources wisely to build strong teacher corps.

  Noyce Fellowships for $10,000 were available for candidates with a degree in mathematics, science, engineering, or technology. The recipients of the Noyce Fellowships agreed to teach in a high-needs school district for two years within six years of graduation. Twenty students were supported and mentored through the *Noyce Foundation* grant. Fifteen of them are still teaching at the secondary school level and two of them are in administrative positions.

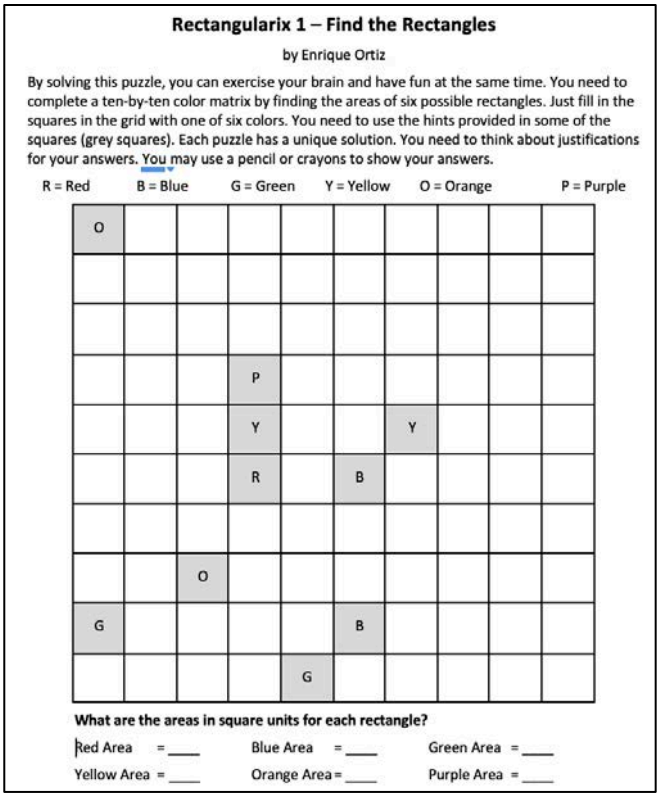
Internal:

- **Ortiz, Enrique** (Summer, 2018-Summer, 2020). Preservice Teachers' Diagnostic Competence and Virtual Classroom Participation*. 2018 QEP Funded Award Project: Program Innovation Award. What's Next.* This project supported the development of a research study involving the use *TeachLive* virtual classroom in undergraduate and graduate mathematics methods courses. Poster and paper presentations to be presented at *2019 Annual International TeachLive Conference*. $10,000.00
- **Ortiz, Enrique** (Fall, 2017 – Spring, 2018). Pilot: Integration of TeachLive and Diagnostic Episodes into Mathematics Methods courses and Math Clinic. *UCF CEDHP Dean's Academic Program Improvement Initiative*. Poster and paper presentations were presented at 2018 Annual International TeachLive Conference. Received course reassignment to support this research efforts.
- PI: Little, Mary; Co-PIs: Drs. Wenzel, Taylar, Farshid, Safi & **Ortiz, Enrique** (Fall 2016-Summer 2017). Implementing Intensive Interventions in Reading and Mathematics to Improve Student Learning*. Toni Jennings Funds*. $15,000.00
- PI: **Ortiz, Enrique**; Co-PIs: Drs. Wenzel, Taylar & Little, Mary (Fall 2015-Summer 2016). Improving Rigor and Impact of Reading and Mathematics Interventions with Students. *Toni Jennings Funds*. $3,500.00
- **Ortiz, Enrique** (Fall 2016). Research Coach Scholarships for High-Impact Undergraduate Research Experiences. $300.00 for an undergraduate student work as a research coach. Research coaches are undergraduate or graduate students who are hired by faculty exclusively to assist undergraduate students with course-integrated research projects.

- **Ortiz, Enrique** (Spring, 2014-Summer 2014). Use of the concrete, pictorial, abstract and virtual levels in mathematics teaching by pre-service teachers. (Two Doctoral students participated in the data collection and analyses of the data from this study and writing an article and research paper presentations). *Toni Jennings Funds*, $3,587.00
- **Ortiz, Enrique** (Spring, 2014-Summer, 2014). Brain activity of students during mental calculations. *CEDHP Major Grants Development Stimulus Initiative*. (Graduate and undergraduate students participated). One course reassignment and $500 for travel were provided.

Independent Practitioner Research:

- **Ortiz, Enrique** (January, 2019-present). Development of the *Rectangularix Puzzle*.
The puzzle involves a ten-by-ten matrix divided in six rectangular areas. The students are provided an incomplete matrix with some hints. Each area has a given number of squares of given color (yellow, red, blue, green, purple or orange). The students need to figure out where the rectangles are located by using the hints (identification of the color of some of the squares in the matrix), logic, multiples, factors, ideas of rectangles and rectangular areas and multiplication concepts. Multiplication and division fluency, fraction and percent ideas could also be included as part of the puzzle solution process. The idea of the puzzle came to me after a discussion related to the diagnosis of students' understanding ideas related to area of a rectangle. The activities have been implemented and studied in the MAE 6517 (Diagnosis and prescription of mathematics). The students (*n*=24) were able to complete the activity. The main challenge was that the instructions need to be clarified.



I have developed 24 Rectangularix puzzles so far. I am planning to try the puzzle with elementary school students in spring 2020.

- **Ortiz, Enrique** (January 2019-present). A study of in-service teachers' mathematics and science curricular perspectives. This **research study** is based on archived data from the IDS 6939 (Seminar in Mathematics and Science Education), which I adapted as a mixed-mode course in spring 2019. The teachers (n=38) in two sections of this course developed a report about their curricular perspective as they analyzed their teaching practices in terms of teaching goals, classroom practice dispositions, epistemic beliefs and teacher beliefs. The curricular perspective report is based on three phases. The last phase involves the implementation of a curricular activity based on their analysis of teaching beliefs and practices.
- **Ortiz, Enrique** & Bai, Haiyan (January, 2018-present). Development and validation of the Mathematics Diagnostic and Assessment (MDA) Self-efficacy scale.
Dr. Bai is a professor in the Department of Learning Sciences & Educational Research, College of Community Innovation and Education and helped with the statistical analysis of the MDA self-efficacy scale. The scale measures are based on Bandura' (2006) guide for constructing self-efficacy scales. The participants were presented with 20 situations related to diagnosing/assessing a student's strengths and weaknesses during a mathematics diagnostic/assessment task. As it relates to mathematics

diagnosis/assessment, they rated their degree of confidence by recording a number from 0 (or cannot do at all) to 100 (or highly certain can do) using the scale from 0 to 100. They rated how certain they were of attending to each of the diagnosis/assessment behaviors/situations. A total of 191 participants completed the scale during the fall 2018 and spring 2019 semester.

- **Ortiz, Enrique**, Azevedo, Roger, & doctoral students (August, 2018-present). Preservice teachers' ability to diagnose elementary school error patterns in a TeachLive simulation environment. Doctoral students in Dr. Azevedo's research team: Elizabeth Cloude, Daryn Dever, Ana Cecília Maciel, and Megan Wiedbusch. This project is a collaboration with one of the UCF's Faculty Cluster. Dr. Azevedo is a professor and lead scientist in the Department of Learning Sciences and Educational Research, College Community Innovation and Education.
  This project included pre-service teachers (*n*=15) enrolled in the MAE 4326 (Teaching Children Mathematics) course during spring 2019 and the following sections:
  Eye-Tracking Data: The study involved the use of an *eye-tracking* device. The participants were asked to position himself or herself at the monitors for accurate eye-tracking and body posture data to be captured. Then, the video camera was turned on, and the eye-tracker and Kinect sensors were set up and calibrated by the researcher (this part was not carried but will be completed in fall 2020).
  Self-efficacy Scale: The participants also completed the Self-Efficacy Scale: The Teacher Self-Efficacy Scale (TSES), (Tschannen-Moran & Hoy, 2001). This scale is a nine-point Likert-type scale which measures the teacher's "judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated" (Armor et al., 1976; Bandura, *1977).*
  Self-Reporting Diagnosis App: The was used to ask participants to report when they thought they had correctly diagnosed the student's mathematics misconception by answering the question "What mathematical misconception do you think the student is exhibiting?" whenever they are ready to assess the misconception. The app is under development, but the data was gathered without the app. A follow-up study is planned for spring 2020.
  Follow-up Session: After the *TeachLive* session, each participant had a session with a doctoral student for retrospective probing about their feelings and decisions. He or she watched their own performance through the videos and answered questions about self-efficacy. After the session with the doctoral student, they answered the self-report measures again. This session took about fifteen minutes. Data from this section of the project will be analyzed during spring 2020.
- **Ortiz, Enrique** (January, 2018-present). Development of checklist and protocol for assessing behaviors during mathematics diagnostic and assessment tasks. Both the checklist and protocol for diagnostic/assessment performances are based on the review of the literature. Using the checklist including 27 different possible behaviors, the participants used tally marks to identify occurrences of questioning skills and behaviors during diagnostic/assessment/intervention tasks, and at the end indicate the number of tally marks for each item in the total column. There might be a degree of overlap between some sections. The protocol lists a set of possible behaviors the participants should consider when conducting diagnostic/ assessment tasks. The checklist and the protocol were used as part of the TeachLive/Face-to-face project in the MAE 4326 (How Children Learn Mathematics) course. There are possible opportunities to adapt the checklist and protocol for diagnostic/assessment behaviors during other content areas (such as reading diagnostic tasks).

  The TeachLive lab activities are supported through a Technology Fee. This includes support for the inter-actors and simulation technology. The revenue from this fee is used to enhance instructional technology resources for students and faculty. Revenue generated by the Technology Fee is allocated by the UCF Technology Fee Committee.
- **Ortiz, Enrique** (Spring 2017-present). *UCF Math Clinic*.
  The following is the clinicians' and K-5 students' participation in the UCF Math Clinic:
  - *Spring 2019*: 4 undergraduate clinicians and 4 K-5 students (1 Kindergarten, 1 first grade, 1 third grade and 1 fifth grade);
  - *Fall 2018*: 4 graduate clinicians and 4 K-5 students (1 first, 2 third and 1 fourth);
  - *Spring 2018*: 2 undergraduate clinicians and 2 K-5 students (1 Kindergarten and 1 fifth);
  - *Fall 2017*: 5 graduate clinicians and 5 K-5 students (1 first, 1 second, 1 third, 2 fifth);
  - *Spring 2017*: 2 undergraduate clinicians and 2 K-5 students (1 Kindergarten and 1 first).

In part, the Math Clinic facilitates the implementation of diagnostic and intervention practice, which are part of case studies implemented by graduate and undergraduate students. Elementary education students are diagnosed and taught in a six weeks 45-minute on-campus sessions. They are brought by their parents to the UCF main campus (4:30 p.m.-5:45 p.m.). The clinicians are volunteers from the mathematics methods courses and have the opportunity to work face-to-face with K-5 students. Portion of the diagnostic activities are video recorded for further analysis by clinicians and researchers. This portion of the data will be used as part of a **research study** on students' perceptions of diagnostic/assessment self-efficacy.

- **Ortiz, Enrique** (Summer, 2017-Fall, 2018). *Pilot Test: Pre- and In-service Teachers' Diagnostic Competence and TeachLive Virtual Classroom Participation*. This project involved the development the use *TeachLive virtual classroom* in undergraduate and graduate elementary education mathematics methods courses (*MAE 4326 Helping children learn mathematics* and *MAE 6517 Diagnosis of Mathematics*) (*n*=54). A TeachLive protocol involving three different scenarios was developed to conduct the TeachLive session for the inter-actors and student avatars. Participants had 10 minutes to interview one of the three characters' scenarios. Each scenario involved a different error pattern based on Ashlock's (2009) error pattern book, but the exercises are the same. The purpose of the interview is to gain as much information about the character's strengths and weaknesses, and a better understanding of the student's thinking process. This process includes understanding of prerequisites. You can also ask about interests and any other information you feel is pertinent. The idea is not to teach the computation algorithm, but to gain as much information as possible from the character. The participants communicated with avatar through a camera available in the room. Also, they were able to communicate with the characters using the *BaiBoard 3 Interactive Whiteboard app*. On command, the student avatars were able to write and manipulate the Base-ten block icon available in the app. The participants were also able to write and manipulate the icons in the app. The sessions were recorded and used for data analysis by the researchers and participants.

  The participants were not supposed to be teaching but trying to diagnose the student avatar's strengths and weaknesses. However, the participant might have the tendency to teach instead of diagnosing. The interactors were supposed to be flexible in this case and try to allow some teaching if that happens. Participants were expected to ask why questions but were not expected to answer question for the character. The participants were expected to diagnose the student's thinking process. He/she might ask for a think aloud type of approach. He/she is also expected to allow the interactor to use the virtual manipulatives (using the iPad *Baiboard 3 Collaborative Whiteboard*). I added icons to the *BaiBoard* for that could be used during the interview. The icons can be duplicated or deleted by selecting the icon and selecting from a menu. They will be able to use the following icons of Base ten blocks: The BaiBoard is free (https://itunes.apple.com/us/app/baiboard-3-collaborative-whiteboard/id1153979162?mt=8). In this app, you can open a board and create a meeting, which has a number to share for collaboration. Each session needs to have a specific meeting number. I will show the pre-service teachers how to use the app prior to the TeachLive session. Results were **presented** at the *TeachLive 2018 Conference* and later **published** as part of the *Conference Proceedin*gs (see presentation and publication/conference proceedings sections for more details).
- **Ortiz, Enrique** (Spring 2016-Fall 2017). *A study of fifth-grade students' understanding of prime numbers using a game*. This **original activity** was **developed and researched** with fifth grade students (*n*=25) at elementary school, Sanford, Florida. This study involved the evaluation of qualitative data to improve the practical implementation of the activity. This process resulted in the **publication of the article** *The secret life of prime numbers* in the NCTM *Teaching Children Mathematics* journal (2018) (see publication section for more details).
- **Ortiz, Enrique** (Fall 2015-present). *Lessons Learned from Pre-service Teacher's Assessment Reports: Response to Intervention (RtI)/Multi-Tiered Support System (MTSS) in Mathematics Case Studies and Diagnostic/Prescriptive Reports*. Reports from MAE 4326 will be used to assess pre-service teachers' understanding and implementation of assessment techniques.
- **Ortiz, Enrique** (Spring 2015-present). Development of the *Triangle Puzzle*. Facebook page: https://www.facebook.com/triangle.puzzle; http://www.amazon.com/s/ref=nb_sb_noss?url=search-alias%3Daps&field-keywords=triangle+puzzle+enrique+ortiz&rh=i%3Aaps%2Ck%3Atriangle+puzzle+enrique+ortiz.

Based on my **practitioner and researcher background**, I have developed this **creative** and **original** puzzle involving triangle pieces. The puzzle set includes 14 pieces (see image on the top of Activity 12 on next page), which I call *Triangle Puzzle* or *Trianagrams*, representing triangles based on size (small and large), sides (equilateral, scalene and isosceles) and angles (right, acute and obtuse): 1 large and 2 small equilateral/acute triangles, 2 large and 3 small isosceles/obtuse) and 2 large and 4 small scalene/right. It is based on logic, rectangular shapes and area of rectangles. It is based on the *CPAV* cognitive learning levels (concrete, pictorial, abstract and virtual), and the Van Hiele geometry development stages. In mathematics education, the *Van Hiele model* is a learning theory that describes how students learn geometry. This model has been used as a research framework in the area of geometry since it was published in 1957 by Van Hiele. I **developed** activities that illustrate each of the *Van Hiele geometry stages*. The activities have been implemented and studied in the MAE 4326 (Teaching Children Mathematics), which is an elementary education mathematics methods course; groups of fourth- and fifth-grade students at Goldsboro Elementary School, Sanford, Florida; and a group third-, fourth- and fifth-grade gifted students during a summer 2017 program at the UCF main campus. This **research study** involved the evaluation of qualitative data to improve the practical implementation of the puzzle. The results were used to improve the activities, and for professional presentations and workshops at different conferences nationally and locally.

I have **developed** and **research-tested** 15 activities involving this puzzle. Activity 12 could be used to assess students' *Van Hiele geometry developmental levels* based on their answers. The level of sophistication or maturity displayed in the answer would be an indication of their level. I have submitted the puzzle as a developer to the Hands2Mind company for possible development. I am planning to eventually develop an App of the *Triangle Puzzle* for the virtual learning level of the *CPVA framework*. I have **distributed** over 1,000 free sets of the puzzle to students and teachers. I **presented** the *Triangle Puzzle* activities at the 2015 and 2017 Annual Meetings of the Florida Council of Teachers of Mathematics (FCTM).

- **Ortiz, Enrique** & Pace, Michelle H. (Spring 2015-Srping 2019). *Wealth distribution as a context for teaching mathematics for social justice*. Based on my **practitioner** and **researcher** background, this **research study** was conducted at the Goldsboro Elementary School, Sanford (*n*=35 elementary education students). It was based on a **creative** and **original** activity I developed based on a survey created by the *National Public Radio* (*NPR*). It involved the evaluation of qualitative data to improve the practical implementation of the activity and possible students' misconceptions. The activities have been **tested** during mathematics methods courses and feedback from pre- and in-service teachers have been used to improve them. The graph on the right side was developed to help students visualize and model the current wealth distribution in USA. This feedback has provided information to improve the validity of the activities. I **presented** the findings of these efforts at the 2016 International Conference on Poverty, Globalization and Schooling and **published** as part of the **conference proceedings** of this conference. Also, I **presented** them at other professional conferences, including 2014 and 2016 (research finding from fifth-grade class) Annual Meetings of the NCTM/TODOS, 2015 AMTE Annual Conference and Florida Council of Teachers of Mathematics Annual Meeting.
- **Ortiz, Enrique** (Spring 2015-Spring 2019). *Pre-service teachers' use of physical and virtual manipulative learning tools for a school-based culminating experience*. The purpose of this **research study** was to analyze pre-service teachers' use of physical and virtual manipulative learning tools during a school-based internship culminating experience. This study investigated UCF CEDHP pre-service teachers' (graduate and undergraduate students') use of physical and virtual manipulative learning tools to meet K-12 grade students' learning needs in a capstone project previously completed during their internship (at public schools). Only the reports related to mathematics topics were included as part of the sample. These documents were archived in the UCF CEDHP Clinical Experiences Office. The culminating experience involved the implementation of lesson plans for teaching a content area. The content area for this study is mathematics at the elementary and secondary school levels. An **update framework** (*concrete*, *pictorial*, *abstract* and *virtual* or *CPVA cognitive levels*) developed by the principal investigator was used to analyze the presence of physical and virtual manipulatives in mathematics learning activities. I **presented** the findings at the *Conference Proceedings* of the *2016 International Education Conference* (see *Publication/Conference Proceedings section* for more details). I **presented** the findings at the *2017 AERA Annual Meeting*,

2017 NCTM Research Conference, *2016 NCTM Annual Meeting* and *2016 Research Council for Mathematics Learning (RCML) Annual Conference*.

- **Ortiz, Enrique** (Spring 2013-present). *A pre- and post-test comparison of the effectiveness of physical manipulatives versus virtual manipulatives (Apps) in elementary education students' learning and implementation of cognitive levels during a mathematics methods course*. Apps were installed in 50 iPads (free and other costing $400 from overhead funds earned from previous grants). Two sections of MAE 4326, which is an elementary education mathematics methods course, will be involved in this project. One group will work with Apps and the other with physical manipulatives to learn about using cognitive levels of mathematics learning during the fall 2020 semester.
- **Ortiz, Enrique** (Fall 2009-Spring 2019). *Optical Topography of Evoke Brain Activity During Mathematics Fluency and Reading Fluency Tasks*. Testing of Optical Topography System (also known as fNIRS) ($350.000.00) from the *Hitachi Medical Corporation*, Japan. *Hitachi Medical Corporation* provided access to the Optical Topography System at UCF, and no cost to UCF, including follow-up training from an expert from Japan. I **presented** the **research findings** at *2011 Annual Meeting of AERA* and *2013 Annual Meeting of the NCTM* (see *Presentation section* for more details); and a **published** them in the *International Journal for Mathematics Teaching and Learning* (Optical topography of evoked brain activity during mental tasks involving whole number operations, 2014; see the *Publications section* for more details).
- **Ortiz, Enrique** & Pace, Michelle H. (Spring 2015-Fall 2016). *Second-grade students use of an error pattern assessment strategy*. This **action research study** involved second graders (*n*=20) using an **original assessment strategy** we called "*Get the Goof*." It is a simple yet effective strategy in which a teacher presents a flawed solution to a math problem and students work together to identify the goof and fix it. Also, it is a versatile and effective learning strategy that can help students deepen their mathematical understanding, review concepts and algorithms they have already learned, and engage in meaningful word problems. First, the teacher invites students to write the work that contains an error on the board for all to see. Students can base their work on a word problem or an algorithm. Then, students are asked to collaborate in pairs or as a whole class to find the errors within the student's work and explain how they know they found the error. This study was carried out at *Goldsboro Elementary School*, Sanford. It involved the evaluation of qualitative data to improve the practical implementation of the activity. The results and analysis of the students' work were published as part of a peer-reviewed article Get the Goof! in the *NCTM Teaching Children Mathematics* journal (2016; see *Publications* section for more details). A presentation was made based on these efforts at the *2016 International Conference on Poverty, Globalization and Schooling: A Holistic Approach* (see the *Presentations* section for more details).
- Pace, Michelle H., and **Ortiz, Enrique** (Spring 2014-Fall 2015). *An analysis of Title I Kindergarten students' oral language needs*. This **action research study** involved the analysis of second graders (*n*=15) oral language needs. A Title I kindergarten teacher (Pace) had seen firsthand how oral language can create roadblocks for students in all areas of the curriculum, both academically and socially. Her experience has placed a major focus of oral language solely on reading skills and standards. At the time of this study, the state of Florida had recently adopted the Common Core State Standards for Mathematics, providing an opportunity to address mathematical concepts with more depth and meaning.
- Goodwin, Chris, and **Ortiz, Enrique** (Spring 2014-Fall 2015). *Middle school students use of a simulation to learn about random numbers, simulations, and the law of large numbers*. This **action research study** involved three middle school classes of ninth- and tenth-grade students (*n*=85). In this simulation, the students were asked about how to model the following situation:

  > Suppose that a couple is to have three children, with each child's gender independent of the next and with an equal chance of obtaining a child with either gender. What is the probability that the couple will have exactly 1 girl and 2 boys in any order?

- Avila, Cheryl, and **Ortiz, Enrique** (Spring 2012-Fall 2013). *Middle school students' use of the Crypto game*.The *Crypto game* introduces students to matrices while they encode, decode, and pass secret messages in a mathematics class. The game of *Crypto!* was used to introduce middle school students (*n*=45) to matrices in the context of decrypting a secret message. In so doing, the concepts of a matrix, rows, elements, equivalent matrices, inverse matrices, identity matrices, matrix multiplication, and solving matrix equations were developed. The game was played with and without a graphing

calculator, depending on the learning goals. It was explored after students had a basic understanding of algebra. This study involved the evaluation of qualitative data to improve the practical implementation of the activity. Error patterns and misconceptions were found and analyzed as part of this study. The analysis of students' interactions with the game resulted in a blind peer reviewed article, Produce intrigue with Crypto!, *NCTM Teaching Middle School Mathematics* journal (2012).

- Siegel, Aryn, and **Ortiz, Enrique** (Spring 2012). *Analysis of third-grade students' understanding of perimeter ideas*. This exploratory study involved a simple problem-solving exercise that encourages teachers to "start small" to reveal how third graders can understand multiple math concepts simultaneously. These efforts resulted in an article, Perimeter and Beyond!, *NCTM Teaching Children Mathematics* journal (2012).
- **Ortiz, Enrique** (**Fall 2011**). *Using Origami activities to teach mathematics*. The objective of the origami activities I have developed is for students to use and identify geometric shapes as they construct *Origami* patters. The ideas of fraction, decimals and percent have been imbedded in the activities. I called these activities "interactive handouts" because they provide a hands-on experience using the handouts. They also provide a way for students to learn how to follow instructions. The *Origami Samurai* is one of the patterns I have developed. The end result is illustrated in the top left corner of the handout. All of the instructions of the origami pattern end up in the back of the final product. Initially, I created these activities to help my daughter when she was in Kindergarten to make the folds and follow the instruction. I have presented these activities to my students and at professional conferences, including the *2012 Annual Meeting of the NCTM.*
- **Ortiz, Enrique**, and Little, Mary (Fall 2009-Summer 2016). *Enhancing Pre-/In-service Mathematics Teacher RtI Data-Based Decision-Making Skills Assessment using Adaptive-Simulated Scenarios*. Undergraduate and graduate students were invited to participate in a study involving Response to Intervention (RtI) data-based decision-making skills assessment using adaptive-simulated scenarios. The participant received an account to enter the electronic simulations. Pre- and post-survey were completed by the participants. Participants completed web-based activities during their own time at home or school computers, no class time was provided. The activities were designed to simulate decision-making procedures using various data sources. Avatars (digital characters) were used to simulate virtual reality.
- **Ortiz, Enrique** (Fall 2007-Summer 2013*). Optical Topography of Evoke Brain Activity During Mental Arithmetic Tasks Involving Different Operations Basic Facts*. Research involving the *Optical Topography System* ($350,000.00) from the *Hitachi Medical Corporation*, Japan. The Hitachi Medical Corporation provided access to the Optical Topography System at UCF, and no cost to UCF, including training from an expert from Japan. Findings were presented at *2013 Annual Meeting of the NCTM.*
- **Ortiz, Enrique** (2005-present). *Assessing the elementary education pre-service teachers use of CPVA learning levels in teaching mathematics*.
- **Ortiz, Enrique** (2005-2019). *Assessing the development of teaching goals of middle school mathematics pre-service teachers*. This research effort has resulted in presentations, and an article that is in preparation.
- **Ortiz, Enrique** (Fall, 1999-Fall, 2016). *Pre-service elementary and secondary school teachers' knowledge of variables*. MAE 5318, MAE 2801, and 4326, University of Central Florida.
- **Ortiz, Enrique** (2003-2006). *Roll out fractions game*. This game was pilot tested and researched with fourth graders at the *Goldsboro Elementary School*, *Seminole County Public Schools*, Sanford, Florida. Modifications were made to the game for use as a training tool in graduate and undergraduate mathematics methods courses, and in-service teacher workshops. Students and teachers have used this game to develop lesson plans and instructional procedures. This research effort has resulted in presentations, and an article published in the *NCTM Teaching Children Mathematics* (2006) journal.

TEACHING

Graduate Courses:

EDG 6329 – Quality Teaching Practice. University of Central Florida. Fall 2020 (21 students), Spring 2020 (*n*=17), Fall 2019 (*n*=21). (3 semester hours). As an attempt to improve the institutional effectiveness of the *M.Ed. in K-8 Mathematics and Science program*, which part of the *Lockheed/UCF Academy Endowment* project, this new course was created (Fall 2018). In fall 2019, it was taught for the first time. It is considered the Capstone course for this program. The fall 2019 and spring 2020 cohorts are also part of Lockheed/UCF partnership with Orange County Public School System. The fall 2019 cohort was the first cohort graduating through this partnership. We have around **100 Tittle School teachers** going through this innovative and unprecedent partnership. I **developed** this course as a project-based, mixed-mode course, including the development of online modules and face-to-face meetings and ***course shepherd*** participation. This program prepares teachers to improve the quality of teaching and learning in mathematics and science in grades K-8. It includes an action research project and a poster presentation based on an action research manuscript. In fall 2019, the first class successfully completed the action research project and poster presentation, and the M.Ed. program.

IDS 6939 – Curriculum Reform in Mathematics and Science. University of Central Florida. Spring 2020, Fall 2019, Summer 2019, Spring 2019, Fall 2017, Fall 2012, Fall 2011, Fall 2010, Fall 2009, Fall 2008, Fall 2007, Fall 2006. (3 semester hours)
For fall 2019, summer 2019 and spring 2019, I have revamped this course in terms of teaching style. It is now a mixed mode course, which allows for online and face-to-face students' participation. I **incorporated** a *Project-based* (*PB*) approach as part of the teaching strategies for this course. The *PB* report involves three phases. Phase I requires the completion of four instruments: *Teaching Goals Inventory*, *Teacher Disposition Scale*, *Epistemology Scale* and *Teacher Belief Scale*. Phase II requires that students analyze their classroom curriculum and evaluate how the results match their perceived implementation of teaching goals, disposition, epistemology and belief. In phase III, they use all of the information for the previous phases and select a curricular/assessment and implement this selection in their classroom. Finally, they evaluate the results of their efforts and what they would like to do differently. They also present an oral presentation to share in class. The **results of the *Curriculum Perspective report*** will be used to analyze the teachers' perspectives and selection of curricular activities. The preliminary analysis of the reports are very encouraging and positive. The teachers seem to have gain a more in-depth perspective as it relates to their curriculum perspective.

ESE 6935 – Introduction Seminar in Secondary Education. University of Central Florida. Summer 2020, Spring, 2020, Summer 2019, Spring 2019, Spring 2017, Spring 2013, Fall 2012. (1 semester hour) This is a mixed mode course, which is offered using online and face-to-face approaches. It is the first of a three-seminar sequence (*ESE 6935*, *ESE 6256 I* and *ESE 6256 II*). I was the first one who taught these course sequence and have been instrumental in developing and stabilizing the sequence and *MAT* program advising. I have to keep effective communication with all the academic advisors for this program. I have developed several tools to help students meet the requirement of the program and provide important information related to the use of technology, classroom management and classroom behavior management. In this sequence, *ESE 6935* is an introductory course for students in the *Master of Arts in Teaching* (*MAT*). It is a teacher certification program that includes a *Graduate Internship*. It has 9 different tracks or content areas for teacher certification: *Middle School Science* or *Middle School Mathematics Education*; and *Secondary School Mathematics*, *Science* (*Physics*, *Biology* or *Chemistry*), *English Language Arts*, *English Language Art with ESOL Endorsement* or *Art Education*. As a program, we decided to have three seminars, one semester hour each, to meet with the student three time during their MAT program. In this course, the students start the completion of the *Via* requirement. Via is a cloud-based system where students upload completed assignments, which, once assessed by the course instructor, allow the college to evaluate student-learning outcomes relative to established standards. This student evidence supports both college and Florida Department of Education Continuous Program Improvement activities, which directly contribute to the quality of student learning experiences. Furthermore, the Art Education track is now a fully online program and I developed fully online web-sections of the three-course sequence

(ESE 6935, ESE 6256 and ESE 6256) for this purpose (Spring 2017-present).

ESE 6256 - Critical Issues in Secondary Education. University of Central Florida. Fall 2020, Summer 2020, Spring 2020, Fall 2019, Summer 2019, Spring 2019, Fall 2018, Spring 2017, Spring 2013, Fall 2012. (1 semester hour) This is also a mixed mode course, which is offered using online activities and face-to-face approaches. The students take this course twice during the *MAT program*. The second time serves as the *Capstone course* for the program, which requires concurrent enrollment and completion of the *Graduate Internship*. The students complete the *Teacher Work Sample* (*TWS*), which is part of the capstone version of the seminars since fall 2018. I adapted the course for this new course requirement. The *TWS* is a performance-based assessment tool for teacher candidates to demonstrate ability to plan, deliver, and assess a standards-based instructional sequence, analyze student learning, and reflect on teacher candidate's instruction and student learning to improve teaching practice. *UCF* teacher candidates are required to plan a unit of study between 5 and 10 days in length.

MAE 6517 – Diagnosis/Remediation of Difficulties in Mathematics for the Classroom Teacher. University of Central Florida. Fall 2018, Fall 2017, Fall 2016, Fall 2011, Fall 2009, Fall 2007, Fall 2005. (3 semester hours)
In fall 2017, I adapted and revise this course as mixed-mode course, including the development of modules and participation as course shepherd. The fall 2017 course section also offered Adobe Connect access to face-to-face class meetings for students in the Volusia County Public School System.

ESE 6427 – Capstone in Secondary Education. University of Central Florida. Fall 2020, Fall 2018. (3 semester hours) This course is the capstone course for the Secondary Education M.Ed. (Social Science, English Language Arts, Mathematics and Science Education). This is a mixed mode course, which is offered using online activities and face-to-face approaches. It was offered for the first time during fall 2018. I developed the curriculum for this course during summer 2018, including preparation of online modules, preparation of the capstone project (professional manuscript for publication and poster presentation based on the manuscript) and participation as the course shepherd. In fall 2018, seven graduate students applied to IRB approval, conducted action research projects at their respective classrooms, developed poster presentations and submitted manuscripts to professional journal with the help of faculty members. All of these efforts were coordinated and guided through this course assignments set up in Webcourses. One of these graduate students **successfully published** an article and is now a doctoral student in UCF Ph.D. Mathematics Education program.

ESE 6936 – Capstone Seminar in Secondary Education. University of Central Florida. Spring 2017, Spring 2013, Fall 2012. (2 semester hours) This was the previous capstone course (ESE 6256) for the MAT in Secondary Education program, and a mixed mode course, which was offered using online activities and face-to-face approaches.

IDS 6934 – Using Technology in Mathematics and Science. University of Central Florida. Summer 2011, Summer 2010, Summer 2009, Summer 2008, Summer 2007, Summer 2006. (3 semester hours). This is a mixed-mode course for the Lockheed/UCF Academy Endowment and other students, which is offered using online activities and face-to-face approaches.

MAE 5318 – Current Methods in Elementary School Mathematics. University of Central Florida. (3 semester hours) This course is part of the program of study for the Master of Arts in Elementary Education and Master of Arts in Exceptional Education.

MAE 5327 – Teaching Middle School Mathematics. University of Central Florida. Summer 2012, Summer 2011, Summer 2010, Summer 2009, Summer 2008, Summer 2007, Summer 2006, Summer 2005. (3 semester hours) I taught this course a new course when I taught it for the first time as part of a newly created Master of Arts in Middle School Mathematics. Most of the students enrolled in this program are supported by the Transition in Mathematics and Science Teaching (T-MAST) program, which is part of the Lockheed/UCF Academy Endowment.

MAE 6641 – Problem Solving and Critical Thinking Skills. University of Central Florida. Spring 2012, Spring 2011, Spring 2009, Spring 2008, Spring 2007, Spring 2006. (3 semester hours) This course is part of the Lockheed/UCF Academy Endowment.

MAE 6337 – Teaching Algebra in the Secondary Schools. University of Central Florida. Developed by the Instructor. (3 semester hours)

MAE 6656 – Design Instructional Computing. University of Central Florida. (3 semester hours)
SSE 6616 – Mathematics/Science Curriculum and Instruction. University of Central Florida. (3 semester hours)
EDE 6933 – Elementary Education Seminar I. University of Central Florida. (3 semester hours)
EDE 6935 – Elementary Education Seminar II. University of Central Florida. (3 semester hours)
EDCI 6240 – Readings on the Teaching of Secondary School Mathematics. University of New Orleans. (3 semester hours)

Undergraduate Courses:

MAE 3311 - Elementary Mathematics for Teaching II. University of Central Florida. **Summer 2018**. (3 semester hours)
MAE 4326 – How Children Learn Mathematics. University of Central Florida. Fall 2020, Spring 2019, Fall 2018, Fall 2017, Spring 2016, Fall 2015, Spring 2014, Fall 2014, Spring 2013, Fall 2013, Spring 2009, Fall 2008, Spring 2008, Spring 2007, Fall 2009, Fall 2006, Spring 2006. (3 semester hours) This is a required course of the bachelor's degree in *Elementary Education*. In an effort to provide an engaged learning experience across disciplines, qualifying **High-Impact Educational Practices (HIPs) courses** are reviewed for one of three UCF HIP designations. Designations will help students quickly and easily enroll in a HIP course to enrich their academic experience, allow departments, colleges, and administrators to track enrollment in HIP courses. In fall 2018, I **submitted** and **received** the *Integrative-Learning Experience* (*IE*) designation for the MAE 4326 sections that I teach. With the *IE designation*, students have a chance to explore integrative pathways that connect the core knowledge and skills of their major to real-world professional and civic contexts. *IE* courses have three core elements: intentional learning, high-impact practices, and metacognition. In this course, the students are involved in project-based learning by diagnosing students in elementary school settings, *TeachLive simulation technology* involving student avatars and Math Clinic opportunities. The *Math Clinic* was **established** by me to facilitate students in this course to work with elementary school students. This includes conducting diagnostic and prescriptive tasks with my help and supervision. I have *UCF IRB* approval to conduct research related to the *TeachLive* and *Math Clinic* research efforts.
EDF 2085 - Introduction to Diversity for Educators. University of Central Florida. **Summer 2018**, **Summer 2017**, **Summer 2016**, **Summer 2015**. (3 semester hours)
I taught this course during the summer and enjoyed it immensely. I was not mathematics related, which my area of expertise, but it allowed me to explore ideas related to social justice and diversity and expand my views related to these subjects.
MAE 4634 – Programs in Teaching of Mathematics. University of Central Florida. **Summer 2012**. (3 semester hours)
MAE 2801 – Instruction of Mathematics in the Elementary School. University of Central Florida. I taught this course fifteen times at the Orlando, Brevard, and Daytona Beach Campuses. (4 semester hours)
EDF 4282 – Application of Technology in Education. University of Central Florida. (3 semester hours)
EDCI 3126 or 3140 - Materials and Methods in Elementary School Mathematics. Louisiana State University or University of New Orleans respectively. It was taught ten times. (3 semester hours)
EDCI 3240 – Materials and Methods in Secondary School Mathematics. University of New Orleans. It was taught two times. (3 semester hours)
EDCI 4744 – Introduction to Computer in the Content Areas. University of New Orleans. (3 semester hours)
EDCI 4993 – Problem Solving in School Mathematics. University of New Orleans. Developed by the Instructor. Summer, 1988. (3 semester hours)

EDCI 4993 – Teaching Mathematics in Middle/Junior High Schools. University of New Orleans. Developed by the Instructor. (3 semester hours)

Graduate Independent Studies:

IDS 6979 – Thesis Research. University of Central Florida. This course is part of the K-8 Master of Education program Lockheed/UCF Academy. Fall 2004-present. (3 semester hours)

MAE 7945 – Internship in Mathematics Education. University of Central Florida. A Ph. D. student carried an internship under my guidance. We co-taught MAE 4634 during summer 2012 (Cheryl Avila, 3 s.h, Summer 2012).

MAE 7980 – Dissertation. University of Central Florida.

MAE 5318 – Current Methods in Elementary School Mathematics. University of Central Florida. (3 graduate students)

MAE 6608 – Independent Study. Precious Cristwell, 3 s.h., Fall 2008; Tara Martina, 1 s.h., Spring 2008, Fall 2011.

MAE 6909 – Independent Study. One student Fall 2007 (Brendali Melgoza, 6 s.h.), 1 students Spring 2008 (Brendali Melgoza, 1 s.h.).

MAE 6517 – Diagnosis Remediation of Difficulties in Mathematics for the Classroom Teacher. University of Central Florida. (Fall 2020, 2 graduate students; Fall 2019, 1 graduate student).

MAE 6908 – Development of a Diagnostic/Prescriptive Case Study. University of Central Florida. Spring, 1997 (1 graduate student).

MAE 6909 – Research Report as part of master's degree. University of Central, Florida. Fall 1998 (1 graduate student).

EDCI 6980 – Analysis of Research in Curriculum and Instruction: Mathematics Education. University of New Orleans. (1 graduate student). Developed by the Instructor.

Chair of Doctoral Student Committees:

- Tapp, Laura (Fall 2014-Summer 2016). Ph.D. Mathematics Education. An Analysis of Undergraduate Elementary School Pre-Service Teachers' Ability to Contextualize Fraction Expressions and Decontextualize Fraction Word Problems. Current position: Mathematics tenure instructor position at Alvin Community College.
- Gault, Rebecca (Fall 2014-Spring 2016). Ph.D. Mathematics Education. A Multiple Case Study Examining How Third-Grade Students Who Struggle in Mathematics Make Sense of Fraction Concepts. Current position: Assistant professor.
- Avila, Cheryl (Fall 2011-Summer 2013). Ph.D. Mathematics Education. Calculus instructors' assumptions of their students' prior knowledge of functions: A multiple-case study.
- Maisonave, Leyzia (Fall, 2008-2010). Ed.D. Curriculum and Instruction in Secondary Mathematics Education. She left the program during summer 2010.
- Price, Beverly (Fall, 2008-Spring 2009). Ed.D. Curriculum and Instruction in Secondary Mathematics Education. She completed her comprehensive exam under my advising and completed her dissertation with another academic advisor.

Co-Chair of Doctoral Student Dissertation Committees:

- Subramanian, Lalitha (Fall 2003-Summer 2005). Using dynamic software to teach proof in mathematics. Ph.D. in Secondary Mathematics Education. Lockheed/UCF Academy. University of Central Florida. Co-Chairs: Drs. **Enrique Ortiz** and Mike Hynes.
- Skidmore, Cheryl A. (Fall, 1998-Fall, 2004). The effect of the math concepts and skills computer program on standardized test scores at Holy Hill Middle School. Ed.D. in Secondary Mathematics Education. University of Central Florida. Co-Chairs: Drs. **Enrique Ortiz** and Stephen Sivo.

Advising of Students:

- Academic Advisor of Educational Doctoral (Ed.D.) graduate students

  - Deanna McDuffie (2017-present)
- Coordinator of the Lockheed/UCF Academy Master of Education in K-8 Mathematics and Science Education (Summer 2019- present)
- Coordinator of the Mathematics and Science Educator Certificate (Summer 2019- present)
- Coordinator of the MAT Teacher Education - Middle School Mathematics Education Track program and the Transition to Mathematics and Science Teaching (T-MAST) (2005-present).
- Academic Advisor of undergraduate students in elementary education (2016-2018).
- Coordinator of the Lockheed/UCF Academy T-MAST program (2001-present).
- Co-coordinator of graduate elementary education programs (2002-2005).
- Coordinator of undergraduate and graduate elementary education programs (2000-2002).
- Interim coordinator of the K-8 Master of Education, Lockheed/UCF Teaching Academy (Fall 2007 - Spring 2008).
- Graduate Coordinator for elementary education (2000-2002).
- Academic Advisor of undergraduate and graduate students in elementary education programs (1989-2000).

Directed Graduate Studies:

The following student has been directed in graduate research reports:

- Skidmore, Cheryl A. (co-directed, Fall, 1998-Fall, 2006)
- Subramanian, Lalitha (co-directed, Fall 2003-Summer 2005)
- Madden, Jeanann. (1997). University of Central Florida.
- Chavez-Mesa, Raquel. (1988). University of New Orleans.

Doctoral Student Committee Member:

- Haught, Deanna L. (Spring 2018-Spring 2020). Chair: Dr. David Boote. Ed.D. program. Evaluating the effectiveness of a Pre-algebra 1 Mini-Camp summer intervention program for rising seventh-grade Algebra 1 students.
- Rumph, DeSheila (Summer 2018-Summer 2020). Chair: Dr. Suzanne Martin. Exceptional Education Ed.D. program. Mathematical Knowledge Teacher Need Instructional Decision Making With Economic Disadvantage Populations.
- Sawyer, Kirk (Summer 2018-Fall 2019). Chair: Dr. Harstshorne. Ed.D. program. Evaluating Pedagogical Methods That Improve Student Homework Assignment Completion.
- Asplen, Brennan (Summer 2018-Spring 2019). Chair: Dr. Johnson. Executive Ed.D. program. A Comparison of Sixth-grade English Language Arts and Mathematics Achievement Between Middle Schools and K-8 Schools (investigate both overall achievement results and equity in the distribution of achievement based on SES).
- Eisenreich, Heidi (Fall 2014-Fall 2015). Chair: Dr. Juli Dixon. Ph.D. in Mathematics Education. Dissertation and comprehensive exam committees.
- Knote, Edwards (Fall 2014-present). Chair: Dr. Erhan S. Haciomeroglu. Ph.D. in Mathematics Education. Dissertation and comprehensive exam committees.
- Campbell, Karemah (Spring 2015-present). Chair: Dr. Carolyn Walker-Hopp. Ed.D. in Mathematics Education. Dissertation committee member.
- Glenn-White, Vernita (Fall 2014-Summer 2015). Chair: Dr. Juli Dixon. Ph.D. in Mathematics Education. Dissertation and comprehensive exam committees.
- Edwards, Debbie (Fall 2014-Summer 2015). Chair: Dr. Carolyn Walker-Hopp. Ed.D. in Mathematics Education. Dissertation and comprehensive exam committees. An Examination of Pre-Service Teachers' Procedural and Conceptual Knowledge of Teaching Fractions.
- Sahin, Nesrin (Fall 2014-Spring 2015). Chair: Dr. Juli Dixon. Ph.D. in Mathematics Education. Dissertation and comprehensive exam committees.
- Brooks, Lisa (Summer, 2012-Summer, 2014). Chair: Dr. Juli Dixon. Ed.D. in Mathematics Education.

- Sotilo, Mercedes (Fall, 2012-Spring, 2014). Chair: Dr. Juli Dixon. Ph.D. in Secondary Mathematics Education. Lockheed/UCF Academy. University of Central Florida.
- Bawatneh, Zyad (Spring, 2012-Fall, 2012). Ph.D. in Secondary Mathematics Education. Lockheed/UCF Academy. University of Central Florida.
- Safi, Farshid (Summer, 2008-Spring, 2009). Chair: Dr. Juli Dixon. Ph.D. in Secondary Mathematics Education. Lockheed/UCF Academy. University of Central Florida.
- Tobias, Jennifer (Fall, 2006-Spring 2009). Ph.D. in Secondary Mathematics Education. Lockheed/UCF Academy. University of Central Florida.
- Roy, George (Fall, 2005-Fall, 2008). Chair: Dr. Juli Dixon. Ph.D. in Secondary Mathematics Education. Lockheed/UCF Academy. University of Central Florida.
- Kinney, Marcey A. (Fall, 2007-Summer, 2008). Ph.D. in Exceptional Education.
- Robertson, Shelby (Fall, 2007-Summer, 2008). Ph.D. in Exceptional Education.
- Debbie Wheeldon (Fall, 2006-Summer, 2008). Ph.D. in Secondary Mathematics Education. Lockheed/UCF Academy. University of Central Florida.
- Andreasen, Janet (Fall, 2004-Fall, 2005). Chair: Dr. Juli Dixon. Ph.D. in Secondary Mathematics Education. Lockheed/UCF Academy. University of Central Florida.
- Lowry, Kim (Fall, 2003-Fall 2005). Ph.D. in Secondary Mathematics Education. Lockheed/UCF Academy. University of Central Florida.
- Moch, Peggy L. (Spring, 2002). Dr. Brumbaugh Using technology with high school algebra students to enhance attitudes and academic performance. Ph.D. in Mathematics Education. Lockheed/UCF Academy. University of Central Florida.
- Large, Ronald B. (Spring, 2002). An analysis of the effects of instructional and motivational strategies on the mathematics levels of fifth grade students at selected low-performing public elementary schools. Ed.D. Curriculum and Instruction in Mathematics Education. University of Central Florida.
- Williams, Carole E. (Spring, 2002). An analysis of Long's reactive behavior patterns relative to the success of students in a community college algebra course. Ed.D. in Community College Mathematics Education. University of Central Florida.
- Wilkinson, Mary E. (Summer, 2001). Foundations of attitudes toward mathematics learning and teaching held by preprofessional elementary school teachers. Ph.D. in Secondary Mathematics Education. Lockheed/UCF Academy. University of Central Florida.
- Schmidt, Diane L. (Fall, 2001). The effects of instructional approaches for teaching computational skills on student achievement as measured by the Florida Comprehensive Achievement Test (FCAT). Ed.D. in Curriculum and Instruction. University of Central Florida.
- Junkins, Nicole R. (Summer, 2000). A study of the impact of long reactive behavior patterns on grade nine placement and achievement in mathematics. Ed.D. Curriculum and Instruction in Educational Leadership. University of Central Florida.
- Lee, Mayke L. (Spring, 2000). A study of academic characteristics of successful and unsuccessful community college statistics students. Ed.D. Curriculum and Instruction in Community College Education.
- Junkins, Nicolene R. (Fall 1999-Fall 2000). Does a student interactive behavior patterns affect placement in grade nine mathematics courses? Ed.D. Curriculum and Instruction. University of Central Florida.
- Childs, Gloria (Spring, 1992). Integrating the NCTM Curriculum Standards for school mathematics and calculus reform recommendations into an applied calculus course. Ed.D. Curriculum and Instruction. University of Central Florida.
- Houpy, Raymond L. (1988). The relationship between a measure of effective teacher behavior and certain supervisor and teacher-evaluator characteristics. Ph.D. University of New Orleans.
- Raviotta, Charles Francis (August, 1988). A study of the relationship between knowledge of individual learning style and its effect on academic achievement and study orientation in high school mathematics students. Ph.D. University of New Orleans.
- Schmitt, Dorren R. (May, 1984). The development and validation of the instrument for software evaluation for educators (ISER). Ph.D. University of New Orleans.

Chair Master's Thesis Committee:

- Klingler, Kelly L. (Summer, 2011-Spring, 2012). Mathematics strategies for effectively teaching problem solving: The influence of teaching mathematical problem-solving strategies on students' attitudes in middle school. Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Twar, Brian J. (Fall, 2010-Spring, 2011). The effect of using Interactive Student Notebook on the understanding of the concepts and algorithms of addition and subtraction of fractions and mixed numbers for fifth grade mathematics students. Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Goss, Patricia (Spring, 2008-Spring, 2009). How does my practice of using graphic organizers during instruction affect students' ability to summarize and comprehend significant earth science content? Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida. She was awarded the 2009 Outstanding Master's Thesis Award by the UCF College of Education.
- Guyton, Pamela (Spring, 2007-Spring, 2008). How Verbal and Written Explanations Impact Low Achieving Students in their Comprehension of the Connections between Decimals and Fractions. Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida.
- Roicki, Joseph (Spring, 2007-Spring, 2008). Effects of Discussion and Writing on Student Understanding of Whole Number Concepts and Operations. Master of Education in K-8 Mathematics and Science Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida.
- Rose, Anna K. (Spring, 2004-Summer, 2005). The nature of students; misconceptions and whether discourse and writing are effective methods for correcting students' misconceptions. Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida.
- Culbert, Kelly (Spring, 2004-Spring, 2005). Writing as a constructivist approach to problem solving. Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida.
- Hess, Janice S. (Spring, 2003-Spring, 2004). Effects of creating meaning in mathematics through real-world activities on fourth-grade students' mathematical performance. Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida.
- Sindone, Nicole (Fall, 2002-Spring, 2003). What is the Connection between Gender Preference in Genre, and Gender of the Protagonist of Books They Read and Reading Performance? Master of Education in Elementary Education. University of Central Florida.

Master's Thesis Committee Member at UCF:

I have been part of several thesis committees every year (**2001-present**) for the M.Ed. in K-8 Mathematics and Science Education, Lockheed/UCF Academy and Endowment program and other programs.

- Dorr, Mariella (Fall 2012-Fall 2017). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy. Dr. Lisa Dieker, Chair.
- Newby, Tara L. (Fall, 2012). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy. Dr. Bobby Jeanpierre, Chair. The implementation of engineering design challenges on 4th grade students' attitudes towards engineering, classroom climate, and writing ability.
- Franco, Veronica (Fall, 2011). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy. Dr. Lisa Dieker, Chair.
- Jablonski, Heather (Fall, 2011). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy. Dr. Janet Andreasen, Chair.
- Friske, Monica (Fall, 2011). Effects of using context supportive of the area model on sixth grade students' performance writing word problems for fraction multiplication. Master of

Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy. Dr. Juli Dixon, Chair.

- Wallace, Bill (Spring, 2009). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Maguhn, Jessica (Spring, 2009). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Scott, Alicia (Summer, 2008). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Hoke, Darlene (Summer, 2008). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Clayton, Angela (Spring, 2007-Summer, 2008). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Ashley, Samuel (Spring, 2007-Spring, 2008). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Ross, Caryn (Spring, 2007-Spring, 2008). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Wittcop, Melissa (Spring, 2007-Spring, 2008). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Jones, Rebecca (Spring, 2007-Spring, 2008). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Nardelli, Marino (Spring, 2006-Spring, 2007). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Hensley, Elizabeth (Spring, 2006-Spring, 2007). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Hosack, Lindsey (Spring, 2005-Spring, 2006). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Estrada, Elsy (Spring, 2005-Spring, 2006). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Campbell, Meghan (Spring, 2005-Spring, 2006). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Egendoerfer. Lisa (Spring, 2005-Spring, 2006). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Allen, Colleen (Spring, 2004-Spring, 2005). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Hull, Lynette (Spring, 2004-Spring, 2005). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Lang, Annie (Spring, 2004-Spring, 2005). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Lopez, Lourdes (Spring, 2004-Spring, 2005). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Lindsey, Tracy (Spring, 2003-Spring, 2004). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Weaver, Karen (Spring, 2004-Spring, 2005). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Somwaru, Paramdai (Spring, 2003-Spring, 2004). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Vila, Ana (Spring, 2003-Spring, 2004). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.

- Apple, Sarah (Spring 2002-Spring 2003). Master of Education in K-8 Education. Lockheed/UCF Academy.
- Stickle, Jennifer (Spring, 2002-Spring, 2003). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Courie, Lisa (Spring, 2002-Spring, 2003). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Gibson, Annette (Spring, 2002-Spring, 2003). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Snow, Christine (Spring, 2002-Spring, 2003). Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Roy, George (Spring, 2001-Spring, 2002). Thematic teaching in an inner city school and its effects on 8th grade algebra students' attitudes and performance in mathematics. Master of Education in Mathematics Education. Lockheed/UCF Academy.
- Rivera, Debbie Ann (Spring, 2001-Summer, 2002). A Dash of Technology: A Study of the Integration of Technology into a Second Grade Science-Based Curriculum. Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.
- Bemiller, Sarah Jane (Spring, 2001-Summer, 2002). The Effects of Teacher Collaboration and Flexible Age Grouping on Kindergarten Students' Mathematics Performance and Attitudes. Master of Education in K-8 Mathematics and Science Education. Lockheed/UCF Academy.

Mentor of Action Research Projects:

I have **mentored** students in the several thesis committees every year for the ***M.Ed. in K-8 in Mathematics and Science Education, Lockheed/UCF Academy and Endowment*** (Fall 2019-present) and Master of Education (M.Ed.) in Secondary Education (Fall 2018-present):

- Brownlie, Renee (Spring, 2020). Perfectionism and Productive Struggle in Geometry. M.Ed. in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida, College of Community Innovation and Education.
  Research Question: How does the implementation of productive struggle habits in Geometry unit help 8th grade students cope with their perception of the importance of perfectionism?
- Bucaro, Mary (Spring, 2020). Impact of a Positive Teacher Relationship with a Trauma Affected Student. M.Ed. in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida, College of Community Innovation and Education.
  Research Questions: What is the impact of strong student-teacher relationships on a trauma affected student's success on the eighth-grade mathematics and district assessments.
- Cole, Tiffany (Spring, 2020). Using Total Physical Response as an Intervention to improve Self-Efficacy and proficiency in Mathematics in African-American boys with ADHD. M.Ed. in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida, College of Community Innovation and Education.
  Research Questions:
  1. How will implementing Total Physical Response (TPR) to teach geometry standards improve self-efficacy in African American Male students?
  2. How will implementing TPR to teach geometry standards improve proficiency in African American Male students?
- Granaham, Jessica (Fall, 2019). Examination of the effects of explicit instruction on key collaborative skills for 4th graders given an engineering task. M.Ed. in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida, College of Community Innovation and Education.
  Research Questions:
  1. How does explicit instruction in group collaborative skills affect 4th graders students ability to work as a team to create a final product?

2. How will explicitly teaching collaborative techniques alter 4th grade students ability to work together in an Engineering task?

- Garroni, Natalia (Spring, 2020). Bilingualism versus Monolingualism in a Pre-Algebra class. M.Ed. in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida, College of Community Innovation and Education.
  Research Question: How does the teaching of Mathematics using bilingualism better support Latinx-English Language Learners (ELL) students' learning of the 8th Pre-Algebra Angle Relationship unit?
- Harris, Pauline & McKinney, Roderick (Spring, 2020). Is Your Classroom Game? M.Ed. in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida, College of Community Innovation and Education.
  Research Question: How does cooperative grouping and the use of academic games improve students' multiplication fluency and affect their attitude towards learning mathematics?
- Lewis-Williams, Ranell (Spring, 2020). I Like to Move It, Move It! Effects of Total Physical Response Method on Mathematical Self-Efficacy and Understanding of Attributes of 2-D Shapes of African American Boys. M.Ed. in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida, College of Community Innovation and Education.
  Research Questions:
  1. Does implementing Total Physical Response Method influence overall mathematical self-efficacy in African American males as measured by a pre and post student survey?
  2. Does implementing Total Physical Response Method improve student understanding of attributes of 2- dimensional shapes as measured by a pre and post assessment?
- Martin, Sheila (Spring, 2020). Increasing Oral Reading Fluency and First-Grade EL Learners. M.Ed. in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida, College of Community Innovation and Education.
  Research Question: What happens to my EL leaners reading fluency when I use reader's theater?
- Vickers, Heather (Spring, 2020). The Power of Numberless Word Problems: Is it all about the Numbers or the Context? M.Ed. in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida, College of Community Innovation and Education.
  Research Questions:
  1. When moving forward with my research project, these are the questions I want to focus on when working the group of students.
  2. How does implementing numberless word problems impact the understanding for students to solve real-world word problems?
  3. How did using the strategies from solving numberless word problems help with solving word problems with numbers?
- Quinonez, Pricilla (Fall, 2019). Parent perceptions of gifted student needs. M.Ed. in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida, College of Community Innovation and Education.
  Research Questions:
  1. What are the effects of a "public school held for only the gifted" on parents' attitudes and perceptions toward their child's learning science and/or math? What are the effects of a "public school serving the gifted in a cluster model" on parents' attitudes and perceptions toward their child's learning science and/or math? How do these perceptions differ?
  2. What are parent perceptions of gifted children's educational needs in a "public school using a pull-out model" compared to parent perceptions in a "public school using a cluster model"?
- Rougeux, Kimberly (Fall, 2019). Foster parent self-efficacy. M.Ed. in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida, College of Community Innovation and Education.
  Research Question: What are some of the reasons foster parents perceive as affecting their foster children's possible success or failure to complete high school?

- Treshonda Rutledge (Fall, 2019). Mathematics tracking: Killing black girls' math purpose. M.Ed. in K-8 Mathematics and Science Education. Lockheed/UCF Academy. University of Central Florida, College of Community Innovation and Education.
  1. Can middle school aged black girls perform successfully on advanced mathematics task regardless of mathematics tracking course placement?
  2. To what extent do black girls' rating of their mathematics abilities change, using a scale that ranged from one to five, when given a chance to excel at advanced mathematics topics?
- Rodeghier, Ian (Fall, 2018). Comparison of the benefits of a blended classroom to a completely digital environment. M.Ed. in Secondary Education. University of Central Florida, College of Community Innovation and Education.
  Research Question:
  1. Were students in either classroom setting more successful with selected standards?
  2. What factors contributed to any increases or decreases in performance?

Honor in the Majors Thesis Committee Member (Bachelor's Degree):

- Quintero, Andrea (Spring 2016-Fall 2016). A qualitative assessment of preservice teachers' perceptions of the at-risk student. Chair: Gina Gresham.
- Murray, Matthew (Spring 2014-Spring 2015). What is implicit about category learning? Honors in the Major Program in Psychology, Psychology Department. Chair: Corey Bohil. This was a study involving the use of fNIRS.
- Duany, John (Spring, 2013-Summer, 2013). Predicting cognitive workload with measures of blood oxygenation in the prefrontal cortex and heart rate. Honors in the Major Program in Psychology, Psychology Department. Chair: Corey Bohil.
- Yader, Rayna (Spring, 2006). E-merging technology for the emerging classroom. B.S. in Elementary Education. Honors in the Major Program in Elementary Education. University of Central Florida.
- Blair, Katherine J. (Spring, 2004). The role of contemporary artist and mathematics in the art classroom. B.S. in Art Education. Honors in the Major Program in Art Education. University of Central Florida.

University Coordinator for Internship I, Internship II, Graduate Internship, and Graduate On-the-job Internship:

Student teachers have been supervised as part of supervision assignments, including elementary, middle and high school levels (1989-present). Voluntarily supervised graduate students in the Transition to Mathematics and Science Teaching (T-MAST) On-the-job Internship (Fall, 2002-Spring, 2003).

Supervised three graduate on-the-job internship students: Fall, 2007, and Spring, 2008.

- Luisa Padilla, Master of Education in Middle School Mathematics, T-MAST program, Ocoee High School, Ocoee, FL
- Mercedes Sotillo-Jorge, Master of Education in Middle School Mathematics, T-MAST program, Ocoee High School, Ocoee Middle School, Ocoee, FL
- Jennifer Carmichael, Master of Education in Middle School Mathematics, T-MAST program, Ocoee High School, Timber Crest High School, Orlando, FL

Professional Development Funds:

- **Ortiz, Enrique** (Summer, 2019). *Faculty Excellence track* of the *Summer Faculty Development Conference*, "Advancing the Development of Associate Professors," which was held May 6-9, 2019. *UCF FCTL Summer Faculty Development Conference 2019*. $800.00.
- **Ortiz, Enrique** (Summer, 2018). Integration of *TeachLive* simulation environment in an Undergraduate Mathematics Education Course. *UCF FCTL Summer Faculty Development Conference 2018*. *Faculty Center*: Our track will focus on redesigning individual courses (May 7-10, 2018). This project supported the development of a research study involving the use of *TeachLive*

simulation environment as a learning method in undergraduate elementary education mathematics methods course (MAE 4326 Helping children learn mathematics). $800.00

- **Ortiz, Enrique** (Summer, 2017). Integration of Case Study Research Methods in an Undergraduate Mathematics Education Course. *UCF FCTL Summer Faculty Development Conference 2017*. *Quality Enhancement Plan* (*QEP*) track. Theme, *What's Next: Integrative Learning for Professional and Civic Preparation*, and that seek to improve undergraduate student learning at UCF. This project supported the development of a research study involving the use of case studies as a research method in undergraduate elementary education mathematics methods course (MAE 4326 Helping children learn mathematics. $800.00 were used to hire a doctoral student to help with data collection and analysis.
- **Ortiz, Enrique** (Summer, 2015). Integrating research methods into an undergraduate elementary education mathematics methods course. *UCF FCTL Summer Faculty Development Conference 2015*: *Office of Undergraduate Research*. This project supported the implementation of undergraduate research involving mathematics with elementary education undergraduate students. $800.00
- **Ortiz, Enrique** (Summer, 2014). *UCF FCTL Summer Faculty Development Conference 2014*: *STEM Proposal Writing Track*. This project supported the development of a research grants involving the use Optical Topography to study mathematics fluency. $800.00
- **Ortiz, Enrique** (Spring, 2014). *UCF College of Education*, *Coyle Fund for Professional Development* to present research paper at the *2014 NCTM Meeting and Exposition*, Philadelphia. $500.00
- **Ortiz, Enrique** (Spring, 2013). *UCF College of Education*, *Coyle Fund for Professional Development* to present research paper at the *2013 NCTM Meeting and Exposition*, Philadelphia. $500.00
- **Ortiz, Enrique** (Spring, 2012). *UCF College of Education*, *Coyle Fund for Professional Development* to present research paper at the *2012 NCTM Meeting and Exposition*, Philadelphia. $1,000.00
- **Ortiz, Enrique** (June 28-30, 2011). *POGIL Southeast Regional Meeting* at Franklin and Marshall College, Lancaster, PA. Scholarship provided for participation in the meeting and workshops by the *POGIL Project*, *NSF Grant*, including housing, meals, and materials for workshops. $1,000.00
- **Ortiz, Enrique** (Summer, 2011). *UCF FCTL Writing Your Journal Article in 12 Weeks* Workshop. This project supported the development and publication of a professional article. $500.00
- **Ortiz, Enrique** (Summer, 2011). *UCF FCTL Summer Faculty Development Conference 2011*. This project supported the development of a research study involving the use of clickers in an undergraduate elementary education mathematics methods course. $800.00
- **Ortiz, Enrique** (Fall, 2009). *UCF College of Education*, *Coyle Fund for Professional Development* to present research paper at the *Lily 2009 Conference* at Traverse City. $900.00
- **Ortiz, Enrique** (Fall, 2008). *UCF College of Education*, *Coyle Fund for Professional Development* to present research paper at the *National Council of Teachers of Mathematics 2009 Annual Conference*. $1,000.00
- **Ortiz, Enrique** (Summer, 2005 & Summer, 2006). SoTL Section of The FCTL Summer Conference Grant. $1,000.00 each.

RECENT PROFESSIONAL AND UNIVERSITY SERVICE

Professional Leadership/Collaboration Activities:

National:

- Technology Facilitator as part of the *Conference Committee of the Association of Mathematics Teacher Educators (AMTE) Annual Conference*. Orlando, Florida (February, 2019).
- Reviewer for the *NCTM Research Committee. National Council of Teachers of Mathematics Annual Research Conference* (Fall, 2018; Fall, 2017; Fall, 2016).
- Reviewer for the *NCTM Annual Conference. National Council of Teachers of Mathematics Annual Research Conference* (Fall, 2018; Fall, 2017; Fall, 2016).
- Reviewer for *Teaching Children Mathematics Journal, National Council of Teachers of Mathematics* (Fall, 2013 – present).
- Reviewer for the *American Educational Research Association* (*AERA) Annual Conference* (Fall, 2018; Fall, 2017)
- Reviewed one *High-Leverage Practice (HLP) Video Pilot: HLP #12: Systematically Design Instruction for the CEEDAR Center and the National Center for Intensive Interventions* (December, 2017). The *CEEDAR Center and the National Center for Intensive Interventions* are creating videos of High-Leveraged Practices (HLPs)(evidence-based practices) for educators to learn more about them. One of the first videos produced by Dr. Michael Kennedy in Special Education at the University of Virginia is on *Specialized Instruction:* https://vimeo.com/241669001.
- Review Panel Member NSF Grant (Spring, 2016). *Integrative Strategies for Understanding Neural and Cognitive Systems (NSF-NCS): INTEGRATIVE FOUNDATIONS and CORE+ SUPPLEMENTS*. http://www.nsf.gov/pubs/2016/nsf16508/nsf16508.pdf
- Developed *Module for Delta Teacher Efficacy Campaign* (Fall 2015). I developed the module for students who struggle with mathematics.
  The *Delta Research and Educational Foundation (DREF)*, in collaboration with *Delta Sigma Theta Sorority, Inc. (DST)*, is embarking upon a potentially highly impactful educational endeavor, which aims to enhance student academic achievement by focusing on improving teacher effectiveness. The *Delta Teacher Efficacy Campaign* emanates from the *Foundation and the Sorority's* joint commitment to ensuring that all students are educated in a manner that prepares them to enter and excel in college, and, ultimately, create a thriving life and career for themselves. *DREF* has received a matching grant of $450,000 from the Bill & Melinda Gates Foundation to support *The Delta Teacher Efficacy Campaign* which will focus on addressing the needs of the teachers.

  The *Delta Teacher Efficacy Campaign* will support teachers serving students of color as it considers the key findings of the *Measures of Effective Teaching* research project conducted by the Gates Foundation. *The DREF-DST* collaborative will include a three-prong approach: training for teachers, conducting advocacy sessions for communities, and publishing scholarly research on teacher efficacy and student achievement in ***PHILLIS: The Journal for Research on African American Women*** published by DREF.
- Co-Chair for the *Conference Committee of the Association of Mathematics Teacher Educators (AMTE) Annual Conference*. Orlando, Florida (February, 2015).
- Member of Editorial Team of *the International Journal for Mathematics Teaching and Learning* (2014-present). This is a joint initiative between the Centre for Innovation in Mathematics Teaching at Plymouth University, UK and the Mathematics Education Department at College of Nyiregyháza, Hungary. This journal is indexed in both ERIC and EBSCO.
- Reviewer for *Mathematics Teacher Educator Journal, Association of Mathematics Teacher Educators and National Council of Teachers of Mathematics* (Fall 2013-present).

- Referee and reviewer for the *Journal for Research in Mathematics Education, National Council of Teachers of Mathematics* (Fall, 20014-present). Reviewed one research article summer 2014.
- *TODOS: Mathematics for All Conference Committee*: *Reviewer of 2015 NCTM Annual Meeting TODOS: Equity Strand Sessions* (2014-present).
- *2014 Research National Council of Teacher of Mathematics (NCTM) Conference Reviewer* (August, 2013).
- *TODOS: Mathematics for All Conference Committee*: Reviewer of *2014 NCTM Annual Meeting TODOS: Equity Strand Sessions* (April, 2013).
- Reviewer of *NCSM's draft position on RTI Interventions* (September, 2012).
- Co-Chair for the *Conference Committee of the Association of Mathematics Teacher Educators (AMTE) Annual Conference*. Orlando, Florida (February, 2013).

Florida:

- Member of the *Orange County Council of Teacher of Mathematics Teacher of the Year* Selection Committee (Spring, 2007, Spring 2008, Spring 2009, Spring 2010 & Spring 2011, Spring 2012).
- Volunteer for the *Conference Committee of the Association of Mathematics Teacher Educators (AMTE) Annual Conference*. Orlando, Florida (February 5-7, 2009)
- Volunteer for the Conference Committee of the TODOS: Mathematics for ALL Annual Conference. Salt Lake City, Utah (April, 2014, April, 2013, April, 2012, April, 2011, April, 2010, April, 2009, April, 2008).
- Nominated and elected for *Vice-president for College of the Florida Council of Teachers of Mathematics (FCTM) Board* and *FCTM Executive Board* (Fall, 2006-Fall, 2008).
- Reviewer for and Co-founder of the *Transformations, a Journal of FAMTE*, (Fall 2015 present).
- Reviewer for *Investigations in Mathematics Learning Journal*, *RCML* (Fall 2015, present).
- Developed *Checklist for Florida Standards* (Fall 2015).
- Reviewer for *Mathematics Teacher Educator Journal*, *AMTE* (Spring, 2014-present).
- Board Member at Large of the *Florida Association of Mathematics Teacher Educators* (Fall 2013-present).
- Referee and reviewer for the *Editorial Pane*l of the *Journal for Research in Mathematics Education*, *National Council of Teachers of Mathematics* (Spring, 2013-present).
- Referee and reviewer for the Editorial Panel of the *Teaching Children Mathematics Journal*, National Council of Teachers of Mathematics (Fall, 1999-present).
  Articles review:
  - Engaging Students In Functional Thinking (August 22, 2012).
  - Plugging into the MATRIX (April 2, 2010).
- Consultation Committee for the development of the Intensive Mathematics curriculum: *Orange County Public School System (OCPSS)* personnel, Drs. Janet Andreasen, Enrique Ortiz, Mary Little and others (Fall, 2010-Spring 2011).
- Referee and reviewer for the Editorial Panel of the *Middle School Mathematics Journal*, *National Council of Teachers of Mathematics* (Fall, 2004-present).

University of Central Florida:

University Service:

- Member of UCF Scroll and Quill Application Criteria Review Committee (Spring 2020). I was invited to participate in this committee to revise the Scroll and Quill application criteria. UCF Faculty Excellence (FE) asked Scroll and Quill members to review the current

criteria for admittance into the Society and suggest possible changes. Our role was consisted of individual review of the existing application and attending meetings to discuss ideas with other committee members and FE personnel.

- Member of Latino Faculty and Staff Association (LaFASA) (Fall 2017-present). Raising Awareness and Advocating for the Needs and Goals of the Latino/a/x Community at the University of Central Florida.
- Member of HIP Course Designation- Review Committee (Fall 2018-Summer 2019). This is a committee that will serve as the final review point for the following course designations – Service Learning (SL), Research Intensive (RI), and Integrative Experience (IE). RI and IE are new designations to the university. The responsibility for this committee includes:
  - Attend two in-person meetings each semester. For fall these days have already been confirmed: Committee charge meeting (September 28, morning) and the review meeting (November 2, morning).
  - Review submissions for all three designations (total amount unknown as of now, since this is a new process, but expected to be between 8-10 per reviewer).
  - Provide feedback as needed to other submissions.
  - This committee will make all final recommendations for designation (pending Dean and Chair approval).
  - Serve Fall 2018 and Spring 2019. Possible renewal for 2019-2020.
  - Provide feedback on the process to strengthen the experience for the faculty submitting and the reviewers moving forward.
- Member of *Research Intensive Course Designation Development Subcommittee*, Kevin Jardaneh, Chair. (Spring 2017-Summer 2019). As part of the UCF Office of Undergraduate Research Council, the committee was charge with the development of definitions, protocols, timeline, and general content of an undergraduate research course.
- Reviewer for UCF Undergraduate Research Journal Library Award (Spring 2018; Spring 2017). Reviewed three research articles that were published in 2017 in the UCF Undergraduate Research Journal for this award.
- Reviewer for the *UCF Fall Office of Undergraduate Research (OUR) Research Grant* applications (Summer, 2018). Reviewed applications to the Fall OUR Research Grants.
- Presenter a course at the ADAGE (Academic Discoveries and Adventures for Gifted Enrichment (ADAGE), Project ELEVATE Summer Program (Summer, 2017). UCF in collaboration with SCPS offered enrichment courses during the summer for Gifted SCPS students sponsored by Project ELEVATE. I presented Tangram activities, *Triangle Puzzle* (original puzzle), and ring puzzles to SCPS gifted students, rising grades 3 to 5 (15 total). June 5-8, UCF campus. This exciting summer program aims to bring gifted students on to UCF CAMPUS for enrichment courses. Students will choose from 6 morning and/or afternoon sessions June 5 and 6 (M; T) to include options such as Robotics, Simulations and Global Learning, Publishing online books, Foreign Language Fun, Ethnic crafts and Anthropology, Philosophy for Kids, Anatomy and Health. June 7 and 8 (W; TR) they will explore the natural environment through the Arboretum and adventures in Science. Week 2 will be at Partin Elementary where students will choose from 6 different morning and/or afternoon sessions (3 hours each day) on interdisciplinary themes that focus on challenging creative and critical thinking, problem-solving, and productivity, presented by dynamic teachers of the gifted.
- Member of UCF Hispanic Serving Institution (HSI) Task Force (**Spring 2017-present**). The Task Force will address the main opportunities related to HSI status and our currently high level of Latino enrollment.
- Reviewer for the UCF Summer Undergraduate Research Fellowship (SURF) applications (Spring 2017). Reviewed 17 applications to SURF.
- Reviewer for UCF Undergraduate Research Journal Library Award (Spring 2017). Reviewed three research articles that were published in 2016 in the UCF Undergraduate Research Journal for this award.
- Advisory Board member for *Discovery Research PreK-12 (DRK-12) NSF Grant* (Fall 2016). NSF grant "Digitizing and Personalizing the Testing Effect: Increasing Capacity, Diversity,

and Efficacy via Remediation-Enhanced Collaborative Learning," PI: Richard Hartshorne Co PIs: DeMara, Campbell, Bai, and Chen.

- Intervention Specialist Advisory Committee Member (Spring 2016). *Project Bridges: Special Educator Preparation in Intensive Interventions*. Advisory Committee Meeting, Thursday, March 3, 2016. UCF Teaching Academy, Room 130.
- UCF Faculty Cluster Initiative (FCI) Pre-proposal: Multidisciplinary Neuroscience Alliance (MDNA): Translational Neuroscience (Spring 2015-present). Cluster leader: Kiminobu Sugaya. Participating units: College of Arts and Humanities, College of Business Administration, College of Education and Human Performance, College of Engineering and Computer Sciences, College of Health and Public Affairs, College of Medicine, College of Sciences, United Technologies Research Center, Institute of Simulation & Training. I am one of the participating UCF Faculty, representing the CEDHP.
- UCF Faculty Cluster Initiative (FCI): CEDHP proposal for FCI hire seeking positions in the areas of (a) learning sciences and (b) computational knowledge (Fall 2016). I will be one of the participating faculty members.
- Undergraduate Research Council (Fall 2014-Summer 2019; Fall, 2007–Fall 2009).
- STEM Day 2015: Festival Expo (November 6, 2015). Tangram Challenge. Presented one mathematics-learning activities for elementary level students. The Center for Initiatives in STEM (*i*STEM) and the Astronaut Scholarship Foundation invited K-12 grade classes to come and explore the exciting fields of science, technology, engineering, and mathematics (STEM) through demonstrations, activities, speakers, and exhibits designed and led by UCF faculty and students.
- Member of UCF Neuroscience Research and Training Alliance (Spring 2015 – present).
- Served as a Reviewer for the selection of recipient of the Summer 2015 Undergraduate Research Fellowships as part of the Undergraduate Research Council Sub-committee.
- STEM Day 2015: Festival Expo (January 30, 2015). Tangram Challenge. Presented two mathematics-learning activities for elementary level students. One Ph.D. student and eight undergraduate students collaborated in the preparation and presentation of the activities.
- Judge for the 2015 Graduate Research Forum: Eighth Annual Showcase of Diverse Student Research, March, 31, 2015, 12:00 p.m. – 2:00 p.m., UCF Student Union, Orlando, Florida.
- Committee member representing STLL in *iSTEM Fellows Program* committee (Fall 2014-present).
- Judge for the 2011 Graduate Research Forum: Eighth Annual Showcase of Diverse Student Research, March, 29, 2011, 1:00 p.m. – 4:00 p.m., UCF Student Union, Orlando, Florida.
- Organized Near Infra-Red Spectroscopy & Optical Topography Lecture, by Dr. Joerg Schnackenberg, Hitachi Medical Corporation, Japan, October 27, 2009, 9:00 a.m. to 11:00 a.m. UCF Teaching Academy, Room 117.
- Roundtable Paper Presentation at the SoTL Day Faculty Showcase (Spring 2010).
- ENLACE (ENgaging LAtino Communities for Education) Florida Advising Board Member (Fall, 2005-Spring 2018).
  The mission of ENLACE FLORIDA is to build a statewide network to improve college readiness, access, and success in higher education for Latino students and other underrepresented groups. With funding from the Kellogg Foundation, ENLACE FLORIDA (2005). The school districts in promote policy change and sustainability in support of Florida's strategic educational objectives.
- Reviewer for the UCF Undergraduate Research Journal (Summer 2005-Spring 2019).

College of Community Innovation and Education (CCIE) (since summer 2018)
(previously College of Education and Human Performance, CEHP)**:**

Committee Service:

- Instructor and Lecturer Promotion Committee (Fall 2019). Each college promotion committee shall consist of at least three (3) instructors or lecturers at or above the rank being sought by the candidate and four (4) tenure earning or tenured faculty, or clinical faculty at the rank of assistant

professor, associate professor, or professor. No more than two members of this committee may be from the same department/unit.

- Volunteered as a Judge for the Graduate Research Forum. UCF Student Union, April 3, 2018.
- CEDHP Associate Dean for Academic Affairs Search Committee (Spring 2016-Summer 2016).
- Served as a member of dissertation panel (June 9, 2015). IDS 7502: Case Studies in Education Research, Instructor: Dr. Glenn Lambie. TA 222.
  The focus of the panel discussion was on different expectations for dissertation proposals and any recommendations panelists had to support the Ph.D. in Education students' through the dissertation process. Students enrolled in this course are completing their coursework in the program and will be entering dissertation hours in the fall or shortly after.
- Served as a Judge for the CEDHP Undergraduate Research Showcase, Poster Presentations, March 18, 2015. Teaching Academy Lobby, University of Central Florida.
- Served as a Judge for the CEDHP Graduate Research Showcase, Poster Presentations, March 1, 2015. Teaching Academy Lobby, University of Central Florida.
- ORC In-House competition – CEDHP research proposal reviewer before submitting to ORC (Spring, 2014).
- Co-chair of Lockheed/UCF Academy Enhancement Grant (Summer, 2013- Fall 2018). Bobby Jeanpierre and **Enrique Ortiz**. Selection of recipients and organization of presentation of awardees' presentations at MIRC.
- Judge of the Lockheed/UCF Academy Enhancement Grant Selection Committee (February, 2013). Lisa Dieker, **Enrique Ortiz**, and Malcom Butler. 10 grants of $1,000 each were selected.
- College of Education Research Committee Member (Summer 2013-Summer 2015).
- College of Education Council Member (Summer 2012-Spring 2013).
- College of Education Faculty Council Chairperson (Summer 2012-Spring 2013).
- College of Education Faculty Council Member (representing the School of Teaching, Learning and Leadership School). (Summer 2011-Spring 2013; Summer, 2005-Fall 2009, and Summer, 2002 – Summer, 2004).
- Coyle Competitive Fund Advisory and Selection Committees (Fall 2010, and Spring 2011).
- Member of the UCF Research Incentive Award RIA Award Selection Committee (Spring 2010-Spring 2011).
- Member of the UCF Research Incentive Award (RIA) Award Selection Committee (Spring 2009-Fall 2010).
- Response to Intervention (RtI) Special Interest Group (SIG) (Fall, 2009-Fall 2016), Dr. Mary Little, coordinator.
- Sabbatical Selection Committee (Fall 2011, Fall 2010).
- STEM Special Interest Group (SIG) (Fall, 2011-Fall 2016), Dr. Lisa Deiker, coordinator.
- RIA Selection Committee (Fall, 2009; Spring, 2009; Fall 2010-Spring 2011).
- Institutional Effectiveness Reports
  - Master of Arts in Teaching (MAT) Middle School Mathematics track, with Dr. Janet Andreasen (Fall 2010)
  - Master of Arts (MA) in Middle School Mathematics Program (Fall 2009, Fall 2008, Fall 2007, Spring 2006)
  - K-8 Master of Education (M.Ed.) in Mathematics and Science Education (Fall 2007)
  - Master of Arts (MA) in Elementary Education Program (2001-2006)
  - Master of Education (M.Ed.) in Elementary Education Program (2001-2006)
- Evaluator of Promotion and Tenure Portfolios (Fall 2010, Fall 2009, Fall 2008).

School of Teacher Education (STE) (since summer 2018)
(previously School of Teaching, Learning, and Leadership, STLL):

- Member of TIP Selection Committee (Summer 2018-Spring 2019)
- Member of Elementary Education Council (Fall 2016-present).
- Member of Elementary Education Faculty Committee (Fall 2016-present).
- Member of the Communication/Visibility Committee, ad hoc committee of the Elementary Education Committee (Fall 2016-present).
- Member of the Ph.D. in Mathematics Education Selection Committee (Spring 2019, Spring 2018, Spring 2017, Spring 2016, Spring 2015, Spring 2014, Spring 2013, Spring 2012, Spring 2011, Spring 2010, Spring 2009).
- Program Coordinator of the MAT: Teacher Education - Middle School Mathematics Education Track (Fall, 2005-present)
- T-MAST Coordinating Advising and Recruiting Committee, Lockheed/UCF Academy for Mathematics and Science Education (2004-present).
- Review Committee for UCF CED School of Teaching, Learning and Leadership Annual Faculty Evaluation Standards and Procedures
- Member of the Secondary and Middle School Education Faculty Committee (Fall 2006-Summer 2016)
- Member of the Elementary Education Faculty Committee (1989-2011).
- Member Elementary Education Advisory Committee (Fall 2008-present).
- Evaluator of Professional Portfolios: Undergraduate and Graduate Programs (Fall 1997-Fall 2010).

Faculty Search Committees:

- STE Lecturer, Art Education (Fall 2018)
- STLL Assistant, Elementary Education (Fall 2014-Spring 2015)
- STLL Instructor or Lecturer, Elementary Education/ESOL (Spring 2014)
- STLL Visiting Professor, Mathematics Education (Fall 2012)
- STLL Visiting Instructor, Secondary, Mathematics Education (Spring 2012)
- STLL Associate Professor or Professor, Educational Leadership & Ed.D. Program Coordinator (Spring 2011)
- STLL Faculty Administrator Search Committee (Fall 2011)

Membership in Professional Organizations:

- American Educational Research Association: Divisions (AERA):
  - C: Instruction and Learning.
  - G: Social Context of Education.
  - K: Teaching and Teacher Education.
  - SIG: Research on Mathematics Education.
  - SIG: Study of Learning Environments.
  - SIG: Microcomputers Applications in Education.
- Association of Mathematics Teacher Educators (AMTE).
- Association for Supervision and Curriculum Development.
- Association of Mathematics Teacher Educators (ATE)
- Mathematics Teacher Educators (MTE) A Special Interest Group (SIG) of the Association of Teacher Educators (ATE)
- Council for Technology in Math Education (CLIME) (an affiliate of NCTM since 1988)
- Florida Association for Computers in Education (FACE).

- Florida Association of Mathematics Teacher Educators (FAMTE).
- Florida Council of Teachers of Mathematics (FCTM).
- International Society of for Technology in Education (ISTE).
- International Mind, Brain, and Education Society (IMBES).
- The Mathematical Association of America (MAA).
- National Council of Teachers of Mathematics (NCTM).
- The National Association for Multicultural Education (NAME): Advancing and Advocating for Social Justice & Equity
- Research Council on Mathematics Learning (RCML).
- TODOS: Mathematics for All