Approved by the Regents May 15, 2014

PROMOTION RECOMMENDATION
The University of Michigan
School of Education

Vilma M. Mesa, assistant professor of education, School of Education, is recommended for promotion to associate professor of education, with tenure, School of Education.

Academic Degrees:

Ph.D.	2000	University of Georgia, Mathematics Education, Athens
M.A.	1996	University of Georgia, Mathematics Education, Athens
B.S.	1987	University of Los Andes, Mathematics, Bogotá, Columbia
B.S.	1986	University of Los Andes, Computer Science, Bogotá, Columbia

Professional Record:

2007-present	Assistant Professor, Educational Studies, School of Education, University of Michigan
2005-2007	Assistant Research Scientist, Educational Studies, School of Education, University of Michigan
2003-2005	Instructional Consultant, Center for Research on Learning and Teaching, University of Michigan
2001-2003	Coordinator of Master's Program in Curriculum Development, Educational Studies, School of Education, University of Michigan
2000-2002	Post-doctoral Research Fellow, Educational Studies, School of Education, University of Michigan

Summary of Evaluation:

Teaching: Since joining the faculty, Professor Mesa has taught a variety of graduate courses in mathematics education and research methods. She has developed four courses, three of which are required in various programs, and one that is an elective and targeted to an interdisciplinary audience that includes students in mathematics, science, engineering, and higher education. Although students often are unenthusiastic about taking some of the more challenging required courses (as suggested by the average score of 3.79 on students' reported "strong desire to take this course" across all of Professor Mesa's teaching evaluations), student evaluations of Professor Mesa's courses and her teaching are highly favorable. The average score across all of Professor Mesa's evaluations for students' reports that "this was an excellent course" is 4.37, and the average scores for students' reports that "the instructor was an excellent teacher" and "I learned a great deal from this course" are 4.56 and 4.45, respectively.

Professor Mesa puts significant effort into class preparation and into helping her students learn, and her efforts are appreciated by students in these classes. In addition, she has used a number of innovative strategies in her teaching that exemplify the constructivist approach to teaching that she espouses in her research and writing. She involves students in debates about important topics related to mathematics education, engages them in synthesizing their coursework through poster fairs articulating what they have learned in the course, and provides short assignments on topics of interest that convey useful feedback to her on what they are learning. She is reflective

in her teaching and uses the evidence from her evaluations to review and adjust accordingly her teaching and curriculum.

Moreover, she has actively mentored more than 50 students, including working in some capacity with 33 doctoral students, eight undergraduate students, eight master's students, and one visiting scholar from China. She won the 2009 UROP Outstanding Mentoring Award for her work with undergraduate students. She has served as dissertation chair on four committees and as an advisor on four other committees. Finally, she mentors graduate students through her research projects, helping them in all aspects of the research, including logic, design, and writing for publication. In fact, a number of her students are co-authors on her papers.

Research: Professor Mesa's research examines how various supports—textbooks and curriculum, pedagogical approaches, and student interaction—can best facilitate the learning of mathematics at the post-secondary level. Her work has two major foci: instruction (how math is taught in community colleges) and curriculum (how textbooks are constructed and how they are used in instruction). Her overarching research goal is to understand how textbooks, instructors, and students interact in order to create opportunities for students to learn mathematics in post-secondary education.

Professor Mesa's work aims to guide reform of mathematics instruction in post-secondary institutions, with particular emphasis on the important and understudied area of community college mathematics education. This context for her work is particularly noteworthy. Although a large number of students begin their post-secondary education at community colleges—45 percent of all U.S. undergraduates were enrolled in public two-year colleges during the 2011–12 academic year—few scholars study the instruction that occurs within these institutions. In her work, Professor Mesa analyzes learning opportunities, and how teaching can shape the curriculum as much or more than how curriculum may shape teaching.

Professor Mesa's scholarly record includes more than $2.4 million in external research grants on which she was the principal investigator or co-principal investigator, 17 peer-reviewed journal articles, a variety of other articles in non-refereed outlets, eight chapters in edited texts, and one book. She also has contributed a long line of technical reports and conference papers, reflecting a serious and directed trajectory of work focused on the improvement of teaching of mathematics in higher education. Her work is seen in top-tier, high-impact journals, such as *American Educational Research Journal*, as well as more specialized journals in mathematics and higher education. Her publications are carefully argued, methodologically sophisticated, and thoughtfully presented, and her productivity is high.

Recent and Significant Publications:

Mesa, V., Celis, S., & Lande, E. (in press). Teaching approaches of community college mathematics faculty: Do they relate to classroom practices? *American Educational Research Journal.*

Mesa, V., Suh, H., Blake T., & Whittemore, T. (2013). Examples in college algebra textbooks: Opportunities for students' learning. *Problems, Resources and Issues in Undergraduate Mathematics Studies, 23* (1), 76-105.

Mesa, V. (2012). Achievement goal orientation of community college mathematics students and the misalignment of instructors' perceptions. *Community College Review, 40* (1), 46-74.
Mesa, V. & Giffiths, B. (2012). Textbook mediation of teaching: An example from tertiary mathematics instructors. *Educational Studies in Mathematics, 79* (1), 85-107.
Mesa, V. (2011). Similarities and differences in classroom interaction between remedial and college mathematics classrooms in a community college. *Journal of Excellence in College Teaching, 22* (4), 21-56.

Service: At the national level, Professor Mesa has developed a very strong record of service. She currently serves on editorial boards of three international journals, and, in the past, she has served on the editorial board of the *American Educational Research Journal*, which is a top-tier journal in the field of education. She has reviewed for an exceptional number of journals (17) and six conferences in mathematics education, and she has been a reviewer for the National Science Foundation and the Institute of Education Sciences.

Professor Mesa has contributed time and effort in service to the School of Education and to the broader academic community. At the school level, she has served on the Graduate Affairs Committee, the Educational Studies Executive Committee, and the School of Education Executive Committee. In addition, she has participated actively in student recruitment, admissions, and evaluations for the mathematics education unit and in the redesign of the master's program. Professor Mesa has provided extensive service to the Educational Studies program and has played an important role in the mathematics education program, in teaching of doctoral seminars, and in student advising. Professor Mesa also has contributed to service activities at the university level, participating in the Center for Research on Learning and Teaching's Preparing Future Faculty Seminar and in workshops on research methods in education for the College of Engineering.

Professor Mesa has been an active member of the Ann Arbor community through her work and fundraising activities with Alpha House, a shelter for homeless families. She has also run literacy and mathematics clubs for Spanish-speaking students. In sum, Professor Mesa has provided service to the profession, the university, and the community that exceeds the norm for an assistant professor.

External Reviewers:
Reviewer A: "Dr. Mesa's work is characterized by a blend of, on one hand, systematic, carefully designed steps and arguments, with, on the other hand, creative, insightful, and sometimes unusual (but always appropriate) research processes. . .Dr. Mesa's work is excellent in terms of quality and quantity, range and focus and impact. Her work weaves together questions about teachers, learners, instructional practices, content and curricular processes and materials, all situated in her deep awareness of the particular opportunities and challenges associated with the learning of mathematics in the community college context."

Reviewer B: "One sign of the profession's recognition of a scholar's contributions is the invitation to serve on editorial boards and advisory panels. Dr. Mesa already has a list of these activities that speaks well of the reputation she has acquired. Her level of engagement in these kinds of activities is unusual for an Assistant Professor."

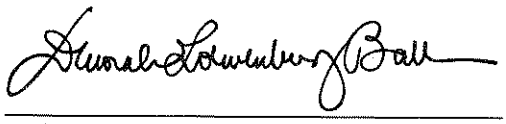
Reviewer C: "Dr. Mesa is a productive and diligent researcher who is making important contributions to mathematics education nationally and internationally. Her work is of the highest caliber."

Reviewer D: "The [publications] are of the highest quality, raise important intellectual issues, and show careful consideration of both theory and methods."

Reviewer E: "Professor Mesa is sincerely committed to improving the quality of teaching in higher education via its content, and in this era, I think that is exactly what we should be doing."

Reviewer F: "Dr. Mesa's work is solid and directed at important issues."

Summary of Recommendation: Professor Mesa is a promising scholar with a solid record of obtaining research grants and publishing her work in the top journals in education. Her work reflects both a commitment to understanding how learning opportunities can be constructed for students in post-secondary education settings and an originality that sets her work apart in the field, making it a unique contribution. It is theoretically grounded, empirically based, and practical in its implications for student learning and achievement in mathematics. Professor Mesa's teaching is equally strong. She has mentored many students in her research and teaching activities, and often has taught challenging courses with considerable success. Quantitative evaluations of her courses are high, and qualitative comments speak to her care and effort in her work with students. Lastly, her service record attests to her commitment to the profession through her many activities at the national level, as well as her leadership and considerable work within the university, school, and local community. It is with the support of the School of Education Executive Committee that I recommend Vilma M. Mesa for promotion to associate professor of education, with tenure, School of Education.



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