

TITLE 6 PRIMARY AND SECONDARY EDUCATION
CHAPTER 64 SCHOOL PERSONNEL – COMPETENCIES FOR LICENSURE
PART 19 COMPETENCIES FOR ELEMENTARY MATHEMATICS SPECIALISTS

6.64.19.1 ISSUING AGENCY: Public Education Department, hereinafter the department.
[6.64.19.1 NMAC – N, 9/15/2020]

6.64.19.2 SCOPE: This rule applies to all institutions of higher education in New Mexico that establish or maintain a curriculum for persons seeking an endorsement as an elementary mathematics specialist to a state educator license.
[6.64.19.2 NMAC – N, 9/15/2020]

6.64.19.3 STATUTORY AUTHORITY: This rule is promulgated pursuant to Sections 22-2-1, 22-2-2, and 22-10A-3 NMSA 1978.
[6.64.19.3 NMAC – N, 9/15/2020]

6.64.19.4 DURATION: Permanent.
[6.64.19.4 NMAC – N, 9/15/2020]

6.64.19.5 EFFECTIVE DATE: September 15, 2020, unless a later date is cited at the end of a section.
[6.64.19.5 NMAC – N, 9/15/2020]

6.64.19.6 OBJECTIVE: The objective of this rule is to establish elementary mathematics specialists competencies that are based on what elementary mathematics teachers are required to know and be able to support effective elementary mathematics programs in New Mexico schools. The competencies were developed to ensure alignment with the New Mexico content standards and benchmarks for mathematics and with the national standards of the association of mathematics teacher educators.
[6.64.19.6 NMAC – N, 9/15/2020]

6.64.19.7 DEFINITIONS:

A. “Cultural and linguistic responsiveness” means learning environments, instructional materials, curriculum, support services, activities, and professional development that inform culturally and linguistically responsive pedagogy; reflect the cultures, languages, and lived experiences of a multicultural society; address multiple ethnic descriptions, interpretations, or perspectives of events and experiences; and encourage critical pedagogy.

B. “Professional learning experience” means the demonstration of leading professional learning or working with professional learning providers to support mathematics understanding and implementing content and pedagogy.

C. “Work experience” means the demonstration of knowledge and skills related to teaching mathematics.

[6.64.19.7 NMAC – N, 9/15/2020]

6.64.19.8 REQUIREMENTS:

A. Teachers seeking to add an endorsement as an elementary mathematics specialist to an existing New Mexico level two or level three-A teaching license shall meet the following requirements:

- (1) hold a level two or three-A teaching license for a minimum of three years; and
- (2) hold a teaching license in elementary education, as provided in 6.64.4 NMAC and 6.61.2

NMAC.

B. Teachers seeking to add an endorsement as an elementary mathematics specialist shall do so through one of the following pathways:

(1) Provide evidence of five years of relevant work and professional learning experience in K-8 mathematics that is approved by the department. Candidates are required to provide demonstration of experience by submitting a resume and at least three verification letters stating the candidate has at least five years of relevant work and professional learning experience in the area of mathematics, mentoring educators in K-8, and participates in ongoing learning, which can be submitted from the following individuals:

- (a) a school district superintendent, director of a charter school, or curriculum and instruction director;
- (b) a school site administrators; or
- (c) professional learning provider director or team leader.

(2) Complete 18 semester hours of mathematics education coursework, of which nine semester hours are required to be upper division credit, based on the competencies detailed in 6.64.19.9 NMAC in a department-approved program.

[6.64.19.8 NMAC – N, 9/15/2020]

6.64.19.9 COMPETENCIES FOR ELEMENTARY MATHEMATICS SPECIALISTS: Leadership knowledge and skills:

A. The elementary mathematics specialist takes an active role in their professional growth by participating in professional development opportunities that directly relate to the learning and teaching of mathematics and to their development as a mathematics instructional leader, which may include professional networks, journals, and discussion groups, among other opportunities. The opportunities shall also include occasion to stay informed of:

- (1) critical issues in elementary mathematics;
- (2) national, state, and school district or charter school policy initiatives;
- (3) research - and evidence-based best practices for elementary math instruction;
- (4) characteristics of high-quality curriculum;
- (5) features of high-quality instructional materials; and
- (6) qualities of superior professional learning and best practices for designing adult learning environments.

B. The elementary mathematics specialist shall engage in and facilitate continuous and collaborative learning, drawing upon research in mathematics education to:

- (1) inform practice and enhance learning opportunities for all students' and teachers' mathematical knowledge development;
- (2) design and implement collaborative structures to build teacher capacity; and
- (3) advance their own development and the development of others as reflective practitioners in utilizing group processes to collaboratively solve problems, make important decisions, manage conflict, and promote meaningful change.

C. The elementary mathematics specialist shall act and communicate professionally with school and school district or charter school teams to assure high-quality mathematics instruction, including:

- (1) evaluate alignment of instructional materials to state standards and required assessments and make recommendations for addressing learning and achievement gaps;
- (2) engage in discussions and decision-making to establish appropriate benchmarks for student learning goals from K-6;
- (3) review curriculum and instructional materials for cultural and linguistic responsiveness and make recommendations to enhance culturally and linguistically diverse students' access to high-quality mathematics materials;
- (4) determine the suitability of mathematics curricula and teaching materials (e.g., textbooks, technology, manipulatives) for particular learning goals;
- (5) provision appropriate tools and resources targeted to specific individual student needs;
- (6) collaborate with school-based professionals to develop evidence-based interventions for high- and low-achieving students; and
- (7) collaborate with teachers and school administrators to secure additional resources as needed to maintain high expectations in mathematics classes for all students.

D. The elementary mathematics specialist shall plan, develop, implement, and evaluate professional development programs that assist teachers in using resources from professional mathematics organizations and support teachers in systematically reflecting and learning from practice.

E. The elementary mathematics specialist shall establish and maintain learning communities, such as professional learning communities.

F. The elementary mathematics specialist shall mentor new and experienced teachers to better serve students in terms of mathematics instruction and classroom support.

G. The elementary mathematics specialist shall nurture a culture of productive professionalism by:

- (1) modeling a growth mindset and productive disposition toward mathematics teaching and learning for all staff and students;
- (2) supporting a culture of reflection, refinement, and action focused on continuous improvement in classroom best practices;
- (3) fostering a culture of collective responsibility and a school climate that treats students as holistic beings;
- (4) promoting the use of data analysis to drive decisions around mathematics instruction; and
- (5) communicating and working with school staff, administrators, families, and various stakeholders to create mutually beneficial partnerships and a shared vision of mathematics teaching and learning.

[6.64.19.9 NMAC – N, 9/15/2020]

6.64.19.10 PEDAGOGICAL KNOWLEDGE FOR TEACHING MATHEMATICS:

A. To promote and advocate for equitable, high-quality mathematics instruction for all students, the elementary mathematics specialist shall collaborate with teachers and administrators in supporting the diversities of the classroom and school, including cultural, disability, linguistic, gender, socioeconomic, and developmental, to:

- (1) address issues of access and advancement at the individual student, classroom, school, school district, and charter school levels;
- (2) establish clear goals within individual student learning progressions that utilize and build upon learners' existing knowledge, skills, understandings, conceptions, and misconceptions to advance learning and use the goals to guide instructional decisions;
- (3) purposefully construct guidelines and support for promoting a mathematics learning culture within the classroom environment, including specific routines and instructional strategies that help cultivate positive mathematics identities for all students;
- (4) design student learning opportunities that:
 - (a) promote engagement in productive struggle and collaborative problem solving and extend the meaning and usefulness of mathematics in students' daily lives;
 - (b) intentionally reward effort in mathematical learning;
 - (c) allow space for all students' mathematical sense-making and include multiple entry points into problem solving;
 - (d) engage all students in making connection among mathematical representations to deepen understanding of mathematical concepts and procedures as tools for problem solving;
 - (e) provide ample opportunity for all students to engage in academic discourse around mathematical problem solving as well as for individual expression in problem solving, such as through oral or written explanation or sharing of mathematical thinking;
 - (f) utilize purposeful questions to assess and advance all students' reasoning and sense-making about important mathematical ideas and relationships;
 - (g) diagnose and leverage mathematical misconceptions and errors to design appropriate learning opportunities that support all students' mathematical conceptual development, understandings, and identities;
 - (h) integrate the use of appropriate mathematical tools and technology as essential resources to support students in making sense of mathematical ideas and communicating their mathematical thinking;
 - (i) encourage mathematical explorations among peers to extend learning opportunities; and

(j) assess all student abilities, through formative and summative assessments, and develop actionable strategies to help all students fill in learning gaps; and

(5) Reflect and take action to adjust instructional approaches characterized by:

(a) the use of evidence to adjust instruction continually in ways that support and extend learning for all students, including differentiation and enrichment;

(b) the use of strategies deliberately designed to support specific groups of student learners; and

(c) organized support of delivery of developmentally appropriate instruction that is responsive to individual learners.

B. To promote pedagogical shifts and professional growth for self and teachers, the elementary mathematics specialist shall:

(1) model effective problem solving and the mathematical practices, including questioning, representing, communicating, conjecturing, making connections, reasoning and providing, and self-monitoring, and cultivate the development of such practices in all learners;

(2) model and support teachers and students in the use of technical language associated with mathematics, attending to both mathematical integrity and usability by learners;

(3) support the use of various instructional applications of technology that are evidence-based and are developmentally-, mathematically-, and pedagogically-grounded;

(4) research and share evidence-based instructional formats that support all students in accessing mathematical problems, including whole group, small group, partner, and individual, and that support success in achieving specific student learning goals;

(5) support teachers in their analysis and evaluation of student ideas and work, and design appropriate responses to support and further student mathematical learning, aligned to individual goals;

(6) apply learning trajectories related to mathematical topics and collaborate with teachers to sequence activities and design instructional tasks and assessments;

(7) support teachers in the use of the formative assessment cycle, which includes administering a formative assessment task, analyzing student responses to the task, and designing and re-teaching lessons based on this analysis; and be able to find or create appropriate resources for this purpose;

(8) support teachers in the use of multiple assessment strategies, including, but not limited to listening to and observing students making sense of mathematics, and in analyzing, choosing, designing, and adapting assessment tasks for monitoring student learning and to assess students' mathematical knowledge, based on students' individual learning goals and expressions and demonstrations of understanding; and

(9) support teachers in the analysis of formative and summative assessment results and communication of results to students with actionable feedback and to appropriate and varied audiences for further support in making instructional decisions.

[6.64.19.10 NMAC – N, 9/15/2020]

HISTORY OF 6.64.19 NMAC: [RESERVED]