NCTM | NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS

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EXECUTIVE SUMMARY

Early Childhood Mathematics: Promoting Good Beginnings

A joint position of the National Association for the Education of Young Children (NAEYC) and the National Council of Teachers of Mathematics (NCTM)[1]

Position

The National Council of Teachers of Mathematics and the National Association for the Education of Young Children affirm that high-quality, challenging, and accessible mathematics education for three-to-six-year-old children is a vital foundation for future mathematics learning. In every early childhood setting, children should experience effective, research-based curriculum and teaching practices. Such high-quality practice in turn requires policies, organizational supports, and adequate resources that enable teachers to do this challenging and important work.

Rationale

As a society, we are becoming more aware of the importance of early experience in learning to read and write. A similar awareness with respect to mathematics is critical. Early childhood mathematics has a growing knowledge base about learning and teaching as well as an expanding array of research-based curriculum resources. Teachers are eager to provide young children with good beginnings. Now professional preparation programs, education agencies, policymakers, and other partners must mobilize the commitment and resources to apply what we know, support teachers' work, and generate significant progress in early childhood mathematics.

Recommendations

In high-quality mathematics education for three-to-six-year-old children, teachers and other key professionals should

- enhance children's natural interest in mathematics and their disposition to use it to make sense of their physical and social worlds;
- build on children's varying experiences, including their family, linguistic, and cultural backgrounds; their individual approaches to learning; and their informal knowledge;
- base mathematics curriculum and teaching practices on current knowledge of young children's cognitive, linguistic, physical, and social-emotional development;
- use curriculum and teaching practices that strengthen children's problem-solving and reasoning processes as well as representing, communicating, and connecting mathematical ideas;
- ensure that the curriculum is coherent and compatible with known relationships and sequences of important mathematical ideas;
- provide for children's deep and sustained interaction with key mathematical ideas;
- integrate mathematics with other activities and other activities with mathematics;
- provide ample time, materials, and teacher support for children to engage in play, a context in which they explore and manipulate mathematical ideas with keen interest;
- actively introduce mathematical concepts, methods, and language through a range of appropriate experiences and teaching strategies;
- support children's learning by thoughtfully and continually assessing all children's mathematical knowledge, skills, and strategies.

To support high-quality mathematics education, institutions, program developers, and policymakers should

- create more effective early childhood teacher preparation and continuing professional development in mathematics;
- use collaborative processes to develop well-aligned systems of appropriate, high-quality standards, mathematics curriculum, and assessment;
- design institutional structures and policies that support teachers' mathematics learning, teamwork, and planning;
- provide resources necessary to overcome the barriers to young children's mathematical proficiency at the classroom, community, institutional, and system-wide levels.

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[1] This position is elaborated in the full version of the joint statement at www.naeyc.org/resources/position_statements/positions_intro.htm.