

November 22, 2002

President Jennifer L. Sheets
State Board of Education
32700 Cotterill Road
Pomeroy, Ohio 45769

Subject: Proposed Change in Adding a “Generalist Endorsement” to the Middle Childhood Teacher Licensure

Dear President Sheets,

One of the mandates of the HR 1 (No Child Left Behind) is for states to have “highly qualified teachers in every classroom by 2005.” This legislation directs federal funding toward “research-based programs that have been proven to help most children learn.” Ohio’s previous certification system for elementary school teachers required only two courses (six hours) in mathematics and this proposal (to add the Generalist Endorsement to the Middle Childhood Teacher Licensure), like our old system of certifying elementary teachers, is insufficient to prepare “fully qualified” teachers for today and the future.

Current research in teaching and learning mathematics has found that most students do not engage in learning significant mathematics without the support of a teacher who has both a deep understanding of mathematics and knowledge of how children learn mathematics. Studies on determining elementary teachers’ understanding of *fraction* found that many of these teachers had, at best, only a superficial understanding of this concept (Liping Ma, Knowing and Teaching Elementary Mathematics, 1999). This is one of the main concepts elementary students need to learn in 4th and 5th grade mathematics. “Preparing future teachers to be effective in implementing reform-based mathematics instruction requires teachers to develop a qualitatively different and significantly richer understanding of mathematics than most teachers currently possess.” (Battista, 2001)

Thus, reducing the amount of mathematics to only six hours for the proposed license will have immediate and long-term negative effects for Ohio’s middle childhood students and on their performance on national and international tests. In addition, acceptance of this proposal rejects the recommendations of leading professional organizations: 1) The Conference Board of the Mathematical Sciences Mathematical Education of Teachers Project Report recommended that middle school teachers of mathematics (Grades 5–8) should take at least **21 semester hours** of mathematics; and 2) the National Council of Teachers of Mathematics, when developing the National Council for Accreditation of Teacher Education (NCATE) guidelines for middle school teachers, recommended that **24 semester hours** of mathematics be taken. If Ohio accepts this proposal to reduce teacher preparation in mathematics and science, our state ultimately becomes even less competitive for businesses and jobs that require a technologically and mathematically competent workforce.

Therefore, the Ohio Mathematics and Science Coalition (OMSC) strongly opposes the proposed change to the Middle Childhood Teacher Licensure.

OMSC does recognize that mathematics and science teachers will be in short supply for the foreseeable future and therefore proposes alternative solutions for consideration (*please see Attachment A*).

Thank you for considering our views in opposition to the proposed licensure changes.

Very truly yours,

Janet Herrelko, Ed.D.
Chair

cc: State Board of Education Members

ALTERNATIVE PROPOSAL TO THE MIDDLE CHILDHOOD GENERALIST ENDORSEMENT

*Presented to the
Ohio State Board of Education
by the
Ohio Mathematics and Science Coalition (OMSC)
November 2002*

We, the Ohio Mathematics and Science Coalition (OMSC), offer the following proposal and other suggested activities, which we believe must also occur simultaneously, to combat the current shortage of qualified teachers of mathematics in Grades 4-6.

A single concentration endorsement should be created for Grades 4-6 and require a minimum of **18 semester hours** of mathematics and 2 mathematics methods courses or 1 mathematics methods course and an additional (**total of 21 hours**) mathematics coursework. Further, that the mathematics coursework be inquiry-based and focus on: number and operations (particularly rational numbers), geometry and measurement, data analysis and probability, and algebra.

We also believe that the following additional action is required to meet the short-term and long-term needs for mathematics education in the state of Ohio:

- Provide support to assist colleges of education and departments of mathematics around the state to create new mathematics courses appropriate for teachers of mathematics at these grade levels (Grades 4-6).
- Provide existing teachers of mathematics in these grades with appropriate mathematics courses to deepen their understanding of the topics they teach (Grades 4-6).
- Begin immediately to pay the full tuition costs for those students or current teachers who focus in mathematics teaching at either Grades 4-9 or 7-12 levels to take additional mathematics with the agreement they teach mathematics in the state of Ohio for a minimum of 2 years.
- Require that renewals of licenses for this area include continual professional development in mathematics and mathematics education.

In addition, we feel that it is important to note that although our letter and alternative proposal specifically argue against a Middle Childhood Generalist teaching Grades 4-6 mathematics, we equally oppose, via similar arguments, a Middle Childhood Generalist teaching Grades 4-6 **science** as well.