

Improving Student Achievement Through Designated District And School Mathematics Program Leaders

Our Position

The National Council of Supervisors of Mathematics (NCSM) believes that strong, programmatic leadership is essential to the improvement of mathematics instruction and achievement for all students. Therefore, we urge the designation and support of leaders of mathematics programs at the school district and school building levels. These designated leaders should be responsible for coordinating the planning, implementation and evaluation of mathematics programs. They should serve as informed resources in the areas of curriculum design, professional development, instructional strategies, student and program assessment, and the development of partnerships with the broader community.

Improvement of mathematics programs and increases in student achievement in mathematics result from carefully designed changes in curriculum and instructional strategies, and in assessment practices that support both curricular expectations and pedagogical practices - all in alignment with the vision of national standards. There are no magic bullets or simple formulas to accomplish this. There is, however, the recognized strategy of designating and supporting mathematics program leaders to help meet the challenges we face.

The Case For Designated Mathematics Program Leaders

It is clear that the demands upon teachers of mathematics have never been greater:

- Society in general and a changing workplace demand broader mathematical literacy for every student;
- Technology forces reconsideration of what mathematics is essential and how best to teach this mathematics; and
- National standards and the higher expectations they represent have heightened the need for updating the knowledge and skills of teachers of mathematics as these standards are translated into the district, school and classroom levels.
- These demands and the changes in classroom practice that they imply require different and more effective forms of leadership to help shape and direct improvement.

When we want a job done we designate an individual to get it done. We assign responsibility, we establish expectations,

and we provide necessary support. This applies to an endeavor as simple as the PTA Bake Sale or as complex as the purchase of a new fleet of school buses. It applies to how we designate coordinators for programs like special education or directors to oversee district athletics programs. Likewise, it applies to district and school mathematics programs where the effectiveness of such programs increasingly depends on designated and supported mathematics program leaders.

NCSM takes this position in the belief that high-quality, well-informed district and school level leadership in mathematics is an indispensable component of world-class mathematics programs for students.

The Role of Designated Mathematics Program Leaders

To meet these challenges, there is a range of essential responsibilities that district and school mathematics program leaders can be expected to assume:

In the area of curriculum design:

- coordinate the development and implementation of a standards-based curriculum;
- ensure curricular alignment and coordination between grades, levels and courses;
- assist teachers in integrating mathematics into other disciplines and the content of other disciplines into mathematics;

- guide the ongoing review and revision of the curriculum.

In the area of instructional strategies and materials:

- recommend programs and materials, and oversee their piloting, adoption, and the evaluation of their effectiveness;
- share knowledge about successful and innovative strategies with teachers;
- assist teachers in incorporating technology into daily instruction;
- assist teachers by modeling effective instructional strategies.

In the area of assessment:

- assist teachers in designing and implementing a broad range of assessment tools;
- ensure the alignment of assessment instruments with the curriculum;
- use assessment results to improve curriculum and instruction;
- interpret the results of assessment for parents and the community at large.

In the area of professional development:

- assess needs for professional development;

- conduct or facilitate professional development activities, and motivate colleagues to engage in ongoing professional growth and development;
- encourage involvement in professional organizations;
- design and encourage opportunities for professional sharing and interaction between and among colleagues, and advance other effective professional development strategies;
- promote professional visits among teachers between classrooms, schools, and districts.

groups that influence the shape and direction of school mathematics programs.

In summary, designated district and school mathematics program leaders should be expected to:

- address concerns and promote excellence in mathematics education for all students;
- be visionary agents of positive change, knowledgeable about national standards, aware of current research, and able to translate these standards and this research into classroom practice;
- link stakeholders in education and enlist their support in improving the quality of the teaching and learning of mathematics.

In the area of forging partnerships:

- communicate with committees, school boards, administrators, teachers, parents and students about the importance of mathematics and the need for high quality mathematics programs;
- cultivate connections with the post-secondary mathematics and mathematics education communities, and with local business and industry personnel;
- establish and support forums and encourage dialogue among

NCSM believes that these responsibilities are core aspects of effective mathematics programs. Certainly, programs can survive without designated leaders. However, busy principals and full-time teachers cannot reasonably be expected to carry out more than a few of these responsibilities. Accordingly, the process of moving mathematics programs from fair to good to truly excellent demands designated mathematics program leaders.