

AMATYC Position Statement Academic Assessment of Mathematical Programs

The American Mathematical Association of Two-Year Colleges (AMATYC) recommends that each college place an emphasis on assessment of mathematical programs with the focus on improving student learning. AMATYC recommends that assessment instruments measure the full range of what students are expected to learn as emphasized in the *Crossroads in Mathematics: Standards for Introductory College Mathematics Before Calculus*.

Program assessment, conducted by mathematics faculty, provides direction for improvement in the mathematics curriculum and the quality of instruction, thereby improving student learning. It should be directly linked to program goals and objectives, which should be derived from the mission statement of the institution and the mission of the mathematics department. Program assessment involves the collection of information about the quantity and quality of students' knowledge based on expected student outcomes.

Assessment is most effective when it reflects an understanding that learning is multidimensional, integrated, and revealed in performance over time. It requires attention to expected student outcomes as well as to the experiences that lead to these outcomes. Assessment should be ongoing and integrated within the mathematics curriculum. The assessment process should include a feedback loop to faculty, administrators, and students.

AMATYC recognizes that institutions have diverse missions, goals, objectives, and programs. However, a framework for effective outcome-based assessment should contain the following elements:

- A statement of the mission/purpose of the institution
- Operational and specific goals and objectives for the mathematics programs as a whole, mathematics courses in the general education program and the developmental mathematics program, and individual mathematics courses
- Expected student outcomes based on program goals and objectives
- Procedures to determine whether the expected student outcomes are being met
- Procedures to review and improve the assessment tools
- Procedures to use assessment results to improve instruction and thereby improve student learning
- Regular feedback to faculty, administrators, and students about the quality of student learning
- Faculty who are trained in writing goals, objectives, and expected student outcomes as well as determining appropriate assessment techniques

Colleges should recognize that significant time, effort, and resources are needed to implement assessment. Appropriate institutional support should be provided for faculty involved in the assessment process and for the process itself.