Position Statement of the AMERICAN MATHEMATICAL ASSOCIATION OF TWO-YEAR COLLEGES on Academic Assessment of Mathematical Programs

The American Mathematical Association of Two-Year Colleges (AMATYC) recommends that the improvement of student learning be emphasized by colleges when assessing mathematical programs. AMATYC further recommends that assessment instruments measure the full range of what students are expected to learn, as outlined in AMATYC’s *Beyond Crossroads: Implementing Mathematics Standards in the First Two Years of College*.

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 mathematics department, while considering the priorities of stakeholders. Program assessment involves the collection of information about the quantity and quality of students’ knowledge based on expected student outcomes.

Effective assessment reflects an understanding that learning is multidimensional, integrated, and demonstrated through continuous improvement 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 embedded 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. Regardless, a framework for effective outcome-based assessment should include the following elements:

- A statement of the mission and/or purpose of the institution.
- Operational and specific goals and objectives for mathematics programs as a whole, for mathematics courses in the general education and developmental mathematics programs, and for individual mathematics courses.
- Professional development for faculty about the purpose of assessment and how it differs from assigning grades.
- Expected student outcomes based on program goals and objectives.
- Procedures to determine whether the expected student outcomes are being met, and to ensure there are no gaps and limited overlaps.
- Procedures to review and improve the assessment tools.
- Procedures to use assessment results to improve instruction, thereby improving 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 in determining appropriate assessment techniques.
Colleges should recognize that significant time, effort, and resources are needed to implement effective assessment. Appropriate institutional support should be provided for faculty involved in the academic assessment of mathematical programs.

Reference

Placement and Assessment Committee. Adopted November 1999
Reaffirmed by the Placement and Assessment Committee, April 2005
Reaffirmed by the Placement and Assessment Committee with minor revisions, November 2017
Reaffirmed by the Placement and Assessment Committee with minor revisions, November 2019