



# Mathematical Association of America

## Promoting Excellence in Scholarship

*Subsection 3 from Section C. Program Faculty and Staffing in:*

### Guidelines for Programs and Departments in Undergraduate Mathematical Sciences

Full report available at <http://www.maa.org/guidelines/guidelines.html>

#### 3. Promoting Excellence in Scholarship

1. All full-time faculty members should, as part of their work assignments, engage in disciplinary or interdisciplinary scholarship, broadly defined to include the discovery of new knowledge, the integration of knowledge, the application of knowledge, and scholarship related to teaching, [9]. Successful scholarship includes the obligation of timely communication of results to peers. Faculty should sustain their scholarship throughout their careers. Guidelines for the acceptable forms of this scholarship and for the nature of communication of results to peers should be made available in writing to faculty members. A department should encourage, recognize, and value the diverse nature of faculty scholarship that is directly related to the department's mission and program goals.
2. A regular program for maintaining and improving disciplinary or interdisciplinary expertise is essential for all academic mathematical scientists. Departments should support professional development of faculty members to enable them to remain current with the most recent advances in the field. Appropriate development opportunities include participation in seminars, graduate level mathematical sciences courses, appropriate courses in other disciplines, conferences, symposia, short courses, and professional meetings. As all full-time faculty members should participate in appropriate professional development, such activities should be a part of each faculty member's work assignment. Sabbaticals, other faculty leave programs, faculty exchanges, and periodic workload reductions provide faculty the necessary time for professional development.
3. Mentoring programs and faculty development opportunities designed specifically for new faculty should be available, and all new faculty should be encouraged to participate in such activities. See Guideline C.8.f.
4. In order to foster a sustained commitment to scholarship among faculty, departments and their institutions should provide sabbatical or research leaves at appropriate intervals and should have generous policies allowing leaves without pay for research and scholarly activities.

[9] Boyer, Ernest L. *Scholarship Reconsidered: Priorities of the Professoriate*. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching, 1990.

# Getting Started With Assessment

- [CUPM Guidelines for Assessment](#)
- [Assessment in Undergraduate Mathematics \(HTML\) \(PDF\)](#), *Bernard L. Madison, University of Arkansas, Fayetteville*. This is a background paper for the CUPM Guidelines for Assessment, illustrating the attitudes toward and circumstances surrounding assessment in 1991.
- [Assessing Assessment](#), *Lynn Authur Steen, St. Olaf College*
- [Assessment and the MAA](#), *Bernard L. Madison, University of Arkansas, Fayetteville*
- [Assessment: The Burden of a Name](#), *Bernard L. Madison, University of Arkansas, Fayetteville*
- [PowerPoint presentation on assessment and the SAUM project](#). Titled: Assessment of Learning: What is it and Why is it Important? This presentation is for use in introducing others to assessment and the SAUM project. Please use in this way if needed.
- ["Get Real!" Assessing for Quantitative Literacy \(HTML\) \(PDF\)](#), *Grant Wiggins, Consultants on Learning, Assessment, and School Structure*. An informed view of the difficulties of finding authentic assessment items for assessing quantitative literacy.
- Ken Houston: [Assessing Undergraduate Mathematics Students \(HTML\) \(PDF\)](#)
- [The Four A's: Accountability, Accreditation, Assessment, and Articulation](#).
- [Indicators of Quality Undergraduate Mathematics Education](#)

## MAANotes #49: Assessment Practices in Undergraduate Mathematics

### Editors:

Bonnie Gold, Sandra Z. Keith, and William A. Marion

[Supporting Assessment in Undergraduate Mathematics](#)  
(published 2006)

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- [Tensions and Tethers: Assessing Learning in Undergraduate Mathematics](#)  
Bernard L. Madison, University of Arkansas, Fayetteville
- [Asking the Right Questions](#)  
Lynn Arthur Steen, St. Olaf College
- [Assessing Assessment: The SAUM Evaluator's Perspective](#)  
Peter Ewell, National Center for Higher Education Management Systems (NCHEMS)

## CASE STUDIES

- [Assessment of Developmental, Quantitative Literacy, and Precalculus Programs](#)  
Bonnie Gold, Monmouth University
- [Assessment of Mathematics-Intensive Programs](#)  
Dick Jardine, Keene State College, Keene, NH
- [Assessment of Mathematics Programs to Prepare Future Teachers](#)  
Laurie Hopkins, Columbia College
- [Assessing the Undergraduate Major in Mathematics](#)  
William A. Marion, Valparaiso University

## PERSONNEL

- [SAUM Assessment Workshops](#)
- [SAUM Project Steering Committee](#)

## APPENDIX

- [CUPM Guidelines for Assessment of Student Learning](#)

## Assessment of Student Learning in College Mathematics: Towards Improved Programs and Courses

**This new volume from the [Association for Institutional Research](#), edited by Bernard Madison, includes 10 case studies representing a sample of assessment activity in U.S. mathematics de**

## USING STATISTICS EFFECTIVLY IN MATHEMATICS EDUCATION RESEARCH

[www.amstat.org/research\\_grants/pdfs/SMERReport.pdf](http://www.amstat.org/research_grants/pdfs/SMERReport.pdf) [PDF file]

Sound reform of education policy and practice must be based on sound research, and school mathematics would continue to benefit greatly from both such reform and such research. That is the spirit that led to a series of workshops to investigate how mathematics education researchers and statisticians could strengthen scientifically based research in mathematics education by sharing ideas from their respective disciplines.

Funded by the National Science Foundation, workshops were held over a three-year period, each with about twenty participants nearly equally divided between mathematics educators and statisticians. In these exchanges the mathematics educators presented honest assessments of the status of mathematics education research (both its strengths and its weaknesses), and the statisticians provided insights into modern statistical methods that could be more widely used in such research. The discussions led to an outline of guidelines for evaluating and reporting mathematics education research, which were molded into the current report.

**Making the Connection:  
Research to Practice in Undergraduate Mathematics Education**

Marilyn P. Carlson & Chris Rasmussen

Series: MAA Notes

The chapters in this volume convey insights from mathematics education research that have direct implications for anyone interested in improving teaching and learning in undergraduate mathematics. This synthesis of research on learning and teaching mathematics provides relevant information for any math department or individual faculty member who is working to improve introductory proof courses, the longitudinal coherence of precalculus through differential equations, students' mathematical thinking and problem solving abilities, and students' understanding of fundamental ideas such as variable and rate of change. Other chapters include information about programs that have been successful in supporting students' continued study of mathematics. The authors provide many examples and ideas to help the reader infuse the knowledge from mathematics education research into mathematics teaching practice.

University mathematicians and community college faculty spend much of their time engaged in work to improve their teaching. Frequently, they are left to their own experiences and informal conversations with colleagues to develop new approaches to support student learning and their continuation in mathematics. Over the past 30 years, research in undergraduate mathematics education has produced knowledge about the development of mathematical understandings and models for supporting students' mathematical learning. Currently, very little of this knowledge is affecting teaching practice. We hope that this volume will open a meaningful dialogue between researchers and practitioners toward the goal of realizing improvements in undergraduate mathematics curriculum and instruction.

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