

# AMATYC

The American Mathematical  
Association of  
Two Year Colleges  
Presents...



# *Beyond Crossroads*

*Implementing  
Mathematics Standards  
in the  
First Two Years of College*

Administrative Support  
for Improving  
Mathematics Programs



# Purpose of *Beyond Crossroads*

To stimulate faculty, departments, and institutions to examine, assess, and improve every component of mathematics education in the first two years of college.



# Administrative Support for Improving Mathematics Programs Includes:

- Providing necessary support for faculty
- Providing necessary support for students
- Collaborating with stakeholders



# The Role of the Faculty

- Grow in their knowledge of mathematics and pedagogy
- Contribute to their profession
- Address the learning needs of their diverse students
- Create a positive learning environment
- Prepare quantitatively literate citizens for the future





## HIGHLIGHTS

### Implementing the Standard for Instruction

#### Instruction

Mathematics faculty will use a variety of teaching strategies that reflect the results of research to enhance student learning.

#### At a standards-based institution, the *faculty*

- ✓ use multiple instructional strategies that encourage active student learning and address different learning and teaching styles.
- ✓ actively manage the learning environment.
- ✓ integrate technology as a tool to help students discover and understand key mathematical concepts.
- ✓ align technology tools for assessment with instruction.

#### At a standards-based institution, the *mathematics department* and the *institution*

- ✓ provide faculty with the resources and training they need to select, develop and refine curriculum materials and instructional activities.
- ✓ provide the necessary facilities, technology, student services, and training to support understanding, development, and implementation of multiple instructional strategies to address various learning and teaching styles.



# We need your help!

In what ways can administrators support faculty in their efforts to improve mathematics programs?



# Support for Faculty Includes:

- Providing faculty with professional development opportunities
  - To grow in their knowledge of mathematics and mathematics education
  - To learn or keep abreast of advances in the technology appropriate for the teaching and learning of mathematics
  - To assess and improve curriculum, teaching strategies, and assessment tools





# Support for Faculty (cont'd)

- Providing support from the institution for obtaining data necessary for making informed decisions
- Providing encouragement, support and release time for faculty to assess, reflect, and make needed changes



# Support for Faculty (cont'd)

- Encouraging mathematics faculty to
  - Provide input into placement criteria
  - Collaborate with faculty from mathematics-intensive disciplines on appropriate curriculum
  - Collaborate with faculty on cross-discipline quantitative literacy efforts



# Support for Students

In what ways can administrators provide support for students to facilitate their successful completion of mathematics courses and programs?



# Administrative Support for Students Includes:

- Providing centers for academic support that are staffed appropriately
- Providing funding for training of support staff
- Providing classrooms that are properly equipped with materials, technology and with furnishings conducive to active learning



# A Model for Change

The process recommended within *Beyond Crossroads* for creating, assessing and continuously improving mathematics courses, facilities, and programs is the *Implementation Cycle*

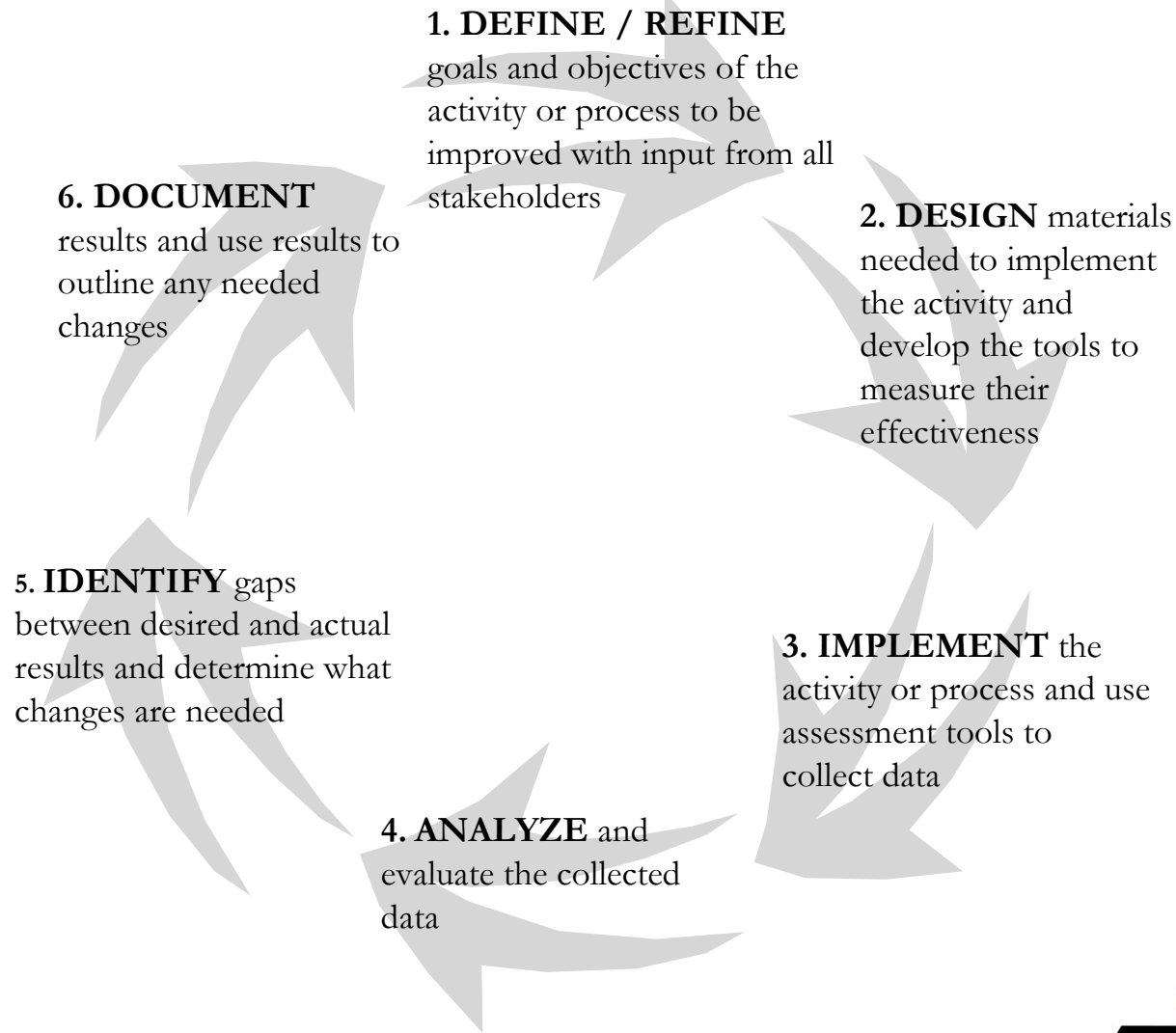


# Supporting the Process

Administrative support for the improvement of mathematics programs requires an understanding of and support for this process.



## The Implementation Cycle of *Beyond Crossroads*



# Identifying the Stakeholders

Who are the stakeholders  
in mathematics programs of  
the first two years of college?



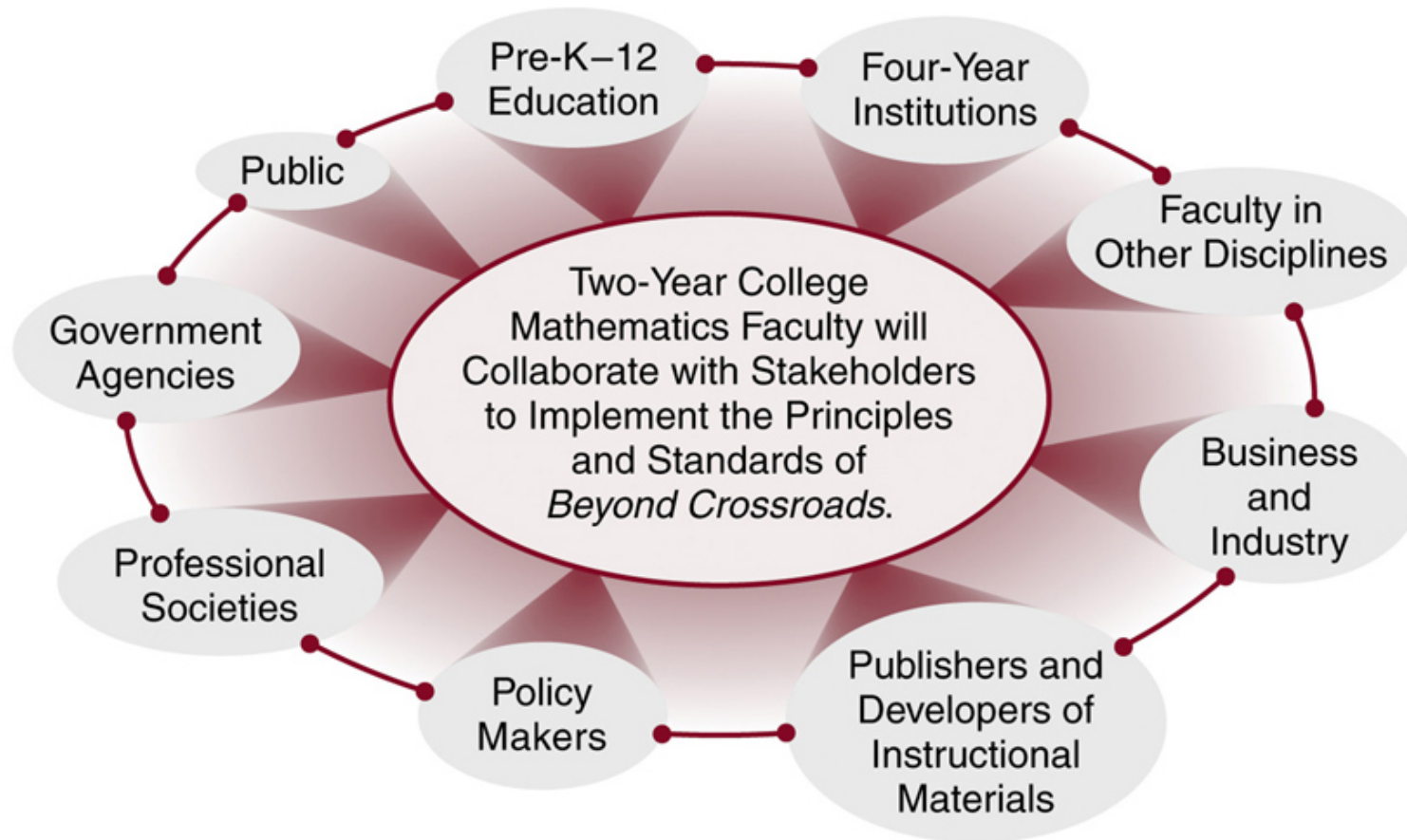


# The Stakeholders Include:

- K-12 education
- Four-year institutions
- Mathematics-dependent disciplines
- Publishers
- Business and industry
- Government
- Society



Figure 4 Collaborating with Stakeholders



# Collaboration with Stakeholders

In what ways can administrators  
collaborate with these stakeholders  
for the improvement of  
mathematics programs?



# Collaborating with Stakeholders

## (cont'd)

- Promoting quantitative literacy outcomes across the curriculum and in general education courses
- Cooperating with business and industry to collect information about the skills and knowledge of their employees



# Collaborating with Stakeholders

## (cont'd)

- Articulating with preK-12 and four-year institutions to align expectations, exit and entrance requirements, instructional strategies, and curricula



# Moving from Vision to Reality

In moving from vision to reality, each faculty member is an informed professional who embraces change, explores, experiments, and makes improvements in the classroom as a natural state.

All students achieve improved quantitative literacy and workplace skills and maximize their success in mathematics in the first two years of college.





# Your support...

...is critical for the educational needs of our students, and for the quantitative needs of society.



# For additional information...

- The printed document
- The AMATYC web site, [amatyc.org](http://amatyc.org)
- The electronic resources
  - Quantitative Literacy
  - Assessment
  - Outreach Kit
  - *Beyond Crossroads Live*

