

EDITORIAL

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In previous editorials I have discussed a number of issues related to the teaching/learning of undergraduate mathematics. Among these issues are curriculum reform efforts, the impact of technology on the curriculum, current theories of learning mathematics, and the role of assessment. All of these have the potential to bring about significant changes in the undergraduate mathematics curriculum.

Etchberger and Shaw [1] suggest five steps necessary for a teacher to make changes in the content, format, and routine of the classroom.

1. Perturbation. This may be dissatisfaction or uneasiness with the way things are. For example, a teacher may not be completely satisfied with his/her present teaching methods or his/her students' understanding.
2. Awareness of a need to change. This occurs when a teacher realizes that for things to improve there will have to be a change.
3. Commitment to change. When a teacher commits to change, he or she has made a firm decision to move beyond awareness and into action.
4. Vision. With the decision to change, the teacher envisions what the change actually will involve. For example, a teacher might recognize what materials/resources would be needed in order to incorporate the use of technology in the mathematics classroom.
5. Projection into that vision. This occurs when the teacher visualizes self and students becoming participants in the change. For example, a teacher would begin to consider the changes that he/she might need to make in assignments or tests in a course where technology will be incorporated.

Throughout this change process, a teacher must continue to reflect on his/her actions and role in the classroom. This continued reflection may encourage teachers to challenge their own traditions of teaching. Change is, most often, not easy and, at times, can be threatening. Change can be, however, exciting and rewarding, especially if it results in more learning for our students.

Reference

1. M. L. Etchberger and K. L. Shaw, "Teacher Change as a Progression of Transitional Images: A Chronology of a Developing Constructivist Teacher," *School Science and Mathematics*, 92 (1992), 411–417.