

What do I see my organization does well, and what do I see as a need

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1. From your perspective, what are the two things that your disciplinary professional organization or discipline-based NSF-funded project does particularly well in support of your work as an educator? Please be specific about how this activity works and why it is effective. Add web links if available.

AMATYC hosts an annual conference where there are many sessions conducted by members that demonstrate different techniques to teach mathematics. This allows for the improvement of student learning, and the sharing of ideas. A committee reviews each application of presentations, and attendees at the presentation evaluated it. These ensure quality and relevance of the sessions. Each year the conference is attended on average by about 1200 attendees. So AMATYC reaches a large percentage of the teachers of mathematics at two-year colleges.

I have been involved in three NSF funded grants. Each grant had as a goal to bring real STEM applications to algebra, quantitative reasoning, calculus, and statistics courses. To achieve this goal, teams of mathematics educators worked to develop classroom activities that are based around a technological industry, such as NASA, semi-conductor manufacturers, wind power industry, and observatories. The activities allow teachers and students to see actual applications, and thus, pique their interest in STEM majors. The material for each of the different grants is available online, thus making the material accessible to all. This is effective, since many of the people who teach mathematics are not trained in many of the applications of mathematics. These activities give teachers tools to present the applications. The web links for each are:

NASA/AMATYC/NSF PC 2: <http://cctc.comnet.edu/ta/>

The Math Works Project: <http://www.ccc.comnet.edu/MWP/index.shtml>

Dimensions Program: no website is available

2. If you could propose (and obtain funding for) one new activity to engage community college instructors in professional associations and other discipline-based projects related to teaching and learning, what would it be? Describe the activity, explain why it is needed and why it is not currently available.

Many of the teachers of mathematics do not have science backgrounds. So they do not necessarily know how to apply mathematics. Presentations at AMATYC focus more on how to teach mathematics, and not on how to apply it. Being involved in the projects that I have, I understand the need to have applications for teachers. However, just having the applications is not sufficient. I believe that teachers, and therefore students, would benefit from workshops that

would teach the teachers on how to apply mathematics. So I would propose a several day workshop that would bring mathematics teachers together with teachers of other STEM discipline. The discipline teachers could then demonstrate how they use mathematics in their fields. Together the teachers could look over existing activities that have been developed, such as the NASA/AMATYC/NSF PC 2, the Math Works Project, or Dimensions Program, and develop more activities that can be used to show applications in other disciplines. Having appropriate applications to demonstrate mathematics to students, will help to bring excitement to students about mathematics.