

## **Task Force on the ERM Mini-grant Program Interim Report to the Executive Board**

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### **Introduction**

At the 2004 ASEE National Meeting the ERM Executive Board formed a task force to review the ERM mini-grant program and make recommendations as to its long-term role within the ERM Division. Since the National Meeting the task force has engaged in a virtual discussion (via e-mail) with regards to the mini-grant program. The issues addressed through this discussion were two-fold:

1. What are the goals of the ERM mini-grant program?
2. Does the program achieve this purpose in a satisfactory manner?

This interim report will present the results of the virtual discussions held thus far. The task force focused primarily on the first issue, as this seems to be at the crux of the problem. However, it should be noted that discussion is ongoing and that no recommendations are being made at this point.

### **ERM Mini-grant Summary**

The ERM Mini-grant call for proposals posted on the ERM website, states the following:

"The Educational Research and Methods (ERM) Division of ASEE awards small grants to **ERM members** for educational projects whose goals are to improve the teaching/learning process in engineering, engineering technology, and related disciplines. Awards of up to \$2500 for up to 2 years will be available to support these projects during the 2003 - 2004 academic years. Projects should focus on such aspects as: (1) research on learning, (2) research on methods of instruction, and (3) development of procedures, methods and materials for instruction.

The ERM Division is particularly interested in proposals that address its missions:

- Teaching and learning using technology;
- Cultural change in engineering education;
- Engineering education research;
- Co-operative and collaborative teaching; and
- Effective teaching and learning."

The call for proposals goes on to say:

"In reviewing proposals, consideration will be given to the following factors:

1. How does the project enhance the teaching/learning process?
2. Will the results be applicable/useful to the ERM/ASEE membership?
3. Is the budget realistic?
4. What support does the author(s) have from their own institution?
5. Is there a realistic plan for evaluation?
6. Does the project team have background and experience that is sufficient for the project?"

### Goals of ERM Mini-grant Program

To summarize the discussion, the following potential goals of the ERM mini-grant program were identified. To vary degrees these goals appear to be in keeping with the overall goals of the ERM Division.

1. To raise the visibility of ERM within ASEE
2. To raise the visibility of ERM among engineering faculty nationwide
3. To motivate more engineering educators to join ERM
4. To provide money for STEM education *projects* that:
  - a. are not ready for larger agency funding, and/or
  - b. require additional funds to support the completion of the work
5. To provide money for STEM education *researchers* that:
  - a. are not ready for larger agency funding, and/or
  - b. propose truly innovative and/or rigorous research projects
6. To provide legitimacy to the work of up-and-coming STEM education researchers within their own institutions
7. To encourage active participation in educational research among ERM's members
8. To support the development and dissemination of "innovative" and "useful" teaching methods and/or learning research that could directly benefit ERM members and other STEM educators
9. To serve the emotional need of ERM members to engage in altruism, and/or to feel that ERM's resources are serving a "higher" goal

The discussion focused almost exclusively on goals 4-8. This is not to say that the task force does not see the ERM mini-grant increasing the visibility of ERM (goals 1 & 2), increasing membership (goal 3) or meeting an altruistic need of its members (goal 9). However, these goals clearly have a less significant impact on the implementation of the mini-grant program compared to goals 4-8.

A critical review of goals 4-8 indicates that there are essentially two issues that must be addressed:

- 1) What sort of *individuals* is ERM interested in supporting via the ERM mini-grant program?

Applicant Experience: Currently the only guidelines stated in the call for proposals is that the mini-grant awards are intended for ERM members. In addition to being diametrically opposed to the above goal of increasing the membership of ERM (goal 3), it makes no distinction between novice and experienced researcher applicants. Support for novices might increase the likelihood that new researchers with fresh ideas would enter the field and become members of ERM. On the other hand, support for experienced researchers would likely result in more significant and useful research results that have a broader impact on the ERM membership. The current ERM Mini-grant proposal guidelines would seem to suggest that the emphasis is to be placed on more experienced researchers who could produce results that are genuinely useful to ERM members.

ERM Membership: Current grant program guidelines state that applicants must be ERM members. This requirement works to support the activities and advancement of current members, but is counter to a goal of attracting new members to ERM.

- 2) What sort of *projects* is ERM interested in supporting via the ERM mini-grant program?

Project Focus: The task force seemed to reach consensus that ERM mini-grant proposals should be of a systematic nature. Projects should include innovative research questions, sound research methodology, practical outcomes and appropriate dissemination of results. These requirements have important implications for the experience, support and accountability of the grantee.

Project Scope: No guidance is provided in the Mini-grant program documentation regarding the scope of supported projects. One view holds that to be truly practical for ERM members, results should come from projects with a national scope. On the other hand, small projects awarded to

novices would more appropriately have a local impact. Further given the currently levels of funding it is probably impractical to expect a national scope.

**Project Maturity:** The current program guidelines make no distinction between proposals for piloted ideas and projects that are already mature and possible funded from other sources. Pilot-type grants would encourage innovative approaches to education and would further open the program to novice researchers. Mature grants would likely result in more useful results, but be more restricted to experienced researchers.

**Funding Level:** Currently the ERM Mini-grant program provides several \$2500 grants per year. One possible change in the program would be to reduce the number of grants awarded, but increase the funding level. Such an increase would result in more substantial projects that could provide useful results to ERM members. Further, larger grants might attract more experienced researchers educational research and ERM. Alternatively, offering more small grants would lead to a more distributed impact on potential novice researchers and new ERM members.

### **Achievement of Purpose**

The task force has not yet explicitly discussed whether the current ERM Mini-grant program is achieving its stated goals. The task force felt that it was more appropriate to reevaluate whether the current goals were still appropriate, what changes needed to be made and finally whether the grant program is addressing these goals.

The task force did bring up several important considerations for the implementation of the grant program that will need to be considered. These include:

- the possibility of variable funding levels that could support both novice/smaller projects and experienced/larger projects,
- increasing the emphasis in the call for proposals on the requirement for an actual research component in any proposal,
- increasing the emphasis in the call for proposals on innovative projects (this may require informing potential applicants about what is currently innovative),
- providing a more consistent structure for reviewing proposals, presenting awards and holding grantees accountable through dissemination,
- and, if attracting novices to ERM through the mini-grant program is a goal, creating opportunities for novices to make the next step into educational research (e.g. workshops on proposal writing, networking opportunities, funding opportunities, etc.). Such a step may include combining the Mini-grant and Apprentice Faculty Grant programs.

### **Summary**

The ERM mini-grant program task force has made considerable progress in discussing the goals of the program; however, before further progress can be made, input from the ERM Division membership with regard to the following two issues is needed:

- Is the goal of the mini-grant program to attract new ERM members interested in educational research or experienced researchers that could produce more immediately useful results?
- Should funded grants emphasize results that have a broad and useful impact on the ERM membership or are more innovative and untested ideas to be supported?

The task force requests that the ERM Board elicit input from the division membership regarding these issues and provide guidance to the task force as to how it should proceed.