Workshop - Evaluation of Education Development Projects

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Abstract - Evaluation is an old concept and, at least implicitly, all faculty members do it. So why should you attend a workshop on the subject? Here are a few reasons:

(1) More NSF reviewers expect to see an evaluation plan in a proposal.
(2) To ensure educational research progresses, we must know what works and how well it works.
(3) Properly done, formative evaluation can direct you to more effective teaching.
(4) Defendable data can help administrators make fair and quantifiable performance appraisals.

This workshop will not make you an evaluation expert but it will enable you to collaborate more effectively with evaluation experts. You will be able to apply evaluation methods in your classroom and you will be able to read and comprehend evaluation plans for projects.

After the session, you will be able to recognize basic terminology, list the importance of goals, outcomes and questions and describe how they comprise an evaluation plan. You will learn about several evaluation tools and be able to discuss some of their advantages, limitations and appropriateness. You will be able to list confounding factors in data interpretation and explain multiple interpretations.

Index Terms - Effectiveness, Evaluation, Improvement, Measuring success.

THE GOAL OF THE WORKSHOP
Prepare engineering faculty members to work with an evaluator to plan and implement an effective evaluation of an educational development project.

DESCRIPTION OF TOPICS
Engineering educators are becoming more and more involved in both funded and unfunded projects to improve the learning of their students. Monitoring the progress of these efforts, identifying the positive and negative aspects, and ultimately determining their success or failure requires a systematic evaluation effort. This session intends to provide a framework for thinking about project evaluation and some essential background to allow engineering faculty to more effectively discuss evaluation with experts in the field.

Participants will develop a better understanding of the evaluation process and the tools and techniques used in such a process to enable them to work with an expert evaluator in preparing and implementing an evaluation plan for an educational development project. This will help them both to prepare more competitive proposals for NSF's education programs and to determine the effectiveness of all educational development efforts regardless of the funding source.

The workshop consists of a series of small group activities using a think, share, report, and learn format. In this format, group members first reflect on their own current conceptual understanding of the issue, then share these ideas in small groups and then with the large group, and finally hear an expert's opinion. Through this process, participants will increase their conceptual understanding of the issue and correct some of their misconceptions. The workshop will address six issues: (1) using goals and outcomes in project evaluation, (2) evaluating cognitive outcomes, (3) interpreting evaluation data, (4) evaluating affective outcomes, (5) writing an evaluation plan for a proposed project, and (6) working with an evaluator.

WORKSHOP AGENDA
Describing the goals and outcomes for the session (10 minutes)
Introducing the interactive framework for session (10 minutes)
Using goals, objectives, and outcomes in project evaluation (25 minutes)
Evaluating cognitive outcomes (25 minutes)
Interpreting evaluation data (25 minutes)
Evaluating affective outcomes (25 minutes)
Writing an evaluation plan for a proposed project (25 minutes)
Working with an evaluator (25 minutes)
Wrapping up the session (10 minutes)
**ANTICIPATED AUDIENCE**

The workshop is intended for faculty members who are either seeking external support for educational research and development projects or are engaged in efforts to improve the educational experience of their students.

**FACILITATORS**

Louis Everett, NSF, phone (703) 292-4645, Dr. Everett is a rotating program director for the Transforming Undergraduate Education in Science, Engineering, Technology, and Mathematics (TUES); the Advanced Technology Education (ATE); Scholarship in Science, Technology, Engineering and Mathematics (S-STEM) programs.

Susan Finger, NSF, phone (703) 292-4639, Dr. Finger is a rotating program director and Assistant Lead for Type I of the Transforming Undergraduate Education in Science, Engineering, Technology, and Mathematics (TUES); and is also involved with the Scholarship for Service (SFS); and the Scholarship in Science, Technology, Engineering and Mathematics (S-STEM) programs.

Don L. Millard, NSF, phone (703) 292-4620, Dr. Millard is a program director for the Transforming Undergraduate Education in Science, Engineering, Technology, and Mathematics (TUES); the Advanced Technology Education; the Federal Cyber Service: Scholarship for Service; and the Math and Science Partnership programs.

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Janis Terpenny, NSF, phone (703) 292-4640, Dr. Terpenny is the assistant lead for the Scholarship in Science, Technology, Engineering and Mathematics (S-STEM) programs; and is also involved with Transforming Undergraduate Education in Science, Engineering, Technology, and Mathematics (TUES); the Math and Science Partnership program (MSP); the Science, Technology, Engineering, and Mathematics Talent Expansion program (STEP).

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