

Guidelines for Developing the Evaluation Section for Proposals

All proposals are required to include an evaluation plan. **Your evaluation plan should be kept simple and focused on outcomes.**

For most projects, you will be examining the effectiveness of a professional development activity, which will involve gathering information from the attendees as well as performing follow-up activities to ascertain the lasting effect of your activity.

In some cases, your activity may lead to the adoption of materials, activities, or lessons into a classroom. In that case, you would want to demonstrate that your project has had an impact on the students' learning of, or attitudes toward, information technology. It is also important to track which students are impacted by your project and how the characteristics of these students compare to the school as a whole.

This document supplies suggestions that should help you formulate an effective evaluation section, given these foci.

Although there are a number of different suggestions included in this document, you should only choose those that are appropriate to demonstrate your project's effectiveness. Your choices should only incorporate those measures that get at outcomes you can realistically expect to stem from your activities. Keep it simple.

CITI has engaged the services of Peterfreund Associates of Amherst, Massachusetts as external evaluators. As consultants, they are there to help, but not to write or execute your evaluation plan.

Suggested Evaluation Measures by Program Type

Listed below are a number of different suggested means for evaluating the impact of your program. Not all will be relevant to every program, and you should choose a subset of these based upon your individual situation and capabilities. If you have questions regarding whether or not a measure is appropriate for your particular project, you may email the evaluation team of Peterfreund Associates (krath@peterfreund.com) for advice. Surveys and other tools are available online through the links below.

The letters in parentheses after the specific evaluation measures are referenced to the evaluation measure descriptions below.

Evaluation of Professional Development Activities

Teacher Training/Professional Development. If your project focuses on teaching skills to teachers or teaching teachers how and when to use your developed materials, a different set of activities is involved than would be appropriate for students. These activities might include:

- Teacher workshop/course surveys (A)

- Follow-up teacher surveys (B)
- Focus groups (C)
- Recommending that teachers follow a course evaluation plan in their own classes once the new techniques have been adopted (see Courses below)

Teacher Preparation. Educational experiences for teachers should involve evaluation materials very similar to those for students (see student examples below), but with the understanding that the quality of feedback you can expect to receive from teachers will be more detailed and insightful, so you may want to modify survey questions and other aspects to reflect the greater maturity of the individuals involved.

Evaluation of Programs Introduced into Classes

Modules. These would be projects that add a single component or discrete set of components to an existing class or program, leaving the rest unchanged. These might include specific lessons or units. The recommended evaluation activities include:

- Tracking student numbers and demographics (D)
- Module surveys (E)
- Pre/post learning examinations (H)

If the module you introduce could be expected to influence the outcomes of the class as a whole (if the rest of the class builds off the material introduced in the module, for example), you may want to consider doing a full course evaluation.

Courses. Evaluations for situations in which you are proposing either to create a single new course or extensively modify an existing course call for a course-based evaluation. This can include in-school courses and/or summer and after-school programs that are multi-day affairs. The activities recommended for this type of evaluation include:

- Tracking student numbers and demographics (D)
- Course surveys (F)
- Focus groups (C)
- Comparative learning outcomes (especially if you have modified a course and can compare it to a previous course) (I)

If you think that your course would have an impact on other courses, you may want to consider some of the evaluation measures under Course Programs as well.

Course Programs. These are situations in which you are proposing to create or modify a series of interrelated courses or summer/after-school programs that students would be expected to take in consort or sequentially. The activities for this type of evaluation might include:

- Course-specific evaluations (see Courses above) for each class in the program
- Program surveys (G)
- Focus groups (C)
- Class/sequence retention outcomes (J)
- Long-term student outcomes (K)

Other Student Programs. You may also be proposing other sets of student activities that do not fall into the course structure. A large variety of activities could be included under this heading: clubs, field trips, internships, etc. Because of the variety of possibilities, we cannot make specific evaluation recommendations; it is recommended that you choose or modify tools from the list below based upon your program's specific needs and expected outcomes.

Other Potential Evaluation Metrics

These metrics are most likely to be important for people who are interested in the second type of proposal – the replication of the BATEC model.

School-Business Collaborations. These would include any situation in which representatives from industry have some sort of input into what is happening in the school. Evaluation of these situations should use a model appropriate for the type of program you are offering (i.e., a Course evaluation if you are offering a course), plus an Industry input survey (L) and or Focus group (C), as appropriate.

Externships. Externships are situations where teachers are sent to industry situations to participate in some capacity. Recommended evaluation activities might include:

- Focus groups (C)
- Externship experience surveys (M)
- Follow-up externship impact surveys (N)

Other Issues with the BATEC Model Replication. As with the Other Student Programs heading above, this could involve a wide variety of activities, with corresponding evaluations specific to those activities. As replication of the model is a process that will likely take place over an extended period of time, it is also important to report on the attainment of milestones as they occur.

Descriptions of Evaluation Measures

The following sections include descriptions of evaluation activities and, in some cases, links to examples of surveys and other items or tools that you may want to use. In all cases it is likely that the specific measures will need to be modified to fit with your particular program. For example, surveys may contain items that are irrelevant to your class or may be missing items that get at information you think is very important to your project. You should feel free to modify any of the measures presented here or create ones of your own, depending on your specific needs.

Teacher-focused Evaluations

- A. Teacher Workshop/Course Surveys. After you have teachers attend a workshop or course, (whether for disseminating general information about information technology use or specifically related to disseminating your product) you may want to give a

survey that will give you feedback on how the workshop/course was viewed, how valuable the teachers found it, and how likely they would be to make use of the presented materials. A link to a sample survey of this type is included.

[Sample Teacher Workshop Survey](#)

- B. Follow-up Teacher Surveys. If you held a workshop designed to convince participating teachers to add something new to their courses, you will want to follow-up with them several weeks (or months) after the event to see if, in fact, the activities are actually being performed. An example of a survey designed to determine the long-term success of a workshop is included.

[Sample Follow-up Teacher Survey](#)

Focus Groups

- C. Focus Groups. You may wish to gain more specific information from your activity attendees or students than you are able to elicit from a survey. Conducting a focus group with a small group of participants (less than ten usually seems to work best) can give you the chance to delve more deeply into questions of interest. The results of a focus group should be reported as a summary of the key points discussed, with important insights highlighted. If you feel uncomfortable leading the focus group yourself, an outside focus group leader may be used.

Reporting Demographics

- D. Tracking Student Numbers and Demographics. This measure is important for ALL projects that aim at providing education to students. You should keep track of how many students enter (and finish, if there is some attrition) the class(es) affected by your program and report to the CITI team the following aggregate information about the students:
- a. Gender
 - b. Ethnicity/race
 - c. Class level (range and median)
 - d. Future plans (high school only), e.g., intending to go to college, post-secondary technical school, military, job market, etc.

Additionally, you should report the same information, where applicable, for the institution as a whole.

Student Surveys

Note: All results from surveys should be reported in summary form, with either frequencies of individual responses or averages of responses appearing in a table. Open-ended comments should be summarized to describe the most important points.

- E. Module Surveys. These surveys ask specific questions regarding the usability and value of a specific module/assignment/unit. A sample of a generic module survey

can be seen through the link below. You may wish to modify the terminology to correspond to what you are using in your project.

[Sample Module Survey](#)

- F. Course Surveys. Course surveys give you a means of getting student feedback on the value of an entire course and having them provide a subjective sense of what they got out of it. We generally recommend using a survey at the beginning and then again at the end of a course to allow you to measure changes in attitudes. Examples of an onset and end survey can be found at the links below. These should be treated as examples only; the questions you want to ask, which should be related to the outcomes you wish to achieve with your project, may be very different.

[Sample Onset Survey](#)

[Sample End Survey](#)

- G. Program Surveys. Program surveys examine students' reasons for participating in a large-scale program and the outcomes of this participation. Depending on the situation, you may wish to give surveys to students entering the program and then again after its completion, at only one of those points, or periodically throughout progression through the program. The links below give sample surveys meant to be used in the first case, where one is given at program sign-up and the second after completion.

[Sample Program Onset Survey](#)

[Sample Program Completion Survey](#)

Student Learning Outcomes

- H. Pre/Post Learning Examinations. If you are introducing a specific module or unit into an existing class, you may be interested in seeing how much its use impacts student learning. To do this, you should administer a pretest before the unit and a posttest afterwards. These two tests should be either identical or nearly so in order that the scores on each are comparable. They should not be administered so close to each other that students will have a clear memory of the pretest when filling out the posttest. They should also be sure to measure what you are trying to get across in your module/unit; measuring information peripheral to your module/unit is generally not very useful.

The timing of the pre- and posttests is also important. If a pretest is given long before students experience your module/unit and students have the opportunity to learn some of the module/unit's content from other sources, the change in learning may not be attributable to the module/unit. Also, if you give a posttest immediately following the module/unit you are only measuring short-term learning gains, but if you give after a significant period of time has passed you are measuring long-term impact but other experiences may also impact the results. Use your judgment in determining the best timeframe.

- I. Comparative Learning Outcomes. Examining student grades and other means of learning assessment is part of most classes but does not provide valuable information regarding the effectiveness of a new program unless there is something to compare those results to. Grades should thus not be included in your evaluation report unless one of the two conditions below is satisfied:
- The course was taught previously by the same instructor covering similar material and with similar assessments, but without the new innovation.
 - The course is taught in separate classes, some taught with the innovation and some taught without, but using the same assessments. This works best when the same instructor is teaching both classes.

The key to this measure's success is being able to show comparable assessments where the major difference between offerings is the presence in one of the classes of the program(s) that you are implementing.

- J. Class/Sequence Retention Outcomes. In some cases, you may suspect that your program changes the degree to which students continue with the modified course or sequence of courses. In this case, you would want to have records of the proportion of students completing the course(s) in the past, including the demographic information. You will also want to know the demographics of the students who leave the course. This information should be compared with information from the new course(s). In the case of a sequence of courses, you will want to track individuals over the entire sequence to follow retention from the first course to the last.
- K. Long-term Outcomes. Long-term measures allow you to determine if the program has an impact beyond the individual course(s). While these evaluations may take more time and effort to evaluate, the outcomes of such a measure may provide the most compelling justification for your program. Establishing baseline data from the onset is critical for documenting long-term outcomes.

Some suggestions for outcomes to be tracked over time are students' progress toward degree completion (how many science or technology courses they have completed at the end of every year, for example) and where they go after graduation. These outcomes should be compared to those of a group of peers that have not been affected by your program, either from a previous year or a different cohort.

Industry Input Evaluations

- L. Industry Input Surveys. If your project involves having input from industry representatives, it is useful to get feedback from them about how they perceive your progress toward your goals and the value of their contributions to the project. An example of a survey designed to measure this is provided in the link below.
[Sample Industry Input Survey](#)

M. Externship Experience Surveys. These surveys would be given to teachers directly after their externship experience with the goal of understanding what they found valuable about the experience. An example of a survey designed to measure this is provided in the link below.

[Sample Externship Experience Survey](#)

N. Follow-up Externship Impact Surveys. Although the immediate impact of the externship experience is important, the long-term effect may be even more so. Follow-up surveys should be administered at some point during the school year after enough time has passed for the teachers to incorporate what they brought home from the externship experience into their teaching/advising. An example of such a survey is provided in the link below.

[Sample Follow-up Externship Impact Survey](#)

Reporting Guidelines

Reports should be submitted to the evaluation team on a semester basis. Your results will be compiled with those of other projects into a cumulative report that will be made available to you on the CITI website. Any questions on the reports or evaluation measures that you might have throughout the course of the project can be directed toward Peterfreund Associates (krath@peterfreund.com).

Reports should summarize the findings from all of the evaluation measures you agreed to in your proposal(s), as well as, including a description of your key findings. A sample of a possible evaluation report format, examining student outcomes after a professional development exercise and adoption of new materials, can be found at the link below.

[Sample Report](#)

Criteria for Successful Evaluations

A successful evaluation plan will incorporate the following:

- 1) A set of measures that will allow you to clearly demonstrate that you have achieved your expected outcomes. These expected outcomes should relate to the goals of your RFP.

For example, if you expect that modifications to your course will increase the interest that women have in pursuing a technology-intensive education, you have a set of instruments that will allow you to demonstrate this. Merely showing that women are more interested in the material you are teaching after taking the class will not serve this purpose. Instead, you would want to ask them for their future plans both at the onset and end of the course to measure a change in attitudes.

- 2) Measures that will provide feedback to help you modify your project in future offerings.

You should not only demonstrate that you have achieved your outcomes, you should also gather responses from participants that will tell you the strengths and weaknesses of what you have done so that you and can provide a better offering next time, and so that other groups can learn from your example if they want to attempt to replicate your efforts. Open-ended survey questions are an easy way to solicit this feedback.

- 3) A realistic plan for delivering these measures to the participants that can be accomplished within the constraints of your budget.

For example, if you wanted to demonstrate that teachers who were trained through your program were more able to successfully incorporate technology into their classes than other teachers, you would need to set up a comparison group. It would be unrealistic to set that comparison group as all of the other teachers in the state of Massachusetts, as delivering surveys to all teachers in the state would be untenable. Choosing a group of those teachers' peers from a similar program or examining the teachers prior to and after they took the class might be a more reasonable alternative.

- 4) A timeline for when evaluation activities will take place.

For example, if you gave a test of spreadsheet skills at the beginning of an accounting course, the interpretation of the change in these skills after the students use a module teaching spreadsheets would be different than if the test were given immediately before the module was introduced. In the first case, the difference in test scores is also measuring any information that they may have learned about spreadsheets in the course before taking the module. Including a timeline is important in interpreting what the results mean.