Appendix C.

Evaluation: a Process

While project evaluation is used as an example, this process may be applied to any type of evaluation, particularly to assessment of student learning.

Evaluations can come in many shapes and sizes, but regardless of their dimensions, evaluations inform decisions. Evaluations help not only to judge whether a project was effective, but also to plan and modify it and to contribute to its success. Whether featuring a student's performance or a broad-based program, an evaluation is a process involving "a systematic investigation of the merit and worth of an object (The Joint Committee on Standards for Educational Evaluation, 2003, p. 5)."

Evaluations can serve different purposes at different stages of a project or initiative (Rossi, Freedman, & Lipsey, 1999). Evaluations can assess the need for program services, help conceptualize and design programs, document project implementation, examine progress, and determine outcomes. Outcomes or summative evaluations provide information about the impact of a project or initiative. Implementation or formative evaluations address how an initiative is or was carried out, such as what activities and resources are needed. A newer type of evaluation, planning, defines the logic or theory behind a project or initiative. An evaluation can serve more than one purpose, and more than one type can be followed for a given initiative. There is a common theme among all types of evaluations. As Rossi, Freeman, and Lipsey (1999) state, project evaluation "is fundamentally an endeavor that gathers and interprets information about program performance to answer questions relevant to decision making (page 80)." Evaluation is not a single assessment or series of assessments, but an integrated process.

> Designing an evaluation is not a mechanical activity that can be accomplished by applying a set of rules. A good evaluation plan is heavily contextualized by the political situation, the nature of the program, the interests of the stakeholders, and many other such specific features of the program landscape. (Rossi, Freeman, and Lipsey, 1999, page 74)

We do not present a particular design or approach. Instead, we concentrate on the process, providing a series of questions that will help in decision-making about a project or a particular component of it. Rather than offer a specific recipe for evaluation, we present a way

of thinking and planning that adapts to a particular initiative, its setting, and the interests and needs of decision makers and stakeholders.

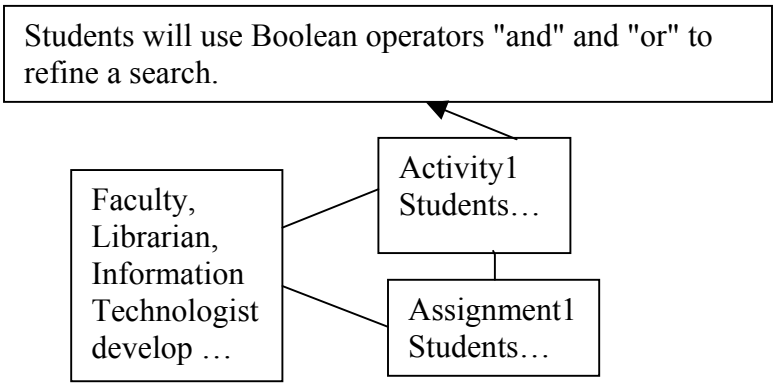
Planning and focusing an evaluation are important first steps, regardless of the size or complexity of the evaluation or at what point in a project's time an evaluation is conducted. This preplanning facilitates an evaluation's implementation and use (Patton, 1978). While we provide an overview of evaluation, our emphasis is on this focusing process. Our presentation is based on standard evaluation principles, but is influenced most by Michael Patton's work with utilization-focused evaluation (*Utilization-focused Evaluation,* Patton, 1978 and 1997) and Rossi, Freeman, and Lipsey's 1999 text, *Evaluation: a Systematic Approach,* and personal experience in evaluation. Resources for information about evaluation designs and specific tools are found in the reference section.

The process of defining elements of an evaluation and answering focusing questions should be a collaborative one that involves those people who will use and/or who will be affected by an evaluation. Involvement of key people facilitates both implementation and acceptance of evaluations. At an early stage in an evaluation, key users and project personnel should articulate what they would like to learn from an evaluation and how they might use evaluation results. A simple question such as, "I would like to know _____ about _____ to _____" could be asked. Because not all interests can be addressed, prioritizing and selecting areas to investigate occurs at the same time.

What, exactly, do you want to evaluate: define the project or initiative

Answering this question involves describing and defining both the project and the components to be evaluated. Usually outlined during the project planning or proposal stage, it is also a first step of an evaluation. To start, define the need or condition that the project will meet. The project's goals and objectives to fill that need are concretely and explicitly stated. Project activities, procedures, and resources that would allow objectives to be met are delineated. For instance, a faculty member notices that students' research papers show inappropriate citations for primary and secondary research. A librarian finds that the number of students who use the library's electronic databases is diminishing. The two believe that a collaborative project between faculty, librarians, and information technologists to develop curricular materials will help students. One objective of such a project could be that students will learn to use Boolean

operators to refine a keyword search. Below is an example of a way to link objectives with project components.



This linking activity not only focuses an evaluation, it also helps ensure that there are enough activities and resources to support attainment of the objective.

What, exactly, do you want to evaluate: define what you want to learn from an evaluation

The second half of the "what" question concerns the aspects or characteristics of a project that will be evaluated. Typically, evaluations are conducted to find out how a project "worked" or was implemented and what impact the project had on those who were involved. "I want to know how effective the project was" is a commonly stated "what" to evaluate.

But, what does "effective" mean? The word exactly in the question suggests that specification is important. What will be evaluated needs to be explicitly and concretely stated. Depending on how results will be used, for the above example, effectiveness could be defined as what students learned, the extent of collaboration, activities that facilitated understanding, or number of students enrolled in the course. If a project is effective if students learned, the desired learning should be specified concretely. In the Boolean example, this might include a student's ability to use "and" and "or" to locate citations for a topic. Or, effective learning may be seen in sources students cite in their research papers.

The "what" that is evaluated is influenced by reasons for conducting an evaluation and how findings from it will be used. Articulating reasons and uses of an evaluation is one of the most important steps in its process (Patton, 1978; Wadsworth, 1997).

Why do you want to evaluate? For what purposes? How will results be used? and by whom? What decisions will be made based on evaluation findings?

While the goal of evaluation is to provide information to help make decisions, there are many specific purposes for conducting an evaluation. Taking the above example of wanting to know whether the project was effective, we can view it from different purposes. One purpose may be to redesign a course assignment so that a professor may improve his/her teaching and students' learning. Another purpose may be to prove to the Mellon Foundation that their money was well spent, and the Foundation may use evaluation data to determine the next round of funding. Still another purpose could be to plan for new library or technology services.

Other, generic examples of purposes include uncovering needs to help in planning, seeing if program activities were delivered as expected, and/or discovering whether objectives were met. As a rule of thumb, the more high stakes the decisions, the more rigorous an evaluation design and more numerous the assessments. Validity of evaluation data (and testing and assessment scores) is tied to the adequacy and appropriateness of inferences and actions based on them (Messick, 1989).

It is recommended to articulate purposes in terms of evaluation objectives. For example, if a purpose is to track implementation of a project, an evaluation objective would be to document new activities and assignments used in a course or to detail the number of students who receive new services. If a purpose is to determine effectiveness, an evaluation objective might be to rate changes in students' knowledge of the difference between primary and secondary sources or ability to use a particular software program.

The purpose of evaluations and how evaluation findings will be used shapes choice of evaluation questions and assessments.

What questions do you want answered?

Evaluation objectives are linked directly to evaluation questions. For example, a project goal may be to create collaborative teams of faculty, information technologists, and librarians who will develop assignments related to information literacy/fluency. A purpose of the evaluation may be to determine how and whether these teams and assignments were developed. And, a use may be to decide whether it is feasible to continue. An evaluation objective could be to determine the nature and extent of implementation of collaborative teams. Related evaluation questions might include:

- How many collaborative teams were developed?
- What was the composition of the teams, e.g., faculty, librarians, information technologists; numbers/departments?
- How were the teams formed?
- How many teams already existed on campus?
- In what way did the administration encourage or discourage participation?
- Were there incentives/rewards for collaboration? If so, what were they?
- Did those who collaborated differ from those who did not? If so, in what way, e.g., gender, age, tenure status, years teaching, department support, or other unanticipated
- What other factors may have contributed to establishment of teams?
- What effect, if any, did the project have on team members' workloads?

Evaluation questions should have strong verbs and concentrate on a single purpose that specifies a single result. Questions should be able to be answered empirically and be related to performance. Rossi, Freeman, and Lipsey (1999) describe characteristics of evaluation questions as "answerable, pertinent, realistic, specific, concrete, and practical. (page 82)"

Evaluation questions need to be linked to evaluation objectives or purposes. If this process is skipped, the answers questions produce may not be what the project, funder, or other stakeholder need.

What information do you need to answer the questions and to make decisions?

Outlining what information is needed to answer the evaluation questions facilitates choice of assessments. In the example above, the "how many" questions require numbers and percentages of participants and courses. Information on how teams were formed could consist of procedures and narrative examples from participants and project leaders that explain what steps, procedures, or conditions are needed to form and maintain teams. Interviews or open-ended questions may be the best way to find out about how teams were formed.

Which assessments will give you the best information for your needs?

Assessments should be the best methods for evaluating the performance or characteristic of interest (Linn & Gronlund, 1995) or for obtaining desired information to answer questions. For instance, a test could be used to measure knowledge and a journal could be used for personal impact. If appropriate, existing assessments may be used. When new assessments are

developed, they should be linked to evaluation questions. For instance, if an end of course survey is developed, each survey questions is matched to an evaluation question and objective.

A variety of procedures is required, especially if high-stakes decisions will be made. These can include activities or assignments completed in a course, project developed surveys, published tests and questionnaires (if they match objectives and project content!), portfolios, interviews, recorded class discussions, documents. No measure is perfect; each has limitations and inherent error. By matching type of assessment to characteristics, performance, objectives, and intended use and by using more than one assessment, there can be more confidence in its results than if a single measure were used.

While assessments should be objective, accurate, and feasible to administer or use, the primary consideration is matching assessments to evaluation and project goals.

What criteria or standards do you have for your findings?

An important part of evaluation is making a judgment about the merit and worth of what is found. While a project component may have merit, it might not have worth. For instance, time for collaboration may outweigh its benefits. Along with determining questions to answer and deciding on needed information and type of assessments to use, establishing criteria is part of the evaluation process. For instance, minimum scores on a test of knowledge or students' self-ratings are established as indicators of project success. How much difference can be reasonably expected between students' pre- and post-test scores on knowledge of primary sources is determined. How much improvement was there in comparison to a standard, e.g., past students' scores, students' pre- and post-test scores, students in similar courses, past experiences, and how much difference is "enough"?

Summary

In this presentation, we attempted to make a complex, sometimes messy, process concrete and concise. The discussion was an overview, not a comprehensive treatise on evaluation. It provides a process for thinking about and focusing an evaluation.

The Joint Committee on Standards for Educational Evaluation (2003) defines four qualities of evaluations: utility, feasibility, propriety, and accuracy. An evaluation has utility if it is informative, timely, and influential. If it "works" in a setting and is realistic, economical, and diplomatic, it has feasibility. When the rights of individuals are protected and it is ethical, an evaluation has propriety. Finally, an accurate evaluation produces sound information that is

technically correct. No evaluation is perfect, but each should strive to embody as much of these qualities as possible.

For some people, the template found in Appendix D helps them to frame the work on an evaluation. For further information, we recommend sources such as those in Appendix E.