

Assessment Basics and IGERT Grants

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What is Assessment?

Assessment is a cyclic process for educational improvement.

Higher Learning Commission of North Central Association of Colleges and Schools

“Assessment is the systematic collection, examination, and interpretation of qualitative and quantitative data about student learning and the use of that information to document and to improve student learning.”

Evaluation vs Assessment

Primarily Summative Primarily formative

Focus on Individual Performance Focus on Group Performance

Helps individuals know how they performed. Helps instructors/dept/institution know how students performed.

Results in a grade for the activity or course, or **IGERT GRANT**. Results in a plan for improvement.

May or may not be used for improvement of instruction. Always used for improvement instruction/ learning.

Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.

Purpose - Activity - Assessment

Best Practice in Assessment

- Goal-oriented process
- Educational performance with educational purposes and expectations—
 - from the program's mission, from faculty intentions, course design, and from knowledge of students' own goals and products
- Where and how program goals will be taught and learned?
- Your Goal = Clear, shared, implementable goals

NSF IGERT

- “Strategy and methodology for formative assessments of the project’s effectiveness by individuals internal and external to the institution and program improvements based on these assessments;”

Performance Assessment / Project Evaluation

- annual evaluation plan – by the project team to evaluate success in meeting project goals
- project goals for students, faculty, and departments to be evaluated
- measurable evaluation questions and indicators based on the project goals
- a summary design of the proposed evaluation, including proposed data collection methods, timeline, and assignment of responsibilities

Assessment Priorities

- recruitment strategies, including efforts to recruit women, minorities, and persons with disabilities
- training and mentoring activities
- examining trainee progress, achievements, skills development, and career preparation over time
- identifying project impacts on participating faculty and departments/institutions, especially with respect to interdisciplinary graduate education
- formative assessment to improve the project

Assessment Components

- External Evaluators: help plan, conduct evaluations, report
- Internal assessment and advisory committees
- Annual reports:
 - trainee growth, academic and professional training accomplishments
 - institutional impacts, assessment and evaluation activities

And in Renewals!

Renewal proposals must explicitly address what was *learned from the evaluation* efforts of the previous IGERT and describe the *added value of the proposed effort* beyond that of the previous IGERT

Summative vs Formative

- **Summative:** determines if an activity or function should be continued, enhanced, curtailed, or eliminated.
 - Used for accountability and strategic planning
- **Formative:** used to improve program or institutional effectiveness.
 - Used to improve the processes which potentially lead to increased effectiveness

Indirect vs Direct

Indirect: infer student abilities, knowledge, values – give impressions, not direct evidence

- surveys, exit interviews, focus groups, external reviewers

Direct: be observable, measurable, and demonstrated by the student

- Portfolios, reflective essays, embedded questions in exams, performance/presentation, field experience

“The student will be able to manage projects and project teams in a high technology lab.”

"The student will provide community leadership in resolving environmental hazards and issues.

Indirect

- Pre/post survey
 - knowledge, attitudes, behaviors
- Focus groups
- Interviews

Direct

- Panel of faculty review student work products with rubric
- Portfolio of materials from courses, research, integrative activities, reviewed by faculty
- Participation in conferences, presentations, papers, post-docs

Closing the loop

- Report to
 - NSF
 - Faculty
 - Students
 - Departments
 - Assessment Committee
- How are you/have you used the assessment information? What changes were made? Was there improvement? (Cyclic process!)