

Comprehensive List of Possible Evaluation Components
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- Identifies needs/weaknesses
- Baseline data to guide project
- Description of community being served
- Clarity and coherence of project goals, objectives, activities
- Match between evaluation design and project goals and objectives
- Match between evaluation and nature/scope of project
- Articulated evaluation design (design, methodology, data analysis, instruments/tools)
(Systematic collection of information on activities/outcomes – has a vision of what success would look like)
- Match between assessment instruments/tools and evaluation outcomes (formative and summative)
- Multiple assessment methods that match goals (Tracking processes and measuring outcomes)
 - ✓ Student change
 - Subject matter knowledge (content knowledge – factual, procedural, conceptual)
 - Reasoning/problem solving skills (standard and non standard, critical thinking)
 - Scientific literacy
 - Knowledge transfer
 - Performance on standardized tests
 - Self-reported assessment of
 - Learning, skills, knowledge transfer, retention
 - Changes in approach to learning including metacognition
 - Changes in attitudes toward science
 - Enjoyment
 - Motivation
 - Adequacy of prior preparation
 - Resistance to pedagogical change
 - Enhanced knowledge of the nature of science
 - Career aspirations and knowledge
 - Attendance
 - Subsequent course enrollments
 - Retention of understanding and skills
 - ✓ Faculty and institutional change
 - Changes in faculty pedagogy
 - Collegial and cross-disciplinary collaborations
 - Faculty-created tools to monitor teaching efficacy
 - Shifts in departmental interest in and reward of teaching
 - Spread of pedagogical reform ideas

- Chair's assessment of departmental change due to project
- Self-sustaining assessment practices
- Descriptions of formative and summative assessment instruments/tools
 - Focus groups
 - Interviews
 - Surveys
 - Pre/post tests (measuring subject matter above)
 - Experiments
 - Standardized tests
 - Classroom observations
 - Portfolios
 - Projects (individual or group)
 - Experimental and control groups
 - Problem solving interview (measuring reasoning/problem solving skills above)
 - Students' academic records
 - Course grades
- Instrument/Tool quality
 - Validity
 - Reliability
 - Rigor
 - Generalizability
 - Responsiveness to racial/ethnic, gender, and language differences
- Formative assessment used to make project corrections/modifications
 - Identifies unintended consequences
 - Identifies strengths and weaknesses to provide improvement
- Summative tool(s) appropriate for the task?
- Evaluation implemented as planned
- Summative evaluation measures overall impact