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
    o Subject matter knowledge (content knowledge – factual, procedural, conceptual)
    o Reasoning/problem solving skills (standard and non standard, critical thinking)
    o Scientific literacy
    o Knowledge transfer
    o Performance on standardized tests
    o 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
    o Resistance to pedagogical change
    o Enhanced knowledge of the nature of science
    o Career aspirations and knowledge
    o Attendance
    o Subsequent course enrollments
    o Retention of understanding and skills
  ✓ Faculty and institutional change
    o Changes in faculty pedagogy
    o Collegial and cross-disciplinary collaborations
    o Faculty-created tools to monitor teaching efficacy
    o Shifts in departmental interest in and reward of teaching
    o 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