Program Evaluation and Assessment

Louisiana EPSCoR Research Infrastructure Improvement Project (RII)

Annual Conference August 5, 2011

Program Evaluation and Assessment

Collaborative Teams

- External Evaluators (Office of Educational Innovation and Evaluation - OEIE):
  - Develop and implement comprehensive program evaluation plan
  - Create and pilot test instrumentation
  - Collaborate with project personnel to collect, clean, and validate data
  - Code, analyze, and summarize data
  - Coordinate with project personnel to prepare reports

- Internal Evaluation Committee and Project Personnel:
  - Year 1: Coordinated all Baseline and Year 1 data collection, analysis, and reporting
  - Years 1.5 – 5
    - Collaborate with external evaluators during instrument development
    - Collaborate with external evaluators to collect, clean, and validate data
    - Coordinate with project management and external evaluators to prepare reports

Program Evaluation and Assessment

Process

- <u>Logic Models</u> clearly defined inputs, strategies, activities, outputs, outcomes, and metrics for overall project and team goals.

- <u>Goal-Based Evaluation work plan</u> guides the assessment of the impact of team strategies and the broader impacts of the project overall. Each of the nine project team goal areas and strategies contain:
  - Strategy to be assessed
  - Types of Data
    - Data source (database, survey, interview, document review, focus group)
    - Formative and summative metrics from logic models and proposal
  - Method(s) of Evaluation (Quantitative and Qualitative) and Timeline
  - Criteria for Accomplishment or Outcomes Desired
  - Responsibility

Program Evaluation and Assessment
Example: Science Driver 1

GOAL: Transform the field by extending many-body formalism and first principles methods to much larger length scales than currently possible.

Activity/Strategy	Types of Data Collected	Methods of Evaluation and Timeline	Criteria for Accomplishment or Outcomes Desired	Responsibility
Ensure close-knit collaboration with CSci and CTCI teams.	Project Database (Names and institutions of collaborators; Types of collaborations) Project Records (Meeting agendas & minutes) Survey/interview of participants Observations and field notes from team meetings	• Descriptive analysis annually	Years 1-5: Documented number and types of collaborations. Years 1-5: Documented researcher perceptions of collaboration, barriers, and suggestions.	OEIE: Design online data collection system; Create instrumentation and administer; Analyze and summarize for APR. Project: Provide contact information for participants; Pre-notify participants that survey/interview is endorsed by project.

Program Evaluation and Assessment
Example: Workforce Development

GOAL: Address many levels of the educational ladder through training and educational activities.

Activity/Strategy	Types of Data Collected	Methods of Evaluation and Timeline	Criteria for Accomplishment or Outcomes Desired	Responsibility
Provide Research Experiences for Teachers (RET) summer workshops to grade 6-12 and two-year college teachers.	Project Database (Name, school, demographics of teachers) Project Records (Agenda and location of each summer workshop) Pre/post workshop survey of teachers with one year follow-up survey	• Descriptive and content analysis annually	Years 1-5: 20 teachers each year participate of which 15% are from two-year institutions Years 2-5: Documented use of modules by teachers; changes in teacher knowledge and application of modules; evidence of RET expanded to other disciplines and two –year institutions. Years 1 – 5: Documented evidence of changes in teacher knowledge and application of discovery-based strategies, barriers, impact and suggestions for implementation.	OEIE: Design online data collection system; Create instrumentation; Collaborate with project in data collection; analyze and summarize for APR. Project: Collaborate with OEIE to collect data.

Program Evaluation and Assessment
Data Collection Methods

- **Online Data Collection System (ongoing):**
  - Capture the quantitative milestones, formative, and summative evaluation metrics defined in the proposal. Senior personnel may access the online form at any time and enter data. All data should be entered by June 1 to allow time for completing the NSF report due June 30.
  - Capture the outcome evidence from LA-BOR EPSCoR faculty development initiatives.

- **Document Review (ongoing):** Extract evidence from project documents such as meeting minutes, agendas, internal reports, etc.

- **Survey of Outreach Participants (ongoing):** Persons engaged in educational and outreach components of the project (courses, workshops, summer research) complete pre-post assessment of skills, knowledge, and enthusiasm towards STEM career paths.

- **Interviews/focus groups (ongoing):** Document perceptions of the Executive Committee and Lead faculty regarding the implementation and impact of project initiatives. Follow-up with participants as needed.

- **Annual Project Process Survey (May-June):** Project participant perceptions of collaboration, progress, barriers, impact, and suggestions for implementation.

- **Annual Conference Site Visit (August)**
  - **Observations of Annual Meeting:** Document observations made during the Annual meeting.
  - **Participant Presentations at Annual Conference:** The lead for each of the strategies will present a summary of the years work. The presentation should include the following: status of progress toward milestones, goals and objectives stated in proposal; barriers and challenges; and significant achievements.

Program Evaluation and Assessment
Online Data Collection System Metrics

Researcher Modules	
•Senior Personnel Demographics	•Businesses Created
•Project Participants & Retention	•Internet Dissemination
•Publications	•Collaborators & Partners
•Presentations at Professional Conferences	•Researcher Outreach Activities
•Funding Proposals	•Sustainability: Research Infrastructure
•Intellectual Property	•NSF Highlights
•Nuggets	•Milestone Checklist
•Annual Research Infrastructure Survey	
Project Staff Modules	**EPSCoR Participant Modules**
•Diversity	•Sustainability: Faculty Development
•External Engagement	
•Workforce Development	

Program Evaluation and Assessment
Data Collection and Reporting Timelines

Date	Online Data Collection System	Survey/Interview/ Document review
Aug-Sept	•Finalize structure and modules •Format and validateY1 data for upload	•Write and pilot test Outreach (Diversity, Workforce Development, External Engagement) instrumentation
Year 2		
Oct. – Nov.	•Pilot test system	•Administer, collect, analyze, and summarize data for each activity (common program metrics embedded in each instrument)
December	•Update Y1 data	
Jan.– May	•Available for Y2 data entry •Clean and verify data	
June	•Run summaries for reporting	