5.8 Center Evaluation Plan

[Inadequate information provided]

Goals

There are two overarching goals for the project’s evaluation: (1) ensure that the grant project plan is being followed (e.g., monitoring, compliance); and (2) assess the quality of the activities, products, and outcomes. Monitoring questions will focus on what was accomplished during the grant. An example monitoring question is, “Were the program activities implemented according to schedule?” Evaluation questions, on the other hand, will assess the value of the grant activities, products, and outcomes. Evaluation questions include an assessment of improvements planned over time. Evaluation questions include, “What was the quality of the implemented program activities?” “What was the quality of outputs or products resulting from the program?” and “What best practices can be implemented in the future and in similar programs?”

Sample

We propose to interview and/or survey the following groups for each of the grant objectives: (1) Center faculty participating in the project’s research and education activities; (2) community college students, undergraduate students, graduate students, and post-docs participating in NOAA grant activities; (3) K-12 educators participating in the summer teacher workshops; (4) Center management and stakeholders; and (5) NOAA and industry partners.

Methods

Because the number of participants (e.g., students) and organizations/institutions is relatively large and at multiple locations throughout the nation, a multi-method approach is proposed for the evaluation of the NOAA grant. Planned methods include surveys, interviews (both individual and small group), and observations.
Surveys will be used to capture data from participants on a large scale. The specific questions in each survey will be derived from the logic model and detailed Center evaluation plan. The initial surveys will focus on process improvement (e.g., perceived quality of the online modules), but will shift in focus to assess growth on the expected outcome measures (e.g., increase in student research skills). Interviews will use retrospective survey questions, which efficiently collect pre- and post-outcome data in the same survey.

Interviews (both individual and small group) will be conducted to follow up on interesting survey results and to capture data not readily accessible in surveys (e.g., issues to be addressed as part of the process improvement). As with the survey questions, each interview protocol will be derived from the logic model and detailed Center evaluation plan. The questions will not only investigate what was accomplished during the prior year (i.e., activities), but what impact the research and education had on the students, faculty, and scientific community as a whole. As a point of reference, some questions will investigate the counterfactual: negative impacts associated with the absence of accomplishments facilitated by the grant. Interviews of small groups at remote sites will use the Center’s teleconferencing system.

Observations of the summer K-12 teacher professional development workshops will capture the activities conducted during the workshops. A post-workshop survey will assess the teacher’s perceptions of the outcomes (e.g., what they learned) due to their participation in the workshops.

Timelines and Reporting

Primary evaluation activities will occur in April and November of each year of the grant depending on the activity, product, or outcome being assessed. In order to ensure project start-up activities are being completed, an initial evaluation will occur in December 2016 (e.g., recruiting students, forming partnerships, developing courses). The evaluation of the summer teacher workshops will occur at the end of each workshop. At the conclusion of the evaluations, the external evaluator will provide an annual report to the UTSA grant faculty/staff to coincide with the NOAA grant requirement timeline (e.g., two weeks prior to the date when UTSA must supply reports to NOAA). In addition, the external evaluator will provide formal and informal written and verbal summaries to facilitate process improvement.

Refined Logic Model and Detailed Center Evaluation Plan

Upon acceptance of the proposal, will meet with project stakeholders to refine the project goals, activities, expected outcomes, and impacts in the initial logic model. The updated, refined logic model will then serve as the foundation of the Center evaluation plan, which will include a detailed table of the evaluation approach. This table (example provided in Table 5.3) will include what will be evaluated (i.e., entries in the logic model), what data will be collected (i.e., indicators/metrics), data collection methods, and the dates of each.

Table 5.3: Example detailed evaluation plan

<table>
<thead>
<tr>
<th>Logic Model Component</th>
<th>Indicator</th>
<th>Data Collection Method</th>
<th>Evaluation Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recruit and select undergraduate students</td>
<td>Recruiting methods; count of applications</td>
<td>Interview UTSA grant staff; review project documents</td>
<td>Nov 2016, May 2018</td>
</tr>
<tr>
<td>Coordination of and participation in internships</td>
<td>Progress indicators (e.g., host companies contacted, agreements in place)</td>
<td>Interviews with UTSA faculty and students; phone interviews with host companies</td>
<td>May &amp; September (each year)</td>
</tr>
</tbody>
</table>
Detailed Evaluation Plan: Logic Model Components

The logic model includes the activities, outcomes/products, and impacts of the grant. The activities in the evaluation plan include research (e.g., research on focus and technology areas), education (e.g., core and online courses developed and delivered), and management (e.g., quarterly meetings, longitudinal student tracking) activities. The activities in the detailed evaluation plan will be compiled from the proposal, administration plan, implementation plan, stakeholder meetings, and grant requirements. The outcomes and products include student outcomes (e.g., progress toward degree, research skills acquired), education products (e.g., courses and online module), research products (e.g., research publications and professional presentations), and management documents (e.g., administration and implementation plans). Impacts represent the major goals of the project (e.g., increase the number of underrepresented minority students and women in STEM). These comprise the “what” of the evaluation.

Detailed Evaluation Plan: Indicators

The indicators are the metrics to be used to assess each entry in the logic model (i.e., grant activities, products/outcomes, and impacts). Some metrics focus on center-wide management activities and outcomes (e.g., demographics of students recruited, quality of meeting minutes); others focus on research activities and outcomes (e.g., number of publications); while still other metrics focus on student outcomes (e.g., number of students graduated, number of students completing experiential opportunities at NOAA). Other metrics will be used to assess the success of activities in recruiting minorities, retention and mentoring of minority students, training of students in NOAA-mission related fields, and job placement of students.

Detailed Evaluation Plan: Data Collection Methods and Dates

For each of the project activities, outcomes/products, and impacts, the evaluation plan will include the methods used to collect the metric data and the evaluation dates. The Center evaluation plan will be reviewed and revised annually to address changes in the evaluation’s questions of interest. Evaluation questions were modified in previous projects as appropriate to assess different aspects of the project.

Longitudinal Tracking

Details of our longitudinal tracking plan have been provided in Education Section 2.5. We have identified multiple methods for tracking students. The first is a UTSA developed database that has been utilized successfully for two different undergraduate research training programs. This program will be used to store and compile data on our students. The database includes demographic information on each student, grade point average, number and types of activities the student participates in (e.g., research training, academic enrichment, academic support, research and professional skills development, advising, mentoring), as well as academic performance, summer research participation, graduate school application, graduate/postdoctoral acceptance information, and postgraduate employment. In addition, we will use the professional social-media website, LinkedIn, as a means to maintain contact with students. We will have students set up an online account during one of our professional development seminars, and we will have them connect to a Center profile as well Center faculty profiles.