2 Collaborative Impact Analysis Method

In order to better assess both the quality and impact of the wide variety of our EPO programs we adopted the Collaborative Impact Analysis Method (IAM, Davis and Scalice, 2015). IAM was selected as it allowed us to combine the EPO staff’s knowledge of programs, audiences, and content with the expertise of an external evaluator to create a valid and reliable evaluation report. One unique aspect of this approach is a periodic consultation between staff and an external evaluator.

Each project is reviewed jointly with the external evaluator, and together they score the project’s evaluation using a qualitative rubric (below).

- Outcome is a benchmark score representing where that project’s evaluation stands regarding best practices, and a pathway to improve each score.

This process promotes improvement in evaluation no matter the initial state of a project evaluation, while delivering the formative and impact data to ensure program efficacy and efficiency.

3 Evaluation Process and Initial Status

Process: Collaborative Impact Analysis Method
- Initial IAM Score: ARTEMIS current evaluation for each project
- Collaborative Impact Analysis Method: Review and update design criteria/strategic features
- Post evaluation: Develop internal structures and reporting mechanisms to support evaluation.
- Implementation: Make incremental changes to improve rubric scores.

This chart (right) shows all of the EPO programs and their initial evaluation scores. The programs have a wide range of scores because the projects are in different stages of development and implementation.

- A score of zero typically occurred for projects that were just beginning or not yet assessed using IAM, such as product development.
- A blank cell indicates that there is no evidence of impact rather than a lack of quality in the program. Some of our most successful programs earned a low score, due to a lack of systematic data collection.
- As action plans are implemented the project score (as determined from the rubric) improves.

6 Conclusions and Future Work

We have found that this collaborative evaluation method leads to more focused implementation of programs, improves the use of resources, results in richer reporting to NSF and overall produces greater project impact. The IAM plan is particularly useful because it can be implemented at any stage of the project and evaluation is integrated throughout the project life cycle. It is also well suited to facility EPO programs that are more engaged in evaluation than single PI projects, but which don’t have the detailed evaluation plans of a focused education project, as well as organizations working to add more robust evaluation to a well-developed, mature program.

Critical success factors:
1) existing internal evaluation expertise
2) clear leadership commitment and involvement
3) intentional cultural change
4) ongoing support from an external evaluator
5) use of evaluation results for improvement and reporting

We have developed a comprehensive future evaluation plan that hinges on continued implementation and feedback and includes yearly consultations and portfolio evaluations.

4 Programs

Below are some examples of IRIS EPO Programs in different stages of development / implementation. We show their beginning evaluation score, their action plan, implementation actions, and the resulting rubric score. The objective is not to achieve a perfect score; the objective is to improve the impact and efficacy of the program through evidence-based action.

**Seismic Waves**

Seismic Waves is a browser-based tool to visualize, explore, and learn about seismic waves from historic earthquakes through Earth’s interior.

http://ds.iris.edu/seismon/swaves/

**Distrinubuted Lecature Series**

This project had completed a survey prior to evaluation and thus scored Excellent (4) on the Needs Assessment. However the project Design and implementation was rated Good (3) for Goal (4), as the project was not based on clear objectives and an implementation plan. The project scored a 4.0 on Outcome Assessment as that step had not yet been implemented.

In order to improve the rigor of the program and thus increase the rubric score an action plan was created with the steps listed below.

By completing these steps the project has increased its rubric score from a 1.0 to 2.4, with improvements in Goals and Objectives, Implementation, and Outcome Assessment, and can provide much better evidence of quality and impact.

**Social Media**

IRIS maintains multiple social networking channels (e.g., blog, twitter, Facebook, Twitter, LinkedIn, YouTube, Pinterest and Reddit).

This project was able to make large strides in improving its IAM/rubric score by rewriting goals as SMART Objectives and conducting a survey to improve the evaluation quality in the Needs Assessment and Goals and Objectives phases. Additionally, a social media strategy was implemented based on prior staff knowledge that helped to raise the Design score. The responses to the survey and the feedback collected during the implementation of the strategy were used to improve and update the posting content and methods that improved the Outcomes and Assessment scores.

This is a chart showing the results of the Collaborative Impact Analysis Method.