



S-STEM REC

## **June 20, 2023 Evaluation-Centered Virtual Discussion & Knowledge Exchange Highlights**

- 31 past, current, and prospective PIs, Co-PIs, evaluators, researchers, and other project staff participated in the first evaluation-centered discussion and knowledge exchange.
- The session included a review of the roles of the PI, Co-PI, evaluator, other project staff, and, if applicable, the researcher in S-STEM project evaluation; a review of the differences and similarities of research and evaluation; and small breakout groups to discuss lessons learned from the field, share best practices, and consult with peers and experts for advice and ideas.
- Initial reactions show participants welcomed the format and the discussion & knowledge exchange series in hopes of developing a community of practice centered on supporting S-STEM PIs and evaluators.
- Suggestions included sessions targeting more veteran S-STEM PIs and evaluators to help them troubleshoot problems that are evaluation focused, breaking into smaller groups by track or role (PI/Co-PI, evaluator, researcher, other), and developing a repository of tools, templates, rubrics, process guides, etc. to assist S-STEM projects with their evaluation.

### **Breakout Groups Summary**

#### **Q1: What are some ways you have successfully collected data for your projects? Have you ever had to pivot your approach to make data collection more successful?**

Two common refrains to data collection are budgetary constraints for developing robust data collection regimens and the small population size of S-STEM Scholars directly touched by the program. Nevertheless, participants in the session shared several ways they successfully collected meaningful data. They employed qualitative data collection practices such as

- **Conducting focus groups and/or one-on-one interviews that target various S-STEM program stakeholders** (students, key partners, and the project team). These were conducted either in person or virtually through Zoom, and
- **Administering open-response survey items in surveys.**

Evaluators also administered the focus groups, interviews, and open-response survey questions at different stages of student participation.



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In addition, they have used the following:

- **Pre- and post-surveys** to capture any change in perceptions;
- **Matched engagement data with administrative and academic records** (including early warning systems);
- **Attendance at event-based activities;**
- **A comparison group of non-S-STEM students**, especially when examining transfer data; and
- **Electronic survey data collection** (after distributing paper copies earlier in the project's grant).

Participants also asked for advice and ideas on other measures for collecting data. Possible data collection sources/activities are:

- For **student perceptions and reflections** - Incorporate student journals/journaling.
- For **quantitative/validated assessments of soft skills** - Explore the applicability of WorkKeys (<https://www.act.org/content/act/en/products-and-services/workkeys-for-employers/assessments.html>) and National Career Readiness Certification (<https://www.act.org/content/act/en/products-and-services/workkeys-for-job-seekers/ncrc.html>); microcredentials and badges (Educational Design Lab's 21st Century Skills Microcredentials (<https://eddesignlab.org/microcredentialing/microcredentials/>) and VSBL (<https://eddesignlab.org/vsbl/>); and various rubrics (e.g., American Association of Colleges and Universities (AAC&U) Value Rubrics (<https://www.aacu.org/initiatives/value-initiative/value-rubrics>))
- For **small sample size statistical calculation of effect size** - Use Hedge's g.

When evaluators discussed pivoting and changing practices and procedures in response to the COVID pandemic they shared the following:

- They joined the project team's meetings regularly, which was made easier by meetings being virtual. Before the pandemic, they met with the project teams less frequently in-person during site visits. As a result of regularly attending project team meetings virtually, they shared actionable information in real-time and adapted their inquiries more quickly.
- They captured changes that occurred in the classroom (e.g., when instructors go off-topic to address students' mental health and discussions about letters of support).
- They provided timely formative feedback to the project team.
- At least one evaluator developed a program evaluation plan that was revised and implemented every spring in coordination with the external reviewer and students, which was responsive to newly generated activities based on student feedback.



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**Q2: Have you ever used formative evaluation findings to successfully implement program improvements? If so, provide an example or two.**

Overall, session participants reported formative evaluation findings have helped improve communication within their program teams and with students. Improved communication has led to check-ins with students to find out how they are doing (e.g., Are the students struggling?), and sending them reminders about available supports and opportunities (ex: Research Day). A sense of belonging and community emerged from the students resulting in implementation improvements and more engagement from subsequent cohorts.

**Q3: In what ways have you disseminated program data or findings to a larger audience?**

Session participants shared strategies and venues for disseminating program data or findings to a larger audience. At least one participant advised others to plan for dissemination by securing IRB permission, institutional research data, scholars' data, and qualitative data for publication and presentation. To draw a wider audience, participants discussed the role of research in grants, particularly for Track 3 grant projects, study designs (ex: propensity studies), and data presentations (snapshots, visuals, and mapping) that show where students are going after enrolling in the institution and the program.

One participant identified the American Society for Engineering Education (ASEE). ASEE's conferences and meetings appear to welcome a wide variety of scholarship types. Another participant presented their project at the S-STEM PI Symposium. Other participants reported presenting before academic and industry audiences and interacting formally and informally with alumni groups. They have also shared project progress and findings internally among project directors.



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