

2013

NSF STEP

GRANTEES MEETING

Post-Meeting Evaluation Report



2013 NSF STEP Grantees Meeting

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STEP Meeting Overview

The National Science Foundation (NSF) Science, Technology, Engineering, and Mathematics Talent Expansion Program (STEP) seeks to increase the number of students (U.S. citizens or permanent residents) receiving associate or baccalaureate degrees in established or emerging fields within science, technology, engineering, and mathematics (STEM). The STEP grants support academic institutions (universities and two- and four-year colleges) in increasing recruitment, retention and graduation of students in undergraduate courses in STEM, and in improving instruction and student learning in those courses.

The National Science Foundation held its 2013 annual Grantees Meeting in Washington, D.C. on March 14-15, 2013, with a pre-meeting workshop on the evening of March 13. The approximately 400 attendees included Principal Investigators (PIs), Co-PIs, evaluators, project coordinators, faculty associates, and other staff. The core of the meeting was a series of three breakout sessions with 12 concurrent topics, each lasting ninety minutes. The breakout addressed important STEM matters such as student and faculty engagement, recruitment and retention, diversity, community college transfers, undergraduate research, first-year STEM student cohorts, peer-mentoring, STEP evaluation and data collection, best practices and effective strategies, sustainability, and dissemination. In addition, the two-day meeting featured three plenary-style sessions and two poster sessions that generated a high level of interest and were well attended.

Executive Summary

Meeting feedback was collected via three surveys sent to participants immediately after breakout panels and plenary sessions to capture their opinions and insights in real time. The surveys consisted of both closed-ended and open-ended questions and included a project role identifier and session specific feedback questions. The second survey also included a section on the two poster sessions, while the third and last survey on the second day of the meeting included sections on meeting outcomes and overall satisfaction. Each of the three surveys was completed by about 200 attendees, which is a 50 percent response rate (for exact numbers, please refer to the tables in the survey findings section or in Appendix A and B). See Appendix D for survey questions.

A post-meeting survey, disseminated six weeks after the meeting, was completed by 95 participants (about a 25 percent response rate). The survey contained a section of follow-up questions intended to gauge implementation and collaboration progress as a result of the meeting, and also to follow up on implementation pledges made in the initial meeting survey responses. The questions touched upon things such as improved implementation, increased collaboration, and use of the STEP Central website. The findings of the post-meeting survey are embedded in the outcome section of this report, together with the meeting survey outcomes.

Two additional sections were added to the post-meeting survey. One section asked meeting participants about their experiences providing project monitoring data to NSF, and a second section asked about how well the STEP Central Project is achieving its intended outcomes. The project monitoring data section was added to provide additional information to NSF about monitoring data the agency collects. Participant responses are included under Plenary II (luncheon) - "STEP: What are we learning and what would we like to learn, led by Lee Zia and Connie Della-Piana," in which NSF data collection was discussed. The STEP Central project outcomes section was added because the grantee meetings are an integral part of the overall STEP Central project and it's difficult to disentangle the meeting from other components of the project. The outcomes section presents meeting attendees' views of how well the STEP Cen-

tral project is achieving intended outcomes. Meeting attendees reported that the STEP Central project is achieving the project's intended outcomes. As reported by meeting participants, the in-person meetings generally contribute most to the outcomes. STEP Central project outcome responses are included in Section V and tables summarizing responses in detail are presented in Appendix C.

The report is divided into five main sections: I. Meeting Outcomes; II. Session Level Analysis; III. Participant Satisfaction with Meeting; IV. Suggestions and Recommendations about Meeting; V. STEP Central Meeting Outcomes. Four appendices are also included: Appendix A – tabulation of meeting survey items (shows a full tabulation of each item in the survey, including cross tabulations between grantees' role and experience on the project); Appendix C – tabulated follow-up outcomes data from the post-meeting survey; and Appendix D – a copy of the two surveys sent to meeting participants).

Overall, meeting participants reported a high degree of satisfaction with the meeting as a whole and with the individual sessions (see Sections II and III). In their open-ended comments, several attendees said the 2013 meeting was better than previous STEP grantees meetings. They were largely pleased with the commitment and engagement of both presenters and attendees, the opportunities to network and exchange experiences of other projects, and with the useful information provided, particularly the dissemination of outstanding best practices. Numerous participants hailed the plenary presentation by Philip Uri Treisman, Professor of Mathematics and Public Affairs at the University of Texas at Austin, as remarkable and the absolute highlight of the 2013 meeting.

Additionally, meeting outcomes such as awareness raising, knowledge enhancement, readiness to apply the learning in practice, and collaboration were largely met, as reported by participants (see Tables 1, 2, 3 and 4) and session-level data tables. At the session level, overall value and knowledge gains were still rated as very high, but fewer people reported applying the knowledge in practice and cooperating with other STEP grantees as a result of a session they attended, compared with the reported outcomes from the meeting as a whole. Many also said that they

intend to use STEP Central for collaboration and information sharing. The only outcome that fewer respondents reported positively on (especially at the session level) was cooperation with other STEP grantees after the meeting. Some more elaboration and clarifying comments on that will follow in the respective sections of this report. The findings from the follow-up post-meeting survey also showed that the actual collaboration, implementation changes, and use of STEP Central that occurred as a result of the meeting was less than what was pledged or anticipated by respondents in the meeting survey.

In their open-ended feedback, participants also provided suggestions and recommendations on improving the content and information, sessions, and organization of future meetings (Section IV, Suggestions and Recommendations). Consistently highlighted themes included showcasing best practices supported by good data, sharing challenges and things that did not work, and focusing on solutions. On the sessions, the main suggestions were to cut the number and length of sessions in order to allow for more unstructured time; to separate sessions according to the level of experience of attendees; to provide accurate titles, and to introduce a workshop format. Recommendations on the organization of the meeting addressed length and number of days, time management, logistics, travel, accommodation, and cost.

I. Meeting Outcomes

The 2013 STEP Grantees Meeting had a few intended outcomes for grantees related to increased awareness, knowledge gains, adoption and application of best practices, collaboration, and streamlining the STEP Central website. Several survey questions solicited feedback from participants as to whether the meeting facilitated reaching these outcomes. Overall, around ninety percent of respondents strongly agreed or agreed that the meeting met its objectives.

1. INCREASED AWARENESS OF BEST PRACTICES FOR SUPPORTING STUDENTS IN STEP GRANTS

Attendees largely agreed that the meeting increased their awareness of best practices utilized by grantees to support STEP students.

Table 1. After this meeting, I am more aware of best practices related to supporting students in STEP grants (n=193)

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
32% (62)	57% (110)	9% (17)	2% (4)	0% (0)

Different analytical cuts of the data by project role and experience show that increased awareness was reported mostly by the STEP grantee leadership – PIs and Co-PIs – (Table 1a), which is in line with the attendance data reported. Consistently, over 70 percent of the meeting attendees at each session were PIs and Co-PIs (See Appendix A, Table A6, A7, A8). The third largest group – Project Coordinators (16 to 19 percent of attendees at the sessions) also proportionally reported a noticeable increase in awareness.

Table 1a. Increased awareness breakdown by role (n=179)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
PI	11.7% (21)	21.8% (39)	2.2% (4)	0% (0)	0% (0)
Co-PI	14.0% (25)	17.9% (32)	2.8% (5)	1.1% (2)	0% (0)
Evaluator	2.2% (4)	2.2% (4)	1.1% (2)	0.6% (1)	0% (0)
Project coordinator	3.4% (6)	13.4% (24)	2.2% (4)	0.6% (1)	0% (0)
Faculty associate	1.1% (2)	1.1% (2)	0.6% (1)	0% (0)	0% (0)
Total	32.4% (58)	56.4% (101)	8.9% (16)	2.2% (4)	0% (0)

*N=179 is not equal to n=193 from Table 1, because some respondents did not report role and therefore could not be cross-tabulated

When it comes to increased awareness based on attendees' experience with STEP meetings, it is interesting that the biggest gains in awareness were reported by the new personnel (first STEP meeting attended) and the most experienced staff (four or more STEP meetings attended) alike (Table 1b).

Table 1b. Increased awareness breakdown by experience (n=192)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1 meeting	12.5% (24)	15.6% (30)	4.2% (8)	0% (0)	0% (0)
2 meetings	5.2% (10)	12.5% (24)	0.5% (1)	1.6% (3)	0% (0)
3 meetings	3.6% (7)	8.3% (16)	2.1% (4)	0% (0)	0% (0)
4 or more meetings	10.9% (21)	20.3% (39)	2.1% (4)	0.5% (1)	0% (0)
Total	32.3% (62)	56.8% (109)	8.9% (17)	2.1% (4)	0% (0)

*n=192 is not equal to n=193 from Table 1, because some respondents did not report years of experience and therefore could not be cross tabulated

In their open-ended comments, respondents confirmed that they are now more aware of best practices and eager to consider implementing such practices at their institutions. Several attendees pointed to Dr. Treisman's talk and the information about successful bridge programs as being particularly beneficial to them.

2. INTERACTING WITH OTHER STEP GRANTEES PROVIDED ME WITH STRATEGIES AND BEST PRACTICES FOR BETTER IMPLEMENTING MY STEP GRANT

A large majority of meeting participants reported that interaction with staff from other STEP projects provided ideas on how to better implement their own grants.

Table 2. Interacting with other STEP grantees provided me with strategies and best practices for better implementing my STEP grant (n=191)

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
49% (93)	41% (79)	9% (18)	0.5% (1)	0% (1)

Separating the data by project role, PIs and Co-PIs reported gaining most new implementation knowledge based on their interactions at the meeting (which also is a reflection of the broad representation of PIs and Co-PIs at the meeting, followed by Project Coordinators (Table 2a).

Table 2a. Breakdown by role (n=178)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
PI	19.7% (35)	14.6% (26)	1.7% (3)	0% (0)	0% (0)
Co-PI	16.3% (29)	14.6% (26)	4.5% (8)	0.6% (1)	0% (0)
Evaluator	2.8% (5)	2.8% (5)	0.6% (1)	0% (0)	0% (0)
Project coordinator	7.3% (13)	9.0% (16)	2.8% (5)	0% (0)	0% (0)
Faculty associate	1.7% (3)	0.6% (1)	0.6% (1)	0% (0)	0% (0)
Total	47.8% (85)	41.6% (74)	10.1% (18)	0.6% (1)	0% (0)

*N=178 is not equal to n=191 from Table 2, because some respondents did not report role and therefore could not be cross tabulated

Once again, when it comes to implementation of knowledge gains according to level of experience, new and most experienced STEP staff report the highest gains, with those who had attended two or three meetings taking less from the meeting in terms of knowledge (Table 2b).

Table 2b. Breakdown by experience (n=190)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1 meeting	16.3% (31)	13.2% (25)	2.6% (5)	0% (0)	0% (0)
2 meetings	8.9% (17)	10.0% (19)	0.5% (1)	0.5% (1)	0% (0)
3 meetings	6.8% (13)	5.3% (10)	1.6% (3)	0% (0)	0% (0)
4 or more meetings	16.8% (32)	12.6% (24)	4.7% (9)	0% (0)	0% (0)
Total	48.9% (93)	41.1% (78)	9.5% (18)	0.5% (1)	0% (0)

*n=190 is not equal to n=191 from Table 2, because some respondents did not report years of experience and therefore could not be cross tabulated

In their open-ended comments, grantees who are winding down at the end of their programs reported that they felt their role at the meeting was to offer strategies to others in earlier stages of their grants. Others stated that they learned from people with different types of programs from their own. Also, the poster sessions and the hand-outs distributed at the meeting were reported by respondents as very useful in communicating strategies and best practices.

To follow-up with implementation strategies and best practices from the meeting, the post-meeting survey asked a question on grant changes and new strategies that have been implemented as a direct result of what had been learned at the meeting (both the 2012 and 2013 meetings). In addition to strong implementation knowledge gains during the meeting reported in Table 2 above, the results in Table 2c show that a little more than one-third introduced or implemented changes or improvements to their grants immediately after the meeting in 2013, which is an improvement from the 2012 meeting.

Table 2c. Post-meeting implementation changes (n=84)

Meetings	Have you changed your STEP grant implementation based on something you learned from other grantees during the meeting?			
	Yes	No	Did not attend	Total
2013 meeting	34.5% (29)	65.3% (55)	0% (0)	100% (84)
2012 meeting	26.2% (22)	40.5% (34)	33.3% (28)	100% (84)

The same trend was confirmed when slicing the data by project role (Appendix B, Table B2), with the exception of project coordinators who reported proportionally more implementation changes as a result of the meeting, compared with PIs and other STEP staff. As shown in Table B3 (Appendix B), relatively new STEP meeting attendees (those who had attended one to three annual grantee meetings) reported significantly more implementation gains and changes as a result of the meetings compared to those who had attended four or five meetings to date. In their open-ended comments, participants listed specific activities that they have started implementing as a result of the 2013 and 2012 meetings:

- Used models of peer mentoring from other grantees to inform development of peer mentoring program.

- Modified mentoring program from a faculty to student-to-student peer mentoring program (and also used past summer participants as peer mentors in the summer).
- Applied for on-campus money to add a component of mentorship.
- Revised the way peer-led study sessions were run and hiring procedures based on success in other programs.
- Brought in a resident assistant for the summer bridge program.
- Added community college transfer students to work with freshman summer bridge students instead of having separate activities for the transfer students.
- Changed how we work with transfer students.
- Incorporated more community building into the undergraduate research experience.
- Refined data collection and analysis.
- Recruited an external evaluator.
- Established learning communities in the STEM field.
- Redirected funds from ineffective efforts to ones that had an impact.
- Started preparing early for third-year review.
- Implemented changes in marketing.
- Introduced changes in how the advisory board was conducted.
- Included students in the interviewing process for our Students Success Center staff.
- Focused more attention on scaling-up “high-impact educational practices.”
- Used student organizations to conceptualize and implement some recruiting events.
- Gained information on PLTL from other grantees.
- Embraced the concept of teaching Metacognition. It was used in freshman orientation, and we trained Engineering Peer Mentors, Learning Community Assistants and our advising staff to use these concepts with students.
- Added new tracks in math to recruit additional students.
- Received ideas on sustainability and other sources of funding for institutionalization.
- Changed major components of how we ran the student end of the project (insisting students participate for a full year and adding a research component to the leadership seminar).
- Had more freedom to stop programs that weren't working and add new things.

3. COLLABORATION

Seventy-four percent of all respondents stated that after the meeting, they planned to contact STEP peers from other programs to start collaboration in addressing common issues of concern discussed during the meeting. However, that high percentage was not confirmed at the session level, where significantly fewer people reported that they plan to collaborate more as a result of a particular session they attended. In numerous open-ended comments, respondents talked about particular areas of collaboration that they have in mind. Most often, they reported planning to obtain or exchange information (data, surveys, best practices, successes, outcomes, evaluation and self-assessment, E-portfolio systems, faculty development strategies, math education reform, implementing learning communities and research, completing third year review), as well as share protocols, forms and templates. Several respondents from projects applying for STEP 1b grants also mentioned that they will borrow knowledge and expertise from projects that have already implemented them.

In addition to information exchange, some particular ideas on specific collaboration activities and action items were also discussed in participants' open-ended comments. Planned cooperation activities included implementation of best practices; taking on joint undergraduate research projects and STEP data analysis; collaborating to provide opportunities for students, faculty and staff from these STEP programs to interact; contacting community college STEP grantees who partner with four-year universities for guidance and direction on achieving intended grant objectives; creating better student opportunities for transfer; and partnering with industry. In addition, grantees who had received their third-year review intended to share the questions and spreadsheets with newer grantees. Several respondents also reported utilizing the STEP grant mentoring program to contact mentors after the meeting.

Following up on planned future collaboration, the post-meeting survey specifically asked grantees if, in the six weeks since the meeting, they had contacted peers that they met during the meeting to collaborate in addressing common issues. Thirty percent reported that they had done so, and around 70 percent had not (Table 3).

Table 3. Post-meeting collaboration (n=85)

Since the 2013 STEP Grantee Meeting, have you contacted anyone you met during the meeting to collaborate in addressing common issues of concern that came up during the meeting?		
Yes	No	Total
30.6% (26)	69.4% (59)	100% (85)

When responses were broken down according to role, it was found that more faculty associates reached out to peers than not (Appendix B, Table B6). A breakdown by experience showed that less experienced STEP staff reached out to peers to collaborate more than did experienced staff (Appendix B, Table B7).

In their clarifying open-ended comments, respondents who had not reached out to peers explained that they hadn't had the time, or that other STEP grantees had already reached out to them. Those who had begun working with other STEP grantees reported collaborating on activities such as grant administration, sharing online materials, peer mentor training, math education, classroom innovation, sharing third-year report copies, exchanges of visits, and hosting of seminars, and sustainability. These activities were largely in line with the kinds of collaboration pledged during the meeting.

On interaction and collaboration with NSF project officers, in the post-meeting survey respondents were almost evenly split (49 percent “yes” versus 51 percent “no”) regarding having the opportunity to meet with their officers as a result of the meeting (Appendix B, Table B8 and B9). The trend was consistent if we sliced the responses by project role. However, Principle Investigators (PI) reported less interaction with NSF project officers than did others. Filtered by years of experience, the data showed that those who have attended three meetings reported substantially more interactions with NSF project officers than did others.

STEP Central for Collaboration

Initially during the meeting, around two-thirds (64 percent) of those who stated that they planned to contact STEP peers to collaborate reported that they planned to use STEP Central to facilitate communication. They saw the website as a good resource for information sharing and planned to post and search for useful information online, as well as to participate in discussion boards. Those who were hesitant (36 percent of respondents) to use STEP Central said that they would rather contact peers directly by email because it’s easier and faster. The follow-up post-meeting survey touched on the use of STEP Central for cooperation again and the results showed that around 62 percent had not used the site for collaboration after the meeting (Appendix B, Table B4 and B5). Breakdown by role shows that project coordinators are the exception; of these, a majority had used the website for collaboration. Breakdown by experience shows that the new STEP staff members who had attended only one grantee meeting used STEP Central more frequently than did others.

II. Session Level Analysis

In the course of two days, the meeting included three plenary-style sessions, three breakout panels with 12 concurrent sessions each, and two poster sessions. The following section presents the findings from the survey on the session level.

Plenary I - The Meaning of Success: STEM Education in an Ever-changing Workforce (Eduardo Padron)

The opening plenary of the meeting featured a talk by Eduardo Padron, President of Miami Dade College. Over 70 percent of the 196 attendees reported that the presentation was valuable to them and enhanced their knowledge (Table 4). Noticeably fewer – around 50 percent of attendees – thought that they would apply knowledge gained from the presentation in their actual work.

Table 4. Plenary I - The Meaning of Success: STEM Education in an Ever-changing Workforce (n=196). Thursday, March 14, 2013, 9.00 am - 10.15 am

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
The presentation was valuable to me	34.2% (67)	43.4% (85)	16.3% (32)	5.6% (11)	0.5% (1)	100% (196)
The presentation enhanced my knowledge	29.1% (57)	41.3% (81)	20.9% (41)	7.1% (14)	1.5% (3)	100% (196)
I expect to use the knowledge gained from this presentation in my STEP related work	22.4% (44)	31.6% (62)	33.2% (65)	11.7% (23)	1% (2)	100% (196)

In their additional, open-ended comments on Plenary I, participants said the presenter was excellent and the conversation on higher education administration was important and relevant. They also liked the human-centered approach and the advice on how to navigate institutional budget and fiscal insecurities. For some attendees, it was really valuable to hear from the leadership of a two-year college – a perspective that is not usually well represented at STEP meetings. Yet, others felt that due to the nature of a plenary session and time constraints, the address was too general and the presenter did not have the chance to fully share his wealth of knowledge and expertise on best practices in STEM education and retention, or to talk about successes in his own institution.

Plenary II (luncheon) - STEP: What Are We Learning and What Would We Like to Learn? (Lee Zia and Connie Della-Piana)

Plenary II also featured an effective presentation, as shown by high scores on the session outcome questions. Around 70 percent of the 187 respondents felt that the presentation was valuable and enhanced their knowledge of STEP (Table 5). Slightly less than 70 percent also agreed that they plan to apply the new knowledge in their work.

Table 5. Plenary II (lunch session) - STEP: What are we learning and what would we like to learn (n=187)? Thursday, March 14, 2013, 12.45 pm – 1.45 pm

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
The presentation was valuable to me	21.4% (40)	51.9% (97)	23% (43)	3.7% (7)	0% (0)	100% (187)
The presentation enhanced my knowledge	20.9% (39)	48.7% (91)	24.6% (46)	5.9% (11)	0% (0)	100% (187)
I expect to use the knowledge gained from this presentation in my STEP related work	21.4% (40)	42.2% (79)	29.9% (56)	6.4% (12)	0% (0)	100% (187)

What people found particularly useful in the luncheon session, as reported in their open-ended comments, was that having lunch in a table format provided a good forum for networking, hearing about other programs, and sharing experience. Both presenters came prepared and presented useful information on STEP data, dissemination, and funding for student tracking. Respondents who could not relate to the session outcomes from Table 5 explained that because they are at the end of their grants, opportunities for collaboration and application of new knowledge are very limited.

Program Monitoring and Data Collection

To provide additional information to NSF on program monitoring data, respondents were asked to provide feedback on the program monitoring and data-collection process in the follow-up post-meeting survey. The following three tables summarize the findings from the survey questions on timing, burden, and involvement as far as monitoring activities are concerned.

Table 6 indicates that the majority of respondents agree that the summer months between May and August offer the most convenient time for programs to provide monitoring data.

Table 6. What time(s) of the year are most convenient for you to provide program monitoring data for the STEP program to NSF? n=71*

Month	Percentage/count
January/February	16.9% (12)
March/April	18.3% (13)
May/June	45.1% (32)
July/August	45.1% (32)
September/October	19.7% (14)
November/December	4.2% (3)

*Accumulative percentage > 100% because it was a multiple answer question and some respondents listed more than one answer.

Sixteen respondents also provided open-ended clarifying comments as to why certain times of the year are more convenient for reporting. The summer is the best time, because the preceding spring semester, with student finals, is the most overwhelming and stressful time of the year. Plus, the data from the spring semester is needed for monitoring and reporting and the IR office requires sufficient time to process that data. Yet, the time for reporting should not be stretched too far past the spring semester and into the new academic year, because data could be forgotten or get lost amid other research projects. The summer is a good time also because a good measure for success in retention is whether students get into a major or not, and that process is not complete until May. In general, although the summer is more convenient than other times, several respondents said that it is always a challenge to carve time off a busy schedule for monitoring and reporting activities.

Table 7 shows that as reported by participants, it falls largely to PIs and Institutional Research offices, followed by administrative staff and project evaluators, to report data for program monitoring.

Table 7. When you provide data for program monitoring purposes, who is involved in providing and reporting that data? n=80*

Role	Percentage/count
STEP Project PI	80% (64)
Administrative Staff for STEP Project	55% (44)
Graduate Students	12.5 % (10)
STEP Project Evaluator	48.8% (39)
Institutional Research Staff	71.3% (57)
Staff from the Registrar Office	8.8% (7)
Other	17.5% (14)

*Accumulative percentage > 100% because it was a multiple answer question and some respondents listed more than one answer

For those who responded with “other,” several different titles were listed in open-ended comments as to who does the monitoring and reporting:

- Program Director
- Co-PIs
- Postdoc fellow
- Project Manager
- Faculty Associate
- Assessment Coordinator
- Faculty and UG student employees
- Undergrad students retrieve data from budget and planning reports that are online.
- Business Intelligence reporting

On the question of time burden for STEP staff to provide monitoring data, the results reported in Table 8 show that slightly over half estimate total staff time to be less than a week, whereas the remaining 44 percent report that it will be a week or more.

Table 8. How much staff time do you estimate is required by you and staff at your college or university each year to provide NSF with program monitoring data for the STEP program (all time by all staff in your estimate, not just your own time)? n=75

Staff time	Percentage/count
1 hour	0% (0)
1-8 hours	6.7% (5)
9-16 hours	24% (18)
17-24 hours	18.7% (14)
25-32 hours	6.7% (5)
A week	20% (15)
More than a week	24% (18)

In their open-ended comments (n=14), many stated that they are only providing a rough estimate of time needed for data reporting and that it is hard to be exact. Some more specific comments and individual examples included the following:

- My estimate provided may be an underestimate, as I have no idea how time consuming it is for the Institutional Research staff. Somewhere between 2-3 days would be a reasonable estimate for the PI, co-PI and district coordinator of our grant. Unfortunately, that is multiplied by three because the grant was awarded to the district, but reporting is completed for each of the three community colleges in the district.
- Our systems are very limited, which requires using labor and in many cases “proxies” for the data to answer questions we have. Inefficiency with these methods increases the time required to collect and analyze these data.
- In addition to the five PI/Co-PI’s, Step Director and STEP Evaluator, we involve some 30 faculty and staff in a half-day retreat to share what is going on in each facet of our STEP activities. This discussion is prepared in such a way as to facilitate (fulfilling) the reporting requirements. It is hard to judge where the line is between data gathering for the report and sharing as the normal course of evolving our shared understanding.
- It is very difficult to determine the time since we continuously and constantly are collecting data. The actual time we spend entering data (and communicating data to the evaluator) is about a week’s worth of work for a single person, but to quantify the amount of man hours spent collecting data (administering surveys, entering into excel and databases) throughout the year and among the different staff is challenging.
- If you include financial documents for federal audits, it is about a week.
- We were a “comprehensive” grant and have numerous “mini-grants” that we have awarded, so data gathering is constant.
- The way the data is online is not in the same format as what is being requested, especially the demographic part on race/ethnicity.
- Overall, assessment activities are probably a two-person month job. The NSF specific requirements are about one week of an IR person plus two to three days of graduate assistant’s time. This is exclusive of the annual reports or third-year review materials. It’s a lot, but it is OK. You need this data anyway.
- There are many of us working independently and we need to keep tabs on the information during the year to be able to have it. It is hard thinking a year in the past.

Monitoring and Reporting Recommendations

The post-meeting survey also asked two open-ended questions on the role of NSF in monitoring and reporting and how this role could be improved. The questions are listed below, together with the respective answers provided. The comments have been consolidated in terms of duplicate themes, but their entirety and integrity have been kept, with only punctuation and language corrected when needed.

What kind(s) of support from NSF would be helpful when it comes to collecting data for monitoring purposes? n=30

- Send a letter to the president and provost of the university explaining the importance of timely data collection for reporting the results of NSF grants.
 - Provide more clarification on the data that is needed and suggest data that should be collected.
 - Provide context and information on how is data used, and how we can learn from data submitted by other grantees.
 - Provide inventories of instruments to conduct surveys, before-and-after questions, data base examples with fields that are useful to collect for later analyses.
 - Provide an option to upload a database to automatically populate all the fields in the data-collection survey. If we had and could manage a template, throughout the year, then it would be much, much easier to continuously update the database, term-by-term, and then upload it at the end of the reporting period.
 - Not requiring so many reports that go to different places. Would like to see more overlap of reports.
 - Provide clear articulation and alignment of NSF STEM CIP codes for STEM disciplines (particularly Technology-related disciplines) offered in 4-year and 2-year universities/colleges.
 - Data collected do not seem to directly relate to the programs offered through STEP.
 - Providing access to national data
- Send the spreadsheet ahead of time - this year that was very useful.
 - Sharing of creative ways in which different universities have obtained the data; it's often difficult to navigate the idiosyncrasies of specific campuses.
 - The Community colleges report data differently; as one example, students do not declare majors. The STEP survey staff was extremely helpful in working with the CC research staff to help them supply the data that was needed.
 - Create a Clearing House contact to monitor the whereabouts of students who have benefited from our grant. It is hard to find out what happened to them after transferring to a 4-year institution. To the extent that the NSF can drive the reporting of students as they move from one institution to another it would be of enormous value to all.

In your opinion, what should NSF do differently when it collects monitoring data for the STEP program? n=31

- Distinguish programs that have students enter the major directly (i.e., in the first year) from those in which students enter majors in their sophomore and junior years.
- Change the due date to the summer when schools have more time.
- NSF should provide lessons learned and data from programs that successfully show increases in the percentage of STEM graduates. This is a number they are focused upon, and yet we never see any indication of the programs and/or strategies that lead to excellent results. It would be helpful to have quantitative data that show how other programs are growing and what methods they have used to achieve this growth.
- Create a searchable master data base to help others easily find related experiences, activities and programs. Include characteristics that describe the type of institution and its student body demographics.
- Consult with PI/Co-PI and decide what data is most useful for the particular project.
- Showcase for STEP Grantees how the monitoring data collected annually are used by NSF.

- Make the data input easier.
- NSF should not require so many identical reports that go to different places. We would like to see more overlap of reports - information from QRC report should not be duplicated in annual project report. NSF should pull that existing report data and simply expand on the data and information already provided. Right now, we need to file an annual report about activities and findings. The STEP report also requires reporting of activities and findings but in a different format. Can these be combined?
- Provide more advanced notice of collecting data and surveying and give early feedback.
- They should get the primary data from ASEE (why are we collecting the same overall data 2 or 3 times in a variety of formats)?
- Send a list of CIP codes rather than general labels for curricula for which data is needed.
- Define something other than “major” for community college students.

Plenary III - Innovation as Ornament and the Challenge of Improvement at Scale (Philip “Uri” Treisman)

The talk by Dr. Triesman in the third plenary session was the most anticipated and praised single presentation and the highlight of the 2013 STEP Grantee Meeting. As Table 9 indicates, well over ninety percent of the 189 respondents reported positive gains on all the outcomes from the session – value, knowledge enhancement, and practical application of new knowledge.

Table 9. Plenary III - Innovation as Ornament and the Challenge of Improvement at Scale (n=189). Friday, March 15, 2013, 8:30 am – 10:00 am

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
The presentation was valuable to me	73.5% (139)	20.1% (38)	5.3% (10)	1.1% (2)	0% (0)	100% (189)
The presentation enhanced my knowledge	69.8% (132)	22.2% (42)	7.9% (15)	0% (0)	0% (0)	100% (189)
I expect to use the knowledge gained from this presentation in my STEP related work	63% (119)	22.2% (42)	13.8% (26)	1.1% (2)	0% (0)	100% (189)

In their open-ended comments, participants praised the session as one of the best talks they had heard – not just at STEP meetings, but at conferences in general. Many used the word “inspirational” to describe it. They rated the presenter as excellent and very knowledgeable. His presentation was well grounded in STEM education research, thought-provoking, and very relevant to everybody’s work and the challenges that they face. It raised important questions and communicated lessons learned that numerous attendees plan to share with their own institutions after the meeting. Many respondents also suggested that it would be very beneficial to have Dr. Triesman’s plenary presentation posted online (STEP Central), together with a list of references.

Breakout Panel I

A comparison of results of Breakout Sessions I (Table 10) shows that the majority of sessions scored high among attendees in bringing value, knowledge gains, and an expectation that the new knowledge will be applied in practice. However, almost uniformly, significantly fewer people reported that as a result of the session, they expected new or increased collaboration with staff from other STEP projects. Two sessions stood out as scoring high all across the board – the Keynote with Eduardo Padron and the session on strategies portfolio. The sessions on STEP program deficiencies and data collection lagged behind on all scores.

Table 10 - Breakout I session comparison data*

Name and Number of Breakout I Sessions	The session was valuable to me (n=184)	The session enhanced my knowledge (n=183)	I expect to use the knowledge gained from this session in my STEP related work (n=181)	After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session (n=180)
1. Keynote: Continue the Conversation with Eduardo Padrón	71.4%	83.3%	83.3%	83.3%
2. Introductory Research Experiences for At-risk Freshman-Sophomore STEM Majors	86.4%	86.4%	86.4%	47.6%
3. Fostering Changes in Institutional Culture & Practice	73.3%	66.7%	73.3%	53.3%
4. First-Year STEM Student Cohorts: Assessment and Best Practices	93.8%	93.8%	93.8%	66.6%
5. Identifying Deficiencies in Your STEP Program	66.6%	66.6%	66.6%	62.5%
6. Strategies for Promoting Faculty Engagement with Early STEM Students	77%	84.6%	77%	53.9%
7. Working Smart: How to Build, Evaluate, and Sustain a Portfolio of Strategies	90 %	80%	80%	70%
8. Developing Effective Bridge Programs	88.8%	88.8%	77.7%	33.3%
9. Strategies for Sustainability / Institutionalization	72.4%	75.8%	71.4%	37.9%
10. Successful Experiences in First Year Mathematics Courses	94.4%	72.3%	70.5%	38.9%
11. Strategies for Promoting Diversity	81.8%	90.9%	81.9%	45.5%
12. Data Collection, Publishing, and Dissemination of Results	68%	68%	68%	32%

*Percentage combines the “Strongly agree” and “Agree” response categories

To add some perspective to the results in Table 10, 38 respondents also provided open-ended clarifying comments. There was general praise that the session discussions provided vision, ideas, best practices, effective strategies, and useful professional contacts with similar projects that face the same challenges. Information and presentations on community colleges and first-year STEM student cohorts were highlighted by respondents as particularly useful. As reported, both presenters and attendees did a good job with interaction and participation at the sessions.

Some of the more critical feedback provided insight as to why some participants did not expect to use the information from the conference in practice, or to collaborate with staff from other STEP projects. One explanation was that while sessions addressed valid issues, they did not generate any solutions. Another reason was that for projects past their third year, the window for implementation and collaboration has passed.

Suggestions and Recommendations

Some open-ended comments to Breakout Panel I provided specific recommendations for improvement. Suggestions included having less brainstorming and more case studies, especially for sessions addressing sustainability strategies, where projects that have successfully institutionalized aspects of their projects need to be involved and showcased. Another suggestion urged having a diverse mix of presenters, as well as a variety of different types of schools (e.g. urban vs. rural; four year vs. community colleges) to capture and showcase all the different issues that STEP grantees are facing. Regarding the Bridge Programs addressed in one of the sessions, an attendee pointed out that the grantee meeting should be attended by representatives of two-year institutions, since those are the schools that commonly host and manage Summer Bridge programs. One comment also emphasized the importance of data and having a data session at the grantee meeting, but suggested that NSF could be more specific about its objectives in the data requests for third year reviews, and offer more clarity on whether data should be numbers, or best practices and anecdotes. Related to that, that respondent also suggested further that grantees should perhaps incorporate social scientists or evaluators in their grants for data collection and compliance.

Breakout Panel II

A comparison of results for the sessions from Breakout Panel II (Table 11) shows that 10 out of the 12 sessions scored high on value and knowledge enhancement. A relatively high number of people, but with more variation across sessions, indicated that they also expect to apply the new knowledge in their work. Once again (as with sessions from the first breakout panel) consistently across all Breakout Panel II sessions there were significantly fewer people (compared to the other session outcomes) who stated that as a result of the session they attended, they will collaborate with other STEP projects. The sessions on student engagement and data collection scored considerably lower on all session outcomes.

Table 11 - Breakout II session comparison data*

Name and Number of Breakout I Sessions	The session was valuable to me (n=170)	The session enhanced my knowledge (n=169)	I expect to use the knowledge gained from this session in my STEP related work (n=170)	After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session (n=169)
1. Building Bridges for STEM Success: Implementing Effective Summer Bridge Design	84.6%	84.6%	77%	46.2%
2. Supporting Community College Transfers	68.4%	83.3%	68.4%	42.1%
3. Characteristics of Excellence in Undergraduate Research (COEUR): A guide for undergraduate research initiatives	88.2%	93.8%	81.3%	56.2%
4. Six Steps to Your STEP Evaluation	92.3%	84.6%	84.6%	61.6%
5. Developing and Sustaining a Successful Peer Mentoring Program: Positive Effects on Student Retention	77.8%	81.5%	74%	63.7%
6. Amplifying the ripples: Disseminating your Educational Project to a Larger Audience	80%	81.9%	63.7%	45.5%
7. STEM Education Organizations	80%	90%	80%	40%
8. Sparking and Sustaining Active Student Engagement	40.9%	50%	31.8%	31.8%
9. Effectively Managing Your Project	88.9%	88.9%	77.7%	62.5%
10. Preparing for Your 3rd Year Review	91.7%	91.7%	91.7%	66.6%
11. Collecting and Organizing Data: How and Why	66.7%	50%	50%	50%
12. Type 2 Round Table	83.3%	83.3%	83.3%	66.6%

*Percentage combines the “Strongly agree” and “Agree” response categories

Further clarifying the results from Table 11, 40 respondents provided open-ended feedback. Participants said the sessions presented outstanding best practices that they intend to implement in their projects, or in their future grants. Some also noted that some basic email exchange and cooperation with other STEP grantees had already begun during the meeting, as a result of the networking. A number of people also particularly liked the questions and answers (Q&A) after session presentations, as well as the informal and open format of sessions, the approachability of presenters, and the good facilitation. Overall, participants felt that there was a good level of commitment and engagement from both session presenters and attendees.

Several comments also provided specific feedback linked to individual sessions. The session on evaluation was reported as particularly helpful to new PIs and new evaluators. For the mentoring session, participants reported that having university peer mentors present at the session was of great help. The undergraduate research session (COUER) helped identify gaps for improvement and enabled sharing and problem solving among participants. Preparing for the third-year review session was of great value for many second-year grantees in preparing for their third-year review. The timing of the dissemination sessions was perfect for grantees for whom dissemination is in the forefront of activities at the moment. For Type 1 STEP grantees, the session on Type 2 presented a validation of components that may fit, as they are considering Type 2 proposals.

In the open-ended comments to Breakout Panel II sessions there was also some critical feedback with room for improvement. Several participants elaborated on the noticeably lower scores of the student engagement session (Table 11): the session presented an interesting description of projects, but was not particularly focused on engaging students and really missed its topic and its objective. Some of the programs showcased at other sessions did not demonstrate any impact upon graduation. For a few respondents, the data presentation (the other session with a lower score) was too general, the discussion was poorly moderated and drawn off topic by the participants, and it failed to provide specific examples of how to analyze data for STEP projects. Others noted that some of the session content duplicated content from the summer PI meeting. Furthermore, there was a lack of focus on community colleges and a lot of the information presented was geared towards four-year institutions. Some people did not like the open discussion and participation format of sessions and said they would prefer hearing a presentation by an expert, rather than having a discussion. One particular comment provided some insight on the session outcome question that generated the lowest scores overall (Table 11) – collaboration. The respondent loved the idea, but is too busy and overwhelmed with managing the grant and other project duties to be able to engage in collaboration.

Suggestions and Recommendations

Some of the suggestions listed in the open-ended feedback to Breakout panel II sessions included being more descriptive in the session titles or providing a synopsis – a participant thought that the peer mentoring presentation was going to show a supplemental instruction type peer model, but it showcased a bridge-type program instead. A respondent also suggested making the third-year review session an annual piece of the meeting because it is really valuable. Having presenting program officers come with something prepared in addition to speaking off the cuff and having hand-outs to help participants focus at presentations was also recommended.

Breakout Panel III

Breakout Panel III sessions on the second day of the meeting produced some more mixed and more contrasting results (Table 12) than the previous two breakout panels. Several sessions (keynote with Dr. Philip “Uri” Treisman, cohort building, creating a faculty fellows community, and STEP 1b) received very high scores (including a maximum 100 percent) on both value and knowledge enhancement. Many of the sessions also ranked high in participants’ expectations to apply the new knowledge in their work. However, one comment noted that because of the size of the respondent’s institution, not all the ideas could be applied there.

The three sessions addressing recruitment, retention, and critical thinking received much lower scores, comparatively. Consistent with the trend from the previous two breakout panels, on all but one session noticeably fewer participants reported that they plan to collaborate with other STEP projects as a result of the session.

Table 12 - Breakout III session comparison data*

Name and Number of Breakout I Sessions	The session was valuable to me (n=161)	The session enhanced my knowledge (n=161)	I expect to use the knowledge gained from this session in my STEP related work (n=160)	After this session, I plan to collaborate with staff from other STEP projects to address common issues or concerns that were discussed during this session (n=157)
1. Keynote: Continue the Conversation with Philip “Uri” Treisman	96.5%	92.8%	89.3%	59.2%
2. Using Undergraduate Research and Internships to Recruit and Retain STEM Students	88.2%	82.4%	81.3%	50%
3. Utilizing Peer Mentors in Supplemental Instruction	78.6%	78.6%	71.4%	64.3%
4. Learning Communities & Cohort-Building	100%	90.9%	90.9%	33.3%
5. Increasing Student Success in STEM through Application-based Math Instruction	71.5%	71.5%	57.2%	57.2%
6. STEM Culture of Success: A Cultural Approach for Increasing Diversity and Inclusion in STEM	75%	75%	62.5%	50%
7. The E-Portfolio: Using Technology to Increase Student Academic and Social Development	71.5%	85.8%	85.8%	85.8%
8. Improving Retention, Transfer and Successful Graduation	60%	60%	60%	40%
9. Creating a Faculty Fellows Community: Developing Collaboration through Facilitation	100%	100%	100%	66.6%
10. Recruitment and Retention in Foundational Science Courses	55.5%	55.5%	55.5%	11.1%
11. Planning for a Competitive STEP 1B Submission	91.3%	100%	87%	56.5%
12. Fostering Critical Thinking for STEM Students at Risk: Nuts, Bolts and Details	44.4%	55.5%	44.4%	22.2%

*Percentage combines the “Strongly agree” and “Agree” response categories

Forty-two attendees at Breakout Panel III sessions provided additional open-ended feedback. Overall, comments suggested that it was a useful and informational panel, and presenters and the panel did a great job of answering questions and managing expectations. Dr. Uri Triesman's keynote and his thought-provoking perspective was the session presentation that generated the most interest, comments, excitement and praise of the whole meeting. The session on E-portfolio was also praised as being an informative, useful and very interactive workshop. The session on STEP 1B provided important information on the specificities of Type 2 grants and their different emphasis on research and data collection and analysis. The session on critical thinking was valuable for projects at four-year colleges that seek to do a summer bridge program but haven't created one yet. A few respondents loved the format of using posters in sessions to facilitate conversation. However, two participants made the point that the posters duplicated information from the poster sessions.

Much of the critical feedback provided by participants addressed the three low-performing sessions on recruitment, retention, and critical thinking (Table 12), which were also the most sparsely attended sessions. A consistent remark from participants was that session titles were misleading and did not accurately reflect the actual focus of the discussion that took place. Some felt that moderators took over the discussion at the expense of presenters and were not always good in time management and communication. Others felt that some presenters delivered an overwhelming amount of information in a lecturing manner and through reading off Power Point slides, which consumed the entire session time and did not allow for interaction, discussion, hearing from other programs and participants, or Q&A (particularly the recruitment and retention presentations). In addition, in the session for improving retention, the presenters advocated a number of approaches that are not supported by either the literature or their own data. There was also one critical comment about the session on undergraduate research and internships, noting that the session focused only on the former.

Suggestions and Recommendations

A major recommendation that came out of Breakout Panel III was that popular sessions such as Dr. Uri Triesman's presentation should not be extended from a plenary into a breakout session because they draw participants away from concurrent breakout sessions. Such highly anticipated presentations should instead be stand-alone plenaries. Others suggested that in addition to best practices and success stories, it would be also beneficial to hear about challenges and things that did not work so well. In line with some of the constructive criticism received, participants also suggested that workshop formats that generate discussion are much more useful for sessions than a presentation-style format.

Poster Sessions A&B

Around 80 percent of participants who gave feedback on the two poster sessions (187 people) indicated that the anticipated outcomes were met and that the sessions were effective in terms of overall value, knowledge, and use of information (Table 13).

Table 13. Poster Sessions A&B (n=187). Thursday, March 14, 2013, 2:00 pm - 3:15 pm (Session A); 5:00 pm -6:15 pm (Session B)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
The session was valuable to me	29.9% (56)	56.1% (105)	12.3% (23)	1.6% (3)	0% (0)	100% (187)
The session enhanced my knowledge	28.9% (54)	54.5% (102)	14.4% (27)	2.1% (4)	0% (0)	100% (187)
I expect to use the knowledge gained from this session in my STEP related work	31% (58)	48.1% (90)	18.7% (35)	2.1% (4)	0% (0)	100% (187)

In their open-ended feedback, respondents said that posters are a very efficient way to learn a lot and learn it quickly. The sessions generated ideas, gave attendees a different perspective on projects, and provided a good opportunity to network and exchange experiences with other participants. Furthermore, some participants reported that they would make changes in their programs as a result of what they earned from the poster presentations, and others said that they had already started communication and collaboration with other grantees that they interacted with during the poster sessions.

Suggestions and Recommendations

Several respondents suggested that having the two poster sessions together would be more effective and generate more interest and better attendance than having two separate sessions. Others mentioned that it would be helpful to put the posters into context by providing some project information ahead of time to accompany the poster presentations (e.g. focus of the projects; the year they are in; number of students served).

III. Participant Satisfaction with the Meeting

Participants were asked a series of questions about their level of satisfaction with the quality of the meeting. Many participants, in open-ended comments, compared it favorably with previous STEP grantee meetings, stating that sessions, content and information, keynote speakers, lead program directors, and even the food were noticeably better than previous years. Overall, respondents reported a high degree of satisfaction with the meeting location, accommodation, organization, pace, and opportunities for networking provided (Table 14). The only category that registered dissatisfaction was “facilities and sleeping room,” although that did not account for more than nine percent of responses.

Table 14 - Meeting Satisfaction

	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied	Total
Networking opportunities (breaks, session format, etc)	41% (77)	51% (96)	7% (13)	1% (2)	0% (0)	100% (188)
Pace and time management	37% (70)	51% (96)	8% (15)	3% (6)	0% (0)	100% (187)
Overall organization and logistics	46% (85)	46% (86)	8% (14)	0% (0)	0.5% (1)	100% (186)
Facilities and sleeping rooms	42% (77)	40% (73)	9% (17)	6% (11)	3% (6)	100% (184)
Location	48% (90)	40% (74)	7% (13)	4% (8)	1% (2)	100% (187)

To illustrate the high levels of satisfaction, numerous respondents provided specific open-ended comments. They praised the planning and organization of the meeting and said they learned more than at previous STEP grantee meetings. According to the comments, the content of the breakout sessions was great and the thematic poster sessions offered valuable information with sufficient viewing time and follow-up discussion to give the attendees an in-depth view of successful projects.

On aspects of the meeting that drew the least satisfaction – the facilities and sleeping rooms – the main reason cited was a loss of power and hot water in the hotel for 24 hours. Respondents also thought that the hotel was too big and too difficult to navigate inside, and that having to log in and out of wireless networks between room and meeting rooms was inconvenient. Furthermore, many felt that the rates were too expensive (regardless of the federal per diem reimbursement) and hard to justify in the climate of federal budget cuts. In negative comments about other aspects, a few participants thought that there was too much structured time and not enough time for informal interaction and networking, and that the breakout sessions showcasing certain projects seemed too narrow.

If we look at meeting satisfaction by the year of experience attending STEP meetings (Table 14a), it is noteworthy that first-year attendees and the most experienced staff (those who had attended three or more meetings) consistently reported higher satisfaction on all items (around the one-third mark), whereas those who had attended two or three meetings reported lower satisfaction (around the 20 percent mark and below).

Table 14a - Meeting satisfaction by experience (the numbers reported represented the “Very satisfied” and “Satisfied” categories combined into an overall satisfaction score)

	1 meeting	2 meetings	3 meetings	Four or more meetings	Total
Networking opportunities (breaks, session format, etc)	32.4% (56)	19.7% (34)	13.9% (24)	34.1% (59)	100% (173)
Pace and time management	31.5% (52)	20% (33)	13.3% (22)	35.2% (58)	100% (165)
Overall organization and logistics	31.8% (54)	20.6% (35)	13.5% (23)	34.1% (58)	100% (170)
Facilities and sleeping rooms	31.5% (47)	20.1% (30)	13.4% (20)	34.9% (52)	100% (149)
Location	32.5% (53)	20.2% (33)	12.9% (21)	34.4% (56)	100% (163)

*The numbers reported represented the “Very satisfied” and “Satisfied” categories combined into an overall satisfaction score.

What Did You Find Most Helpful About the Meeting?

A hundred and twenty-four meeting attendees provided responses to the open-ended question above, sharing thoughts on what they found most helpful about the meeting. Networking and learning about other projects and their successes and challenges were cited by many participants as very helpful. Also frequently mentioned were sharing of best practices and effective strategies for programming, project management and evaluation, and the chance to generate ideas. Numerous attendees liked the poster sessions in particular in terms of format, content, and presentation, but also the breakout sessions, because these allowed for smaller group discussion and brainstorming. Several also reported that the most helpful component of the meeting for them were the plenaries and keynote speakers – especially Dr. Triesman, whose talk was specifically described as excellent. Other attendees mentioned that they valued the opportunity to meet NSF program officers in person to discuss projects, to acquire more knowledge of STEP Central, and also the focus on data, the NSF presentations, and all the information on third year reviews. In terms of organization and logistics, several respondents indicated that most helpful for them was having wireless Internet at all times and the fact that the meeting was paperless, although a few people expressed dissatisfaction with the fact that they needed iPads or laptops in order to view content and keep up, instead of having a simple hand-out.

IV. Suggestions and Recommendations for the Meeting

In their open-ended comments to most survey questions, meeting attendees had the opportunity to offer constructive feedback and share thoughts on how the STEP grantees meeting could be improved in the future. We have grouped the suggestions in several themed categories:

CONTENT AND INFORMATION

- Best practices are evidence based practices, and therefore they should be supported by good data. We should identify those programs that collect best data - data that demonstrates sustained, long-term success and change - and have those programs present on best practices and good data.
- Data as a topic is very important and valued by meeting participants. However, some suggested putting it in a practical context and demonstrating how it's being used.
- Have more sessions on the best practices of institutionalization and assessments.
- It would be really helpful to focus discussion on actual solutions to problems and strategies for achieving success, as opposed to just identifying and naming the challenges and successes.
- A few respondents suggested that despite the obvious utility and benefits of STEP Central, the meeting should focus less on promoting and pushing the site because ultimately, online collaboration is a matter of personal preference. Going paperless and streamlining meeting content mostly through STEP Central instead of having hand-outs and minutes was not a convenience for everybody.
- A respondent also suggested making the third-year review session an annual piece of the meeting because it is really valuable.
- Others suggested that in addition to best practices and success stories, it would be also beneficial to hear about challenges and things that did not work so well.

SESSIONS:

- Several respondents expressed their wish to have shorter introductions, keynotes, and concluding remarks, and perhaps fewer breakout sessions, in order to cut down on the structured time and allow more open time for discussion, brainstorming, networking, and sharing.
- Have certain sessions for grantees based on experience: an administrative session for 1st year grantees; a poster session for 3rd year grantees only; and a "lessons learned" session at which successful fifth-year year projects summarize their results. The rationale for that is that experienced projects need to address some really challenging problems and don't have the time to reiterate the basics. Smaller meetings with more focused interest groups (say groups of 10-15) could result in more effective and better targeted solutions.
- It was suggested that organizers be very selective with session leaders and choose expert presenters who bring experience, expertise, and a proven track record of success, as opposed to relying on organically generated and unstructured discussions among session participants.
- Many meeting attendees expressed a concern that some session titles were misleading and did not accurately reflect the actual focus of the discussion, so being as clear and descriptive as possible in the session title would be helpful.
- The poster sessions are overall very interesting, but should be held in the middle of the day as opposed to late into the evening. This would in avoid meeting fatigue and keep attendees' attention.
- Another recommendation regarding the poster sessions was to make poster sessions more interactive, but also to require attendees to report on posters from the session.
- A major recommendation that came out of Breakout Panel III was that popular sessions such as Dr. Uri Triesman's presentation should not be extended from a plenary into a breakout session because they draw participants away from concurrent breakout sessions. Such highly anticipated presentations should instead be stand-alone plenaries.

- In line with some of the constructive criticism received, participants also suggested that workshop format for the breakout sessions is much more useful than the presentation style and would generate a better discussion.

ORGANIZATION

- Numerous attendees said they would like the conference to be longer with more days, more sessions, and more time to reflect on information and debrief with their own teams and other grantees, in order both to avoid information overload and offset the effects, for some, of long travel.
- Attendees suggested that organizers and presenters post their PowerPoint slides on STEP Central ahead of presentations in order to encourage more knowledgeable discussions.
- Many requested more unstructured time during the meeting and opportunities for informal socializing and networking. It was pointed out that the table discussions during lunch provided the best networking opportunity because people sat together in small circles and were able to hear about each other's program and share experience. Therefore, it may be a good idea to not have a luncheon presentation but to leave the time at lunch for informal or minimally moderated networking and discussions around the tables.
- Attendees suggested having a diverse mix of presenters, as well as representatives of different types of schools (e.g. urban vs. rural; four year vs. community colleges) to capture and showcase all the different issues that STEP grantees are facing.
- Others expressed interest in having more time allocated for interaction with NSF program officers.
- In times of federal budget cuts and fiscal insecurities, it's smart to be economical and avoid expensive locations such as Washington D.C., as well as expensive hotels. Suggestions here included having the annual meeting at an actual STEP grant site (or a nearby hotel), so participants can learn first-hand about a successfully run grant. Another suggestion was to have the meeting away from the coasts, so it can be at a more central location geographically and somewhat easy for all to get

to. Furthermore, according to some, the total expense of sending the entire PI team to the meeting was not justified by the value gained. Perhaps PIs should attend in Years 1, 3 and 5 rather than every year.

- Suggestions regarding the food options included having a better breakfast because that is the key meal for getting through a long day of meetings; having options for diabetics; and healthier food overall.
- In terms of the meeting survey, many session presenters said they should not be receiving surveys and evaluating sessions where they presented

Finally, numerous participants requested that Dr. Triesman's plenary presentation be posted online to STEP Central and made immediately available to them to share with their own institutions and other colleagues.

V. STEP Central Project Outcomes

The STEP Central project has several important project outcomes and several key components that support the project (i.e. Webinars, STEP Central website and in-person grantee meetings). Since the grantee meetings are an integral part of the overall STEP Central project and difficult to disentangle from other components of the project, the post-meeting survey asked a series of questions on project outcomes and the extent to which they were met. Each outcome question was also paired with a sub-question that ranked the components that have contributed to that outcome. The findings on the outcomes and their respective contributing factors are presented in Tables 15-21 below. A majority of respondents reported that they thought STEP Central outcomes were being achieved, with the exception of feeling a shared sense of purpose in building the STEM pipeline (Tables 18 and 18a) and gaining new insights into the nature of challenges that other STEP grantees are facing (Tables 19 and 19a). Of project components that contributed to the outcomes, respondents consistently highlighted the STEP annual grantee meetings session content and informal discussion, the STEP Central website, and email communication as having the biggest impact. Appendix C offers a breakdown of the data by project role and experience, respectively. It shows slight variations from the general trend – namely the fact that PIs tend to report more than do the rest of the STEP professionals and the average across respondents that outcomes are being achieved.

Table 15. The STEP Central project has helped me discover other projects with whom to collaborate, exchange and learn

	To a great extent	Some	Little	Not at All	Total
The STEP Central project has helped me discover other projects with which to collaborate, exchange and learn.	11.8% (9)	55.3% (42)	27.6% (21)	5.3% (4)	100% (76)

Table 15a. Please check which STEP Central project component(s) have contributed to discovering other projects with whom to collaborate, exchange and learn.

STEP Central project components	Percent/Count
STEP Meeting – (i.e. Plenary, Breakout, or Poster Session)	80.9% (55)
STEP Meeting – Informal Discussion (i.e. networking during a break)	63.2% (43)
STEP Central on-line resources	41.2% (28)
Email correspondence/or other communication with grantees	26.5% (18)
Webinars	25% (17)
STEP Central working groups and on-line discussions	14.7% (10)

In additional open-ended comments, respondents stressed the importance of the STEP annual grantee meeting for knowledge exchange and collaboration, and suggested also having regional meetings to enhance cooperation and informal discussion.

Table 16. The STEP Central project has helped me network with, and learn from, people on other projects from a variety of different institutions.

	To a great extent	Some	Little	Not at All	Total
The STEP Central project has helped me network with, and learn from, people on other projects from a variety of different institutions.	18.7% (14)	46.7% (35)	26.7% (20)	8% (6)	100% (75)

Table 16a. Please check which STEP Central project component(s) have contributed to networking with, and learning from, people on other projects from a variety of different institutions.

STEP Central project components	Percent/Count
STEP Meeting - (i.e. Plenary, Breakout, or Poster Session)	86.8% (59)
STEP Meeting - Informal Discussion (i.e. networking during a break)	69.1% (47)
Email correspondence/or other communication with grantees	33.8% (23)
STEP Central on-line resources	19.1% (13)
Webinars	16.2% (11)
STEP Central working groups and on-line discussions	10.3% (7)

In an open-ended comment, one respondent pointed to a fact that thematic topics at the meeting (e.g. project management, mathematics instruction, bridge programs, etc.) always seem to include an array of institutions, which is a great facilitator.

Table 17. The STEP Central project has helped me contribute my knowledge to promote the success of other STEP grantees

	To a great extent	Some	Little	Not at All	Total
The STEP Central project has helped me contribute my knowledge to promote the success of other STEP grantees.	12.2% (9)	43.2% (32)	29.7% (22)	14.9% (11)	100% (76)

Table 17a. Please check which STEP Central project component(s) have contributed to sharing your knowledge to promote the success of other STEP grantees.

STEP Central project components	Percent/Count
STEP Meeting - (i.e. Plenary, Breakout, or Poster Session)	82.8% (48)
STEP Meeting - Informal Discussion (i.e. networking during a break)	63.8% (37)
Email correspondence/or other communication with grantees	24.1% (14)
STEP Central on-line resources	22.4% (13)
STEP Central working groups and on-line discussions	13.8% (8)
Webinars	12.1% (7)

In open-ended comments, respondents said that poster sessions, as well as practical tips that more senior STEP programs were providing, have been helpful to those who are beginning their STEP awards.

Table 18. The STEP Central project has helped me feel a shared purpose in the endeavor of building the STEM pipeline.

	To a great extent	Some	Little	Not at All	Total
The STEP Central project has helped me feel a shared purpose in the endeavor of building the STEM pipeline.	26.3% (20)	48.7% (37)	15.8% (12)	9.2% (7)	100% (76)

Table 18a. Please check which STEP Central project component(s) have contributed to feeling a shared purpose in the endeavor of building the STEM pipeline.

STEP Central project components	Percent/Count
STEP Meeting – (i.e. Plenary, Breakout, or Poster Session)	85.7% (54)
STEP Meeting – Informal Discussion (i.e. networking during a break)	68.3% (43)
STEP Central on-line resources	30.2% (19)
Email correspondence/or other communication with grantees	27% (17)
Webinars	19% (12)
STEP Central working groups and on-line discussions	17.5% (11)

In an open-ended comment, one respondent stated that STEP Central creates a strong sense of community among those dedicated to improving STEM education. Another feels this shared purpose in general within the community of professional scientists at universities.

Table 19. The STEP Central project has helped me gain new insights into the nature of the problems other STEP teams are confronting.

	To a great extent	Some	Little	Not at All	Total
The STEP Central project has helped me gain new insights into the nature of the problems other STEP teams are confronting.	21.3% (16)	53.3% (40)	14.7% (11)	10.7% (8)	100% (75)

Table 19a. Please check which STEP Central project component(s) have contributed to gaining new insights into the nature of the problems other STEP teams are confronting.

STEP Central project components	Percent/Count
STEP Meeting – (i.e. Plenary, Breakout, or Poster Session)	88.9% (56)
STEP Meeting – Informal Discussion (i.e. networking during a break)	81% (51)
Email correspondence/or other communication with grantees	22.2% (14)
STEP Central working groups and on-line discussions	12.7% (8)
Webinars	12.7% (8)
STEP Central on-line resources	9.5% (6)

A respondent noted in an open-ended comment that through interactions with mathematics faculty who attend STEP meetings, he/she has become more aware of the substantial challenges that persist in having students demonstrate the math preparation needed to be successful in STEM education. Another participant suggested that smaller, regional meetings would help in gaining perspective on the specific challenges that other local STEP grantees face.

Table 20. The STEP Central project has helped my team reflect on our successes and challenges.

	To a great extent	Some	Little	Not at All	Total
The STEP Central project has helped my team reflect on our successes and challenges.	11.8% (9)	60.5% (46)	14.5% (11)	13.2% (10)	100% (76)

Table 20a. Please check which STEP Central project component(s) have contributed to reflecting on our successes and challenges.

STEP Central project components	Percent/Count
STEP Meeting – (i.e. Plenary, Breakout, or Poster Session)	80.7% (46)
STEP Meeting – Informal Discussion (i.e. networking during a break)	73.7% (42)
Preparing for Poster Session	63.2% (36)
Email correspondence/or other communication with grantees	21.1% (12)
STEP Central on-line resources	14% (8)
Webinars	10.5% (6)
STEP Central working groups and on-line discussions	8.8% (5)

In their open-ended comments, participants said the unstructured time during the annual grantee meeting, as well as informal discussions about grantees successes and challenges, presented a good opportunity to reflect. Another good opportunity was the third-year review discussion.

Table 21. The STEP Central project has helped my team learn about new NSF initiatives and opportunities.

	To a great extent	Some	Little	Not at All	Total
The STEP Central project has helped my team learn about new NSF initiatives and opportunities.	6.9% (5)	50% (36)	25% (18)	18.1% (13)	100% (72)

Table 21a. Please check which STEP Central project component(s) have contributed to learning about new NSF initiatives and opportunities.

STEP Central project components	Percent/Count
STEP Meeting - (i.e. Plenary, Breakout, or Poster Session)	92.2% (47)
STEP Meeting - Informal Discussion (i.e. networking during a break)	64.7% (33)
STEP Central on-line resources	23.5% (12)
Email correspondence/or other communication with grantees	11.8% (6)
Webinars	9.8% (5)
STEP Central working groups and on-line discussions	3.9% (2)
STEP Central working groups and on-line discussions	8.8% (5)

In their open-ended comments to the question, respondents shared that it is always good to hear from NSF directors about the opportunities they see on the horizon. One person received notice about a deadline that was valuable, however another expressed concerns about lack of clarity around new STEP initiatives.

Appendix A – Tabulated Meeting Survey Data

Meeting Outcomes

Table A1. After this meeting, I am more aware of best practices related to supporting students in STEP grants (n=193)

Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
32% (62)	57% (110)	9% (17)	2% (4)	0% (0)	100% (193)

Table A2. Interacting with other STEP grantees provided me with strategies and best practices for better implementing my STEP grant (n=191)

Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
49% (93)	41% (79)	9% (18)	0.5% (1)	0% (0)	100% (191)

Table A3. After the meeting, I plan to contact staff from other STEP grants I met during the meeting to collaborate in addressing common issues of concern that came up during the meeting (n=180)

Yes	No
74% (133)	26% (47)

Table A4. If you would contact other STEP staff for collaboration, do you plan to use STEP Central to facilitate this communication and collaboration? (n=151)

Yes	No
64% (96)	36% (55)

Meeting Satisfaction

Table A5. Meeting Satisfaction

	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied	Total
Networking opportunities (breaks, session format, etc) (n=188)	41% (77)	51% (96)	7% (13)	1% (2)	0% (0)	100% (188)
Pace and time management (n=187)	37% (70)	51% (96)	8% (15)	3% (6)	0% (0)	100% (187)
Overall organization and logistics (n=186)	46% (85)	46% (86)	8% (14)	0% (0)	0.5% (1)	100% (186)
Facilities and sleeping rooms (n=184)	42% (77)	40% (73)	9% (17)	6% (11)	3% (6)	100% (184)
Location (n=187)	48% (90)	40% (74)	7% (13)	4% (8)	1% (2)	100% (187)

Table A6. Distribution between STEP grant role and experience, Day 1 (Plenary I; Breakout 1) (n=189)

Role	Experience: number of STEP grantee meetings attended				Total for each role
	1 meeting	2 meetings	3 meetings	4 or more meetings	
Principal Investigator (PI)	3.2% (6)	7.9% (15)	6.3% (12)	17.4% (33)	34.9% (66)
Co-PI	11.6% (22)	7.4% (14)	4.2% (8)	12.7% (24)	36% (68)
Evaluator	5.8% (11)	2.1% (4)	1.6% (3)	0.5%(1)	10.1% (19)
Project Coordinator	7.4% (14)	2.6% (5)	3.2% (6)	3.2% (6)	16.4% (31)
Faculty Associate	1.1% (2)	0.5%(1)	0.5%(1)	0.5%(1)	2.6% (5)
All Participants	29.1% (55)	20.6% (39)	15.9% (30)	34.4% (65)	100% (189)

Table A7. Distribution between STEP grant role and experience, Day 2 (Plenary II; Breakout 2; Poster Sessions A&B) (n=183)

Role	Experience: number of STEP grantee meetings attended				Total for each role
	1 meeting	2 meetings	3 meetings	4 or more meetings	
Principal investigator (PI)	5.5% (10)	7.7% (14)	7.1% (13)	15.3% (28)	35.5% (65)
Co-PI	13.1% (24)	8.2% (15)	3.8% (7)	12.0% (22)	37.2% (68)
Evaluator	3.8% (7)	2.2% (4)	1.1% (2)	0.5% (1)	7.7% (14)
Project coordinator	7.1% (13)	2.7% (5)	2.7% (5)	4.4% (8)	16.9% (31)
Faculty associate	1.1% (2)	0.5% (1)	0.5% (1)	0.5% (1)	2.7% (5)
All Participants	30.6% (56)	21.3% (39)	15.3% (28)	32.8% (60)	100% (183)

Table A8. Distribution between STEP grant role and experience Day 3 (Plenary III; Breakout 3; Outcomes; Satisfaction) (n=180)

Role	Experience: number of STEP grantee meetings attended				Total for each role
	1 meeting	2 meetings	3 meetings	4 or more meetings	
Principal investigator (PI)	4.4% (8)	7.8% (14)	5.6% (10)	18.3% (33)	36.1% (65)
Co-PI	12.2% (22)	7.2% (13)	4.4% (8)	11.1% (20)	35.0% (63)
Evaluator	2.2% (4)	2.8% (5)	1.1% (2)	0.6%(1)	6.7% (12)
Project coordinator	8.9% (16)	2.8% (5)	2.8% (5)	5.0% (9)	19.4% (35)
Faculty associate	1.7% (3)	0% (0)	0.6%(1)	0.6%(1)	2.8% (5)
All Participants	29.4% (53)	20.6% (37)	14.4% (26)	35.5% (64)	100% (180)

DAY 1, Thursday, March 14, 2013

Table A9. Plenary I - The Meaning of Success: STEM Education in an Ever Changing Workforce (n=196). Thursday, March 14, 2013, 9.00 am - 10.15 am

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
The presentation was valuable to me	34.2% (67)	43.4% (85)	16.3% (32)	5.6% (11)	0.5%(1)	100% (196)
The presentation enhanced my knowledge	29.1% (57)	41.3% (81)	20.9% (41)	7.1% (14)	1.5% (3)	100% (196)
I expect to use the knowledge gained from this presentation in my STEP related work	22.4% (44)	31.6% (62)	33.2% (65)	11.7% (23)	1% (2)	100% (196)
Facilities and sleeping rooms (n=184)	42% (77)	40% (73)	9% (17)	6% (11)	3% (6)	100% (184)
Location (n=187)	48% (90)	40% (74)	7% (13)	4% (8)	1% (2)	100% (187)

Table A10. Breakout Session Panel I (reported percentage combines “Strongly agree” and “Agree”). Thursday, March 14, 2013, 10.45 am - 12.15 pm

	1. Keynote: Continue the Conversation with Eduardo Padrón (n=7/4%)	2. Introductory Research Experiences for At-risk Freshman-Sophomore STEM Majors (n=22/12%)	3. Fostering Changes in Institutional Culture & Practice (n=15/8%)
The session was valuable to me	71.4% (5)	86.4% (19)	73.3% (11)
The session enhanced my knowledge	83.3% (5)	86.4% (19)	66.7% (10)
I expect to use the knowledge gained from this session in my STEP related work	83.3% (5)	86.4% (19)	73.3% (11)
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session	83.3% (5)	47.6% (10)	53.3% (8)

*Reported percentage combines “Strongly agree” and “Agree”

Table A11. Breakout Session Panel I (continued)

	4. First-Year STEM Student Cohorts: Assessment and Best Practices (n=16/9%)	5. Identifying Deficiencies in Your STEP Program (n=9/5%)	6. Strategies for Promoting Faculty Engagement with Early STEM Students (n=13/7%)
The session was valuable to me.	93.8% (15)	66.6% (6)	77% (10)
The session enhanced my knowledge.	93.8% (15)	66.6% (6)	84.6% (11)
I expect to use the knowledge gained from this session in my STEP related work.	93.8% (15)	66.6% (6)	77% (10)
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	66.6% (10)	62.5% (5)	53.9% (7)

*Reported percentage combines “Strongly agree” and “Agree”

Table A12. Breakout Session Panel I (continued)

	7. Working Smart: How to Build, Evaluate, and Sustain a Portfolio of Strategies (n=10/5%)	8. Developing Effective Bridge Programs (n=9/5%)	9. Strategies for Sustainability / Institutionalization (n=29/16%)
The session was valuable to me.	90% (9)	88.8% (8)	72.4% (21)
The session enhanced my knowledge.	80% (8)	88.8% (8)	75.8% (22)
I expect to use the knowledge gained from this session in my STEP related work..	80% (8)	77.7% (7)	71.4% (20)
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	70% (7)	33.3% (3)	37.9% (11)

Table A13. Breakout Session Panel I (continued)

	10. Successful Experiences in First Year Mathematics Courses (n=18/10%)	11. Strategies for Promoting Diversity (n=11/6%)	12. Data Collection, Publishing, and Dissemination of Results (n=25/14%)
The session was valuable to me.	94.4% (17)	81.8% (9)	68% (17)
The session enhanced my knowledge.	72.3% (13)	90.9% (10)	68% (17)
I expect to use the knowledge gained from this session in my STEP related work.	70.5% (12)	81.9% (9)	68% (17)
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	38.9% (7)	45.5% (5)	32% (17)

Table A14. Plenary II (lunch session) - STEP: What are we learning and what would we like to learn? (n=187). Thursday, March 14, 2013, 12.45 pm - 1.45 pm

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
The presentation was valuable to me.	21.4% (40)	51.9% (97)	23% (43)	3.7% (7)	0% (0)	100% (187)
The presentation enhanced my knowledge.	20.9% (39)	48.7% (91)	24.6% (46)	5.9% (11)	0% (0)	100% (187)
I expect to use the knowledge gained from this presentation in my STEP related work.	21.4% (40)	42.2% (79)	29.9% (56)	6.4% (12)	0% (0)	100% (187)

Table A15. Poster Sessions A&B (n=187). Thursday, March 14, 2013, 2:00 pm – 3:15 pm (Session A); 5:00 pm -6:15 pm (Session B)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
The session was valuable to me	29.9% (56)	56.1% (105)	12.3% (23)	1.6% (3)	0% (0)	100% (187)
The session enhanced my knowledge	28.9% (54)	54.5% (102)	14.4% (27)	2.1% (4)	0% (0)	100% (187)
I expect to use the knowledge gained from this session in my STEP related work	31% (58)	48.1% (90)	18.7% (35)	2.1% (4)	0% (0)	100% (187)

Table A16. Breakout Session Panel II (reported percentage combines “Strongly agree” and “Agree”). Thursday, March 14, 2013, 3.30 pm – 5.00 pm

	1. Building Bridges for STEM Success: Implementing Effective Summer Bridge Design (n=13/7%)	2. Supporting Community College Transfers (n=20/19%)	3. Characteristics of Excellence in Undergraduate Research (COEUR): A guide for undergraduate research initiatives (n=18/29%)
The session was valuable to me.	84.6% (11)	68.4% (13)	88.2% (15)
The session enhanced my knowledge.	84.6% (11)	83.3% (15)	93.8% (15)
I expect to use the knowledge gained from this session in my STEP related work.	77% (10)	68.4% (13)	81.3% (13)
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	46.2% (6)	42.1% (8)	56.2% (9)

*Reported percentage combines “Strongly agree” and “Agree”

Table A17. Breakout Session Panel II (continued)

	4. Six Steps to Your STEP Evaluation (n=13/37%)	5. Developing and Sustaining a Successful Peer Mentoring Program: Positive Effects on Student Retention (n=27/15%)	6. Amplifying the ripples: Disseminating your Educational Project to a Larger Audience (n=11/6%)
The session was valuable to me.	92.3% (12)	77.8% (21)	80% (8)
The session enhanced my knowledge.	84.6% (11)	81.5% (22)	81.9% (9)
I expect to use the knowledge gained from this session in my STEP related work.	84.6% (11)	74% (20)	63.7% (7)
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	61.6% (8)	25.9% (7)	45.5% (5)

*Reported percentage combines “Strongly agree” and “Agree”

Table A18. Breakout Session Panel II (continued)

	7. STEM Education Organizations (n=10/6%)	8. Sparking and Sustaining Active Student Engagement (n=22/13%)	9. Effectively Managing Your Project (n=9/5%)
The session was valuable to me	80% (8)	40.9% (9)	88.9% (8)
The session enhanced my knowledge.	90% (9)	50% (11)	88.9% (8)
I expect to use the knowledge gained from this session in my STEP related work.	80% (8)	31.8% (7)	77.7% (7)
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	40% (4)	31.8% (7)	62.5% (5)

*Reported percentage combines “Strongly agree” and “Agree”

Table A19. Breakout Session Panel II (continued)

	10. Preparing for Your 3rd Year Review (n=14/8%)	11. Collecting and Organizing Data: How and Why (n=12/7%)	12. Type 2 Round Table (n=6/3%)
The session was valuable to me.	91.7% (11)	66.7% (8)	83.3% (5)
The session enhanced my knowledge.	91.7% (11)	50% (6)	83.3% (5)
I expect to use the knowledge gained from this session in my STEP related work.	91.7% (11)	50% (6)	83.3% (5)
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	66.6% (8)	50% (6)	66.6% (4)

Day 2, Friday, March 15, 2013

Table A20. Plenary III - Innovation as Ornament and the Challenge of Improvement at Scale (n=189). Friday, March 15, 2013, 8:30 am - 10:00 am

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
The presentation was valuable to me.	73.5% (139)	20.1% (38)	5.3% (10)	1.1% (2)	0% (0)	100% (189)
The presentation enhanced my knowledge.	69.8% (132)	22.2% (42)	7.9% (15)	0% (0)	0% (0)	100% (189)
I expect to use the knowledge gained from this presentation in my STEP related work.	63% (119)	22.2% (42)	13.8% (26)	1.1% (2)	0% (0)	100% (189)

Table A21. Breakout Session Panel III (reported percentage combines “Strongly agree” and “Agree”). Friday, March 15, 2013, 10:15 am - 11:45 am

	1. Keynote: Continue the Conversation with Philip "Uri" Treisman (n=28/17%)	2. Using Undergraduate Research and Internships to Recruit and Retain STEM Students (n=17/10%)	3. Utilizing Peer Mentors in Supplemental Instruction (n=14/9%)
The session was valuable to me.	96.5% (27)	88.2% (15)	78.6% (11)
The session enhanced my knowledge.	92.8% (26)	82.4% (14)	78.6% (11)
I expect to use the knowledge gained from this session in my STEP related work.	89.3% (25)	81.3% (13)	71.4% (10)
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	59.2% (16)	50% (8)	64.3% (9)

*Reported percentage combines “Strongly agree” and “Agree”

Table A22. Breakout Session Panel III (continued)

	4. Learning Communities & Cohort-Building (n=11/7%)	5. Increasing Student Success in STEM through Application-Based Math Instruction (n=15/9%)	6. STEM Culture of Success: A Cultural Approach for Increasing Diversity and Inclusion in STEM (n=8/5%)
The session was valuable to me.	100% (11)	71.5% (10)	75% (6)
The session enhanced my knowledge.	90.9% (10)	71.5% (10)	75% (6)
I expect to use the knowledge gained from this session in my STEP related work.	90.9% (10)	57.2% (8)	62.5% (5)
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	33.3% (3)	57.2% (8)	50% (4)

*Reported percentage combines “Strongly agree” and “Agree”

Table A23 - Breakout Session Panel III (continued)

	7. The E-Portfolio: Using Technology to Increase Student Academic and Social Development (n=7/4%)	8. Improving Retention, Transfer and Successful Graduation (n=16/10%)	9. Creating a Faculty Fellows Community: Developing Collaboration Through Facilitation (n=6/4%)
The session was valuable to me.	71.5% (5)	60% (9)	100% (6)
The session enhanced my knowledge.	85.8% (6)	60% (9)	100% (6)
I expect to use the knowledge gained from this session in my STEP related work.	85.8% (6)	60% (9)	100% (6)
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	85.8% (6)	40% (6)	66.6% (4)

Table A24 - Breakout Session Panel III (continued)

	10. Recruitment and Retention in Foundational Science Courses (n=9/6%)	11. Planning for a Competitive STEP 1B Submission (n=23/14%)	12. Fostering Critical Thinking for STEM Students at Risk: Nuts, Bolts and Details (n=9/6%)
The session was valuable to me.	55.5% (5)	91.3% (21)	44.4% (4)
The session enhanced my knowledge.	55.5% (5)	100% (23)	55.5% (5)
I expect to use the knowledge gained from this session in my STEP related work.	55.5% (5)	87% (20)	44.4% (4)
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	11.1% (1)	56.5% (13)	22.2% (2)

Appendix B – Tabulated Post-Meeting Survey Data

Table B1. Project role, by experience (n=79)

Role	Experience: number of STEP grantee meetings attended					Total for each role
	1 meeting	2 meetings	3 meetings	4 meetings	5 or more meetings	
Principal investigator (PI)	3.8% (3)	6.3% (5)	8.9% (7)	6.3% (5)	12.6% (10)	38.0% (30)
Co-PI	15.2% (12)	3.8% (3)	3.8% (3)	5.1% (4)	8.9% (7)	36.7% (29)
Evaluator	1.3% (1)	1.3% (1)	1.3% (1)	1.3% (1)	0% (0)	5.1% (4)
Project coordinator	6.3% (5)	5.1% (4)	3.8% (3)	2.5% (2)	0% (0)	17.7% (14)
Faculty associate	1.3% (1)	0% (0)	0% (0)	1.3% (1)	0% (0)	2.5% (2)
All participants	27.8% (22)	16.5% (13)	17.7% (14)	16.5% (13)	21.5% (17)	100% (79)

Table B2. Implementation outcomes of the 2013/2012 meetings, by role

Role	Have you changed your STEP grant implementation based on something you learned from other grantees during the 2013/2012 meetings?			
	2013 (n=84)		2012 (n=56)*	
	Yes	No	Yes	No
Principal investigator (PI)	11.9% (10)	23.8% (20)	10.7% (9)	17.9% (15)
Co-PI	11.9% (10)	22.6% (19)	9.5% (8)	11.9% (10)
Evaluator	1.2% (1)	3.6% (3)	1.2% (1)	2.4% (2)
Project coordinator	9.5% (8)	7.1% (6)	3.6% (3)	4.8% (4)
Faculty associate	0% (0)	2.4% (2)	0% (0)	1.2% (1)
Other	0% (0)	6% (5)	1.2% (1)	2.4% (2)
All participants	34.5% (29)	65.5% (55)	39.3% (22)	60.7% (34)

*33% (28) of the 2013 attendees did not attend the 2012 meeting

Table B3. Implementation outcomes of meeting, by years of experience

Experience	Since the 2013 STEP Grantee Meeting, have you changed your STEP grant implementation based on something you learned from other grantees during the meeting?			
	2013 (n=84)		2012 (n=56)*	
	Yes	No	Yes	No
1 meeting	13.1% (11)	14.3% (12)	1.2% (1)	0% (0)
2 meetings	7.1% (6)	9.5% (8)	6% (5)	8.4% (7)
3 meetings	7.1% (6)	10.7% (9)	7.2% (6)	8.4% (7)
4 meetings	4.8% (4)	13.1% (11)	6% (5)	12% (10)
5 or more meetings	2.4% (2)	17.9% (15)	6% (5)	12% (10)
All participants	34.5% (29)	65.5% (55)	39.3% (22)	60.7% (34)

*32.8% (27) of the 2013 attendees did not attend the 2012 meeting

Table B4. STEPcentral.net use as a meeting outcomes, by role (n=85)

Role	Have you used STEPcentral.net prior to or after the meeting to develop and continue discussions?		
	Yes	No	Total
Principal investigator (PI)	12.9% (11)	22.4% (19)	35.3% (30)
Co-PI	10.6% (9)	23.5% (20)	34.1% (29)
Evaluator	1.2%(1)	3.5% (3)	4.7% (4)
Project coordinator	11.8% (10)	5.9% (5)	17.6% (15)
Faculty associate	0% (0)	2.4% (2)	2.4% (2)
Other	2.4% (2)	3.5% (3)	5.9% (5)
All participants	38.8% (33)	61.2% (52)	100% (85)

Table B5. STEPcentral.net use as a meeting outcomes, by years of experience (n=84)

Experience	Have you used STEPcentral.net prior to or after the meeting to develop and continue discussions?		
	Yes	No	Total
1 meeting	11.9% (10)	15.5% (13)	27.4% (23)
2 meetings	6% (5)	10.7% (9)	16.7% (14)
3 meetings	6% (5)	11.9% (10)	17.9% (15)
4 meetings	7.1% (6)	10.7% (9)	17.9% (15)
5 or more meetings	7.1% (6)	13.1% (11)	20.2% (17)
All participants	38.1% (32)	61.9% (52)	100% (84)

Table B6. Collaboration and networking as a meeting outcome, by role (n=85)

Role	Since the 2013 STEP Grantee Meeting, have you contacted anyone you met during the meeting to collaborate in addressing common issues of concern that came up during the meeting?		
	Yes	No	Total
Principal investigator (PI)	11.8% (10)	23.5% (20)	35.3% (30)
Co-PI	7.1% (6)	27.1% (23)	34.1% (29)
Evaluator	1.2%(1)	3.5% (3)	4.7% (4)
Project coordinator	7.1% (6)	10.6% (9)	17.6% (15)
Faculty associate	2.4% (2)	0% (0)	2.4% (2)
Other	1.2%(1)	4.7% (4)	5.9% (5)
All participants	30.6% (26)	69.4% (59)	100% (85)

Table B7. Collaboration and networking as a meeting outcome, by experience (n=84)

Experience	Since the 2013 STEP Grantee Meeting, have you contacted anyone you met during the meeting to collaborate in addressing common issues of concern that came up during the meeting?		
	Yes	No	Total
1 meeting	11.9% (10)	15.5% (13)	27.4% (23)
2 meetings	6% (5)	10.7% (9)	16.7% (14)
3 meetings	4.8% (4)	13.1% (11)	17.9% (15)
4 meetings	4.8% (4)	13.1% (11)	17.9% (15)
5 or more meetings	2.4% (2)	17.9% (15)	20.2% (17)
All participants	29.8% (25)	70.2% (59)	100% (84)

Table B8. Collaboration with NSF Program Officer, by role (n=84)

Role	Did your team have an opportunity to meet with your NSF program officer?		
	Yes	No	Total
Principal investigator (PI)	14.3% (12)	21.4% (18)	35.7% (30)
Co-PI	19% (16)	15.5% (13)	34.5% (29)
Evaluator	2.4% (2)	2.4% (2)	4.8% (4)
Project coordinator	9.5% (8)	8.3% (7)	17.9% (15)
Faculty associate	0% (0)	2.4% (2)	2.4% (2)
Other	3.6% (3)	1.2% (1)	4.8% (4)
All participants	48.8% (41)	51.2% (43)	100% (84)

Table B9. Collaboration with NSF Program Officer, by experience (n=83)

Experience	Did your team have an opportunity to meet with your NSF program officer?		
	Yes	No	Total
1 meeting	12% (10)	15.7% (13)	27.7% (23)
2 meetings	8.4% (7)	8.4% (7)	16.9% (14)
3 meetings	13.3% (11)	4.8% (4)	18.1% (15)
4 meetings	7.2% (6)	9.6% (8)	16.9% (14)
5 or more meetings	8.4% (7)	12% (10)	20.5% (17)
All participants	49.4% (41)	50.6% (42)	100% (83)

Appendix C – STEP Project Outcomes by Role and Experience

Table C1 The STEP Central project has helped me discover other projects with whom to collaborate, exchange and learn.

Role	The STEP Central project has helped me discover other projects with whom to collaborate, exchange and learn.				Total
	To a great extent	Some	Little	Not at all	
Principal investigator (PI)	2.6% (2)	22.3% (17)	10.5% (8)	1.3% (1)	36.8% (28)
Co-PI	3.9% (3)	17.1% (13)	9.2% (7)	2.6% (2)	32.9% (25)
Evaluator	2.6% (2)	1.3% (1)	0.0% (0)	1.3% (1)	5.3% (4)
Project coordinator	1.3% (1)	11.8% (9)	3.9% (3)	0.0% (0)	17.1% (13)
Faculty associate	0.0% (0)	0.0% (0)	2.6% (2)	0.0% (0)	2.6% (2)
Other	1.3% (1)	2.6% (2)	1.3% (1)	0.0% (0)	5.3% (4)
All participants	18.4% (14)	55.3% (42)	27.6% (21)	5.3% (4)	100% (76)

Table C2 The STEP Central project has helped me network with, and learn from, people on other projects from a variety of different institutions.

Role	The STEP Central project has helped me network with, and learn from, people on other projects from a variety of different institutions.				Total
	To a great extent	Some	Little	Not at all	
Principal investigator (PI)	9.3% (7)	16.0% (12)	6.6% (5)	4.0% (3)	37.3% (28)
Co-PI	6.6% (5)	17.3% (13)	5.3% (4)	4.0% (3)	33.3% (25)
Evaluator	1.3% (1)	1.3% (1)	1.3% (1)	0.0% (0)	4.0% (3)
Project coordinator	1.3% (1)	9.3% (7)	6.6% (5)	0.0% (0)	17.3% (13)
Faculty associate	0.0% (0)	0.0% (0)	2.7% (2)	0.0% (0)	2.7% (2)
Other	0.0% (0)	2.7% (2)	2.7% (2)	0.0% (0)	5.3% (4)
All participants	18.6% (14)	46.7% (35)	26.7% (20)	8.0% (6)	100% (75)

Table C3 The STEP Central project has helped me contribute my knowledge to promote the success of other STEP grantees.

Role	The STEP Central project has helped me contribute my knowledge to promote the success of other STEP grantees.				Total
	To a great extent	Some	Little	Not at all	
Principal investigator (PI)	5.4% (4)	13.5% (10)	10.8% (8)	6.8% (5)	36.5% (27)
Co-PI	2.7% (2)	18.9% (14)	8.1% (6)	4.1% (3)	33.8% (25)
Evaluator	1.4% (1)	2.7% (2)	0.0% (0)	0.0% (0)	4.1% (3)
Project coordinator	2.7% (2)	6.8% (5)	6.8% (5)	1.4% (1)	17.6% (13)
Faculty associate	0.0% (0)	0.0% (0)	1.4% (1)	1.4% (1)	2.7% (2)
Other	0.0% (0)	1.4% (1)	2.7% (2)	1.4% (1)	5.4% (4)
All participants	12.2% (9)	43.1% (32)	29.7% (22)	14.9% (11)	100% (74)

Table C4 The STEP Central project has helped me feel a shared purpose in the endeavor of building the STEM pipeline.

Role	The STEP Central project has helped me feel a shared purpose in the endeavor of building the STEM pipeline.				Total
	To a great extent	Some	Little	Not at all	
Principal investigator (PI)	7.9% (6)	17.1% (13)	7.9% (6)	3.9% (3)	36.8% (28)
Co-PI	11.8% (9)	14.5% (11)	3.9% (3)	2.6% (2)	32.9% (25)
Evaluator	2.6% (2)	2.6% (2)	0.0% (0)	0.0% (0)	5.3% (4)
Project coordinator	2.6% (2)	10.5% (8)	2.6% (2)	1.3% (1)	17.1% (13)
Faculty associate	0.0% (0)	1.3% (1)	0.0% (0)	1.3% (1)	2.6% (2)
Other	1.3% (1)	2.6% (2)	1.3% (1)	0.0% (0)	5.3% (4)
All participants	26.3% (20)	48.7% (37)	15.8% (12)	9.2% (7)	100% (76)

Table C5 The STEP Central project has helped me gain new insights into the nature of the problems other STEP teams are confronting.

Role	The STEP Central project has helped me gain new insights into the nature of the problems other STEP teams are confronting.				Total
	To a great extent	Some	Little	Not at all	
Principal investigator (PI)	5.3% (4)	24.0% (18)	4.0% (3)	4.0% (3)	37.3% (28)
Co-PI	9.3% (7)	16.0% (12)	2.7% (2)	4.0% (3)	32.0% (24)
Evaluator	1.3% (1)	4.0% (3)	0.0% (0)	0.0% (0)	5.3% (4)
Project coordinator	5.3% (4)	5.3% (4)	5.3% (4)	1.3% (1)	17.3% (13)
Faculty associate	0.0% (0)	1.3% (1)	0.0% (0)	1.3% (1)	2.7% (2)
Other	0.0% (0)	2.7% (2)	2.7% (2)	0.0% (0)	5.3% (4)
All participants	21.3% (16)	53.3% (40)	14.7% (11)	10.7% (8)	100% (75)

Table C6 The STEP Central project has helped my team reflect on our successes and challenges.

Role	The STEP Central project has helped my team reflect on our successes and challenges.				Total
	To a great extent	Some	Little	Not at all	
Principal investigator (PI)	3.9% (3)	22.4% (17)	3.9% (3)	6.6% (5)	36.8% (28)
Co-PI	3.9% (3)	21.1% (16)	3.9% (3)	3.9% (3)	32.9% (25)
Evaluator	1.3% (1)	2.6% (2)	1.3% (1)	0.0% (0)	5.3% (4)
Project coordinator	2.6% (2)	9.2% (7)	3.9% (3)	1.3% (1)	17.1% (13)
Faculty associate	0.0% (0)	1.3% (1)	0.0% (0)	1.3% (1)	2.6% (2)
Other	0.0% (0)	3.9% (3)	1.3% (1)	0.0% (0)	5.3% (4)
All participants	11.8% (9)	60.5% (46)	14.5% (11)	13.2% (10)	100% (76)

Table C7 The STEP Central project has helped my team learn about new NSF initiatives and opportunities.

Role	The STEP Central project has helped my team learn about new NSF initiatives and opportunities.				Total
	To a great extent	Some	Little	Not at all	
Principal investigator (PI)	1.4% (1)	19.4% (14)	8.3% (6)	6.9% (5)	36.1% (26)
Co-PI	4.2% (3)	18.1% (13)	6.9% (5)	5.5% (4)	34.7% (25)
Evaluator	0.0% (0)	1.4% (1)	2.8% (2)	0.0% (0)	4.2% (3)
Project coordinator	1.4% (1)	6.9% (5)	5.6% (4)	2.8% (2)	16.7% (12)
Faculty associate	0.0% (0)	1.4% (1)	0.0% (0)	1.4% (1)	2.8% (2)
Other	0.0% (0)	2.8% (2)	1.4% (1)	1.4% (1)	5.6% (4)
All participants	6.9% (5)	50.0% (36)	25.0% (18)	18.1% (13)	100% (72)

Table C8 The STEP Central project has helped me discover other projects with whom to collaborate, exchange and learn.

Experience	The STEP Central project has helped me discover other projects with whom to collaborate, exchange and learn.				Total
	To a great extent	Some	Little	Not at all	
1 meetings	2.7% (2)	12.0% (9)	8.0% (6)	2.7% (2)	25.3% (19)
2 meetings	2.7% (2)	6.7% (5)	6.7% (5)	0.0% (0)	16.0% (12)
3 meetings	2.7% (2)	10.7% (8)	5.3% (4)	0.0% (0)	18.7% (14)
4 meetings	0.0% (0)	17.3% (13)	1.3% (1)	0.0% (0)	18.7% (14)
5+ meetings	2.7% (2)	9.3% (7)	6.7% (5)	2.7% (2)	21.3% (16)
All participants	10.7% (8)	56.0% (42)	28.0% (21)	5.3% (4)	100% (75)

Table C9 The STEP Central project has helped me network with, and learn from, people on other projects from a variety of different institutions.

Experience	The STEP Central project has helped me network with, and learn from, people on other projects from a variety of different institutions.				Total
	To a great extent	Some	Little	Not at all	
1 meetings	4.1% (3)	9.5% (7)	9.5% (7)	2.7% (2)	25.7% (19)
2 meetings	2.7% (2)	4.1% (3)	6.8% (5)	1.4% (1)	14.9% (11)
3 meetings	2.7% (2)	12.2% (9)	4.1% (3)	0.0% (0)	18.9% (14)
4 meetings	4.1% (3)	10.8% (8)	4.1% (3)	0.0% (0)	18.9% (14)
5+ meetings	5.4% (4)	9.5% (7)	2.7% (2)	4.1% (3)	21.6% (16)
All participants	18.9% (14)	45.9% (34)	27.0% (20)	8.1% (6)	100% (74)

Table C10 The STEP Central project has helped me contribute my knowledge to promote the success of other STEP grantees.

Experience	The STEP Central project has helped me contribute my knowledge to promote the success of other STEP grantees.				Total
	To a great extent	Some	Little	Not at all	
1 meetings	1.4% (1)	9.6% (7)	6.8% (5)	6.8% (5)	24.7% (18)
2 meetings	0.0% (0)	4.1% (3)	8.2% (6)	2.7% (2)	15.1% (11)
3 meetings	4.1% (3)	9.6% (7)	5.5% (4)	0.0% (0)	19.2% (14)
4 meetings	2.7% (2)	9.6% (7)	5.5% (4)	1.4% (1)	19.2% (14)
5+ meetings	2.7% (2)	11.0% (8)	4.1% (3)	4.1% (3)	21.9% (16)
All participants	11.0% (8)	43.8% (32)	30.1% (22)	15.1% (11)	100% (73)

Table C11 The STEP Central project has helped me feel a shared purpose in the endeavor of building the STEM pipeline.

Experience	The STEP Central project has helped me feel a shared purpose in the endeavor of building the STEM pipeline.				Total
	To a great extent	Some	Little	Not at all	
1 meetings	6.7% (5)	13.3% (10)	2.7% (2)	2.7% (2)	25.3% (19)
2 meetings	4.0% (3)	4.0% (3)	6.7% (5)	1.3% (1)	16.0% (12)
3 meetings	5.3% (4)	10.7% (8)	1.3% (1)	1.3% (1)	18.7% (14)
4 meetings	4.0% (3)	9.3% (7)	4.0% (3)	1.3% (1)	18.7% (14)
5+ meetings	6.7% (5)	10.7% (8)	1.3% (1)	2.7% (2)	21.3% (16)
All participants	26.7% (20)	48.0% (36)	16.0% (12)	9.3% (7)	100% (75)

Table C12 The STEP Central project has helped me gain new insights into the nature of the problems other STEP teams are confronting.

Experience	The STEP Central project has helped me gain new insights into the nature of the problems other STEP teams are confronting.				Total
	To a great extent	Some	Little	Not at all	
1 meetings	6.8% (5)	12.2% (9)	2.7% (2)	2.7% (2)	24.3% (18)
2 meetings	1.4% (1)	9.5% (7)	5.4% (4)	0.0% (0)	16.2% (12)
3 meetings	4.1% (3)	10.8% (8)	2.7% (2)	1.4% (1)	18.9% (14)
4 meetings	2.7% (2)	12.2% (9)	2.7% (2)	1.4% (1)	18.9% (14)
5+ meetings	5.4% (4)	9.5% (7)	1.4% (1)	5.4% (4)	21.6% (16)
All participants	20.3% (15)	54.1% (40)	14.9% (11)	10.8% (8)	100% (74)

Table C13 The STEP Central project has helped my team reflect on our successes and challenges.

Experience	The STEP Central project has helped my team reflect on our successes and challenges.				Total
	To a great extent	Some	Little	Not at all	
1 meetings	2.7% (2)	14.7% (11)	2.7% (2)	5.3% (4)	25.3% (19)
2 meetings	0.0% (0)	10.7% (8)	5.3% (4)	0.0% (0)	16.0% (12)
3 meetings	1.3% (1)	14.7% (11)	1.3% (1)	1.3% (1)	18.7% (14)
4 meetings	2.7% (2)	12.0% (9)	1.3% (1)	2.7% (2)	18.7% (14)
5+ meetings	5.3% (4)	8.0% (6)	4.0% (3)	4.0% (3)	21.3% (16)
All participants	12.0% (9)	60.0% (45)	14.7% (11)	13.3% (10)	100% (75)

Table C14 The STEP Central project has helped my team learn about new NSF initiatives and opportunities

Experience	The STEP Central project has helped my team learn about new NSF initiatives and opportunities.				Total
	To a great extent	Some	Little	Not at all	
1 meetings	0.0% (0)	12.7% (9)	8.5% (6)	4.2% (3)	25.4% (18)
2 meetings	0.0% (0)	7.0% (5)	4.2% (3)	4.2% (3)	15.5% (11)
3 meetings	2.8% (2)	11.3% (8)	4.2% (3)	1.4% (1)	19.7% (14)
4 meetings	1.4% (1)	11.3% (8)	2.8% (2)	2.8% (2)	18.3% (13)
5+ meetings	2.8% (2)	8.5% (6)	5.6% (4)	4.2% (3)	21.1% (15)
All participants	7.0% (5)	50.7% (36)	25.4% (18)	16.9% (12)	100% (71)

Appendix D – Survey Instruments Templates

Meeting Surveys

WELCOME TO THE NSF STEP 2013 GRANTEES MEETING SURVEY 1 of 3

During the course of the STEP Grantees Meeting, you will receive three surveys to provide feedback on the meeting in real time as it happens. Please take a few minutes to complete each survey. Your responses are valuable and sharing your experience will help us improve future NSF STEP Grantees Meetings.

This survey is confidential. Your answers will be reported in aggregate form, and you will not be identified with your responses in any way.

1. What is your role on the grant?

- Principal Investigator
- Co-Principal Investigator
- Evaluator
- Project Coordinator
- Faculty Associate

Other (please specify)

2. How many STEP grantee meetings have you attended, including this one?

- Only this meeting
- This meeting and one other
- This meeting and two others
- This meeting and more than two others

Thursday, March 14, 2013 -- OPENING PLENARY

The Meaning of Success: STEM Education in an Ever Changing Workforce Speaker: Eduardo Padrón, President, Miami Dade College

3. PLEASE INDICATE YOUR AGREEMENT WITH THE FOLLOWING STATEMENTS ABOUT THE PLENARY

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The presentation was valuable to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presentation enhanced my knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect to use the knowledge gained from this presentation in my STEP related work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional comments:

Breakout Session I

4. Breakout session attended

Session name:

Please select the breakout session you attended from the drop-down menu:

5. PLEASE INDICATE YOUR AGREEMENT WITH THE FOLLOWING STATEMENTS ABOUT THE SESSION

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The session was valuable to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The session enhanced my knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect to use the knowledge gained from this session in my STEP related work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional comments:

THANK YOU!

Thank you for completing the NSF STEP Meeting Survey 1 of 3! Your feedback is appreciated. You will receive Survey 2 tonight at 6:30PM.

Breakout Session I

4. Breakout session attended

Session name:

Please select the breakout session you attended from the drop-down menu:

5. PLEASE INDICATE YOUR AGREEMENT WITH THE FOLLOWING STATEMENTS ABOUT THE SESSION

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The session was valuable to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The session enhanced my knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect to use the knowledge gained from this session in my STEP related work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional comments:

WELCOME TO THE NSF STEP 2013 GRANTEES MEETING SURVEY 2 of 3

During the course of the STEP Grantees Meeting, you will receive three surveys to provide feedback on the meeting in real time as it happens. Please take a few minutes to complete each survey. Your responses are valuable and sharing your experience will help us improve future NSF STEP Grantees Meetings.

This survey is confidential. Your answers will be reported in aggregate form, and you will not be identified with your responses in any way.

Number of STEP Grantee Meetings You Have Attended

1. What is your role on the grant?

- Principal Investigator
- Co-Principal Investigator
- Evaluator
- Project Coordinator
- Faculty Associate

Other (please specify)

2. How many STEP grantee meetings have you attended, including this one?

- Only this meeting
- This meeting and one other
- This meeting and two others
- This meeting and more than two others

Thursday, March 14, 2013 -- LUNCH AND NETWORKING

LUNCH AND NETWORKING: STEP: What are we learning and what would we like to learn? Lunch Speakers: Lee Zia and Connie Della-Piana, STEP Lead Program Directors, DUE

3. PLEASE INDICATE YOUR AGREEMENT WITH THE FOLLOWING STATEMENTS ABOUT THE PLENARY

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The presentation was valuable to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presentation enhanced my knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect to use the knowledge gained from this presentation in my STEP related work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional comments:

<div style="border: 1px solid black; height: 40px; width: 100%;"></div>	5
	6

BREAKOUT SESSION II

4. Breakout session attended

Session name:

Please select the breakout session you attended from the drop-down menu:

5. PLEASE INDICATE YOUR AGREEMENT WITH THE FOLLOWING STATEMENTS ABOUT THE SESSION

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The session was valuable to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The session enhanced my knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect to use the knowledge gained from this session in my STEP related work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional comments:

POSTER SESSIONS A & B

6. PLEASE INDICATE YOUR AGREEMENT WITH THE FOLLOWING STATEMENTS ABOUT THE SESSIONS

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The session was valuable to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The session enhanced my knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect to use the knowledge gained from this session in my STEP related work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

<input type="text"/>	5
<input type="text"/>	6

THANK YOU!

Thank you for completing the NSF STEP Meeting SuNey 2 of 3! Your feedback is much appreciated. You will receive SuNey 3 tomorrow, March 15, 2013 at 12:15 PM.

WELCOME TO THE NSF STEP 2013 GRANTEES MEETING SURVEY 3 of 3

During the course of the STEP Grantees Meeting, you will receive three surveys to provide feedback on the meeting in real time as it happens. Please take a few minutes to complete each survey. Your responses are valuable and sharing your experience will help us improve future NSF STEP Grantees Meetings.

This survey is confidential. Your answers will be reported in aggregate form, and you will not be identified with your responses in any way.

1. What is your role on the grant?

- Principal Investigator
- Co-Principal Investigator
- Evaluator
- Project Coordinator
- Faculty Associate

Other (please specify)

	5
	6

2. How many STEP grantee meetings have you attended, including this one?

- Only this meeting
- This meeting and one other
- This meeting and two others
- This meeting and more than two others

Friday, March 15, 2013 --- MORNING PLENARY SESSION

Innovation as Ornament and the Challenge of Improvement at Scale. Plenary speaker: Philip "Uri" Treisman, Professor of Mathematics and Public Affairs, University of Texas at Austin Title: Culturing Change in Undergraduate Education

3. PLEASE INDICATE YOUR AGREEMENT WITH THE FOLLOWING STATEMENTS ABOUT THE PLENARY

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The presentation was valuable to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The presentation enhanced my knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect to use the knowledge gained from this presentation in my STEP related work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional comments:

Friday, March 14, 2013: 10:15a.m. – 11:45 a.m. BREAKOUT SESSION III

Breakout Session III

4. Breakout session attended

Session name:

Please select the breakout session you attended from the drop-down menu:

5. PLEASE INDICATE YOUR AGREEMENT WITH THE FOLLOWING STATEMENTS ABOUT THE SESSION

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The session was valuable to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The session enhanced my knowledge.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect to use the knowledge gained from this session in my STEP related work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After this session, I plan to collaborate with staff from other STEP projects to address common issues of concerns that were discussed during this session.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional comments:

MEETING OUTCOMES

PLEASE INDICATE YOUR AGREEMENT WITH THE FOLLOWING STATEMENTS.

6. After this meeting, I am more aware of best practices related to supporting students in STEP grants.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Additional comments

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7. Interacting with other STEP grantees provided me with strategies and best practices for better implementing my STEP grant.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Additional comments

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8. After the meeting, I plan to contact staff from other STEP grants I met during the meeting to collaborate in addressing common issues of concern that came up during the meeting.

- Yes
- No

If "Yes", please describe.

	5
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9. If "Yes," do you plan to use STEP Central to facilitate this communication and collaboration?

Yes

No

Additional comments

MEETING SATISFACTION

PLEASE RANK YOUR SATISFACTION WITH THE MEETING OVERALL

10. PLEASE INDICATE YOUR LEVEL OF SATISFACTION WITH THE FOLLOWING MEETING COMPONENTS:

	Very satisfied	Satisfied	Neutral	Dissatisfied	Very dissatisfied
Networking opportunities (breaks, session format, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pace and time management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall organization and logistics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facilities and sleeping rooms	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Location	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Additional comments

11. What did you find the most helpful about this meeting?

12. What would you change about this meeting?

THANK YOU!

Thank you for completing the NSF STEP Meeting Surveys! Your feedback is appreciated.

Post Meeting Survey

ROLE ON GRANT

- Principal Investigator
- Co-Principal Investigator
- Evaluator
- Project Coordinator
- Faculty Associate
- Other

STEP GRANTEE POST-MEETING OUTCOMES

How many STEP grantee meetings have you attended?

- 1
- 2
- 3
- 4
- 5+

Since the 2013 STEP Grantee Meeting, have you changed your STEP grant implementation based on something you learned from other grantees during the meeting?

- Yes
- No

If yes, please describe.

Thinking back to 2012, did you change your STEP grant implementation after the 2012 STEP Grantee Meeting based on something you learned from other grantees during that meeting?

- Yes
- No
- I did not attend the 2012 STEP Grantee Meeting

If yes, please describe.

Since the 2013 STEP Grantee Meeting, have you contacted anyone you met during the meeting to collaborate in addressing common issues of concern that came up during the meeting?

- Yes
- No

If yes, please describe.

Have you used STEPcentral.net prior to or after the meeting to develop and continue discussions?

Yes

No

Please explain.

	5
	6

Did your team have an opportunity to meet with your NSF program officer?

Yes

No

Please explain.

	5
	6

Did your team participate in a 3rd-year review?

Yes

No

Please explain

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MONITORING AND REPORTING

During the STEP 2013 meeting, NSF Program Directors Lee Zia and Connie Della-Piana presented and asked for feedback on data collected for program monitoring purposes. The lunch time presentation and discussion (Thursday, March 14th) was titled "STEP: What are we learning and what would we like to learn?" To further this important discussion, please answer the following questions. Your responses will be aggregated and reported on the STEP Central website.

When you provide data for program monitoring purposes, who is involved in providing and reporting that data? Please check all that apply.

- STEP Project PI
- Administrative Staff for STEP Project
- Graduate Students
- STEP Project Evaluator
- Institutional Research Staff
- Staff from the Registrar Office
- Other

Please specify for "Other," or share any further comments

How much staff time do you estimate is required by you and staff at your college or university each year to provide NSF with program monitoring data for the STEP program? Please include all time by all staff in your estimate, not just your own time.

- One hour
- Between 1 and 8 hours
- Between 9 and 16 hours (2 days)
- Between 17 and 24 hours (3 days)
- Between 25 and 32 hours (4 days)
- A week
- More than a week

Additional comments

What time(s) of the year are most convenient for you to provide program monitoring data for the STEP program to NSF? Please check all that apply.

- January/February
- March/April
- May/June
- July/August
- September/October
- November/December

Additional comments

	5
	6

What kind(s) of support from NSF would be helpful when it comes to collecting data for monitoring purposes?

	5
	6

In your opinion, what should NSF do differently when it collects monitoring data for the STEP program?

	5
	6

STEP Central Outcomes

The STEP Central project has several important project outcomes and several components (i.e. Webinars, STEP Central website and in-person grantee meetings) that support the project. We would like to know, in your opinion, how well the following outcomes are being achieved, and which STEP Central component(s) contribute to those outcomes. For example, for the first item, you would answer how well the STEP Central project has contributed to you discovering other projects with whom to collaborate, exchange and learn; and then check which project component(s) contribute to that outcome. Please provide any important insights into how multiple project components contribute to an outcome in the comments box.

The STEP Central project has helped me discover other projects with whom to collaborate, exchange and learn.

To a great extent Some Little Not at all

Please check which STEP Central project component(s) have contributed to this outcome.

- Webinars
- STEP Central working groups and on-line discussions
- STEP Central on-line resources
- Email correspondence/or other communication with grantees
- STEP Meeting – (i.e. Plenary, Breakout, or Poster Session)
- STEP Meeting- Informal Discussion (i.e. networking during a break)

Comments

The STEP Central project has helped me network with, and learn from, people on other projects from a variety of different institutions.

To a great extent Some Little Not at all

Please check which STEP Central project component(s) have contributed to this outcome.

- Webinars
- STEP Central working groups and on-line discussions
- STEP Central on-line resources
- Email correspondence/or other communication with grantees
- STEP Meeting – (i.e. Plenary, Breakout, or Poster Session)
- STEP Meeting- Informal Discussion (i.e. networking during a break)

Comments

The STEP Central project has helped me feel a shared purpose in the endeavor of building the STEM pipeline.

To a great extent Some Little Not at all

Please check which STEP Central project component(s) have contributed to this outcome.

- Webinars
- STEP Central working groups and on-line discussions
- STEP Central on-line resources
- Email correspondence/or other communication with grantees
- STEP Meeting – (i.e. Plenary, Breakout, or Poster Session)
- STEP Meeting- Informal Discussion (i.e. networking during a break)

Comments

The STEP Central project has helped me gain new insights into the nature of the problems other STEP teams are confronting.

To a great extent Some Little Not at all

Please check which STEP Central project component(s) have contributed to this outcome.

- Webinars
- STEP Central working groups and on-line discussions
- STEP Central on-line resources
- Email correspondence/or other communication with grantees
- STEP Meeting – (i.e. Plenary, Breakout, or Poster Session)
- STEP Meeting- Informal Discussion (i.e. networking during a break)

Comments

The STEP Central project has helped my team reflect on our successes and challenges.

To a great extent Some Little Not at all

Please check which STEP Central project component(s) have contributed to this outcome.

- Webinars
- STEP Central working groups and on-line discussions
- STEP Central on-line resources
- Email correspondence/or other communication with grantees
- STEP Meeting – (i.e. Plenary, Breakout, or Poster Session)
- STEP Meeting- Informal Discussion (i.e. networking during a break)
- Preparing for Poster Session

Comments

The STEP Central project has helped me contribute my knowledge to promote the success of other STEP grantees.

- To a great extent Some Little Not at all

Please check which STEP Central project component(s) have contributed to this outcome.

- Webinars
- STEP Central working groups and on-line discussions
- STEP Central on-line resources
- Email correspondence/or other communication with grantees
- STEP Meeting – (i.e. Plenary, Breakout, or Poster Session)
- STEP Meeting- Informal Discussion (i.e. networking during a break)

Comments

The STEP Central project has helped my team learn about new NSF initiatives and opportunities.

- To a great extent Some Little Not at all


Please check which STEP Central project component(s) have contributed to this outcome.

- Webinars
- STEP Central working groups and on-line discussions
- STEP Central on-line resources
- Email correspondence/or other communication with grantees
- STEP Meeting – (i.e. Plenary, Breakout, or Poster Session)
- STEP Meeting- Informal Discussion (i.e. networking during a break)

Comments

THANK YOU!

Thank you for taking the time to complete the STEP Grantee post-meeting survey!



Questions or Comments?

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