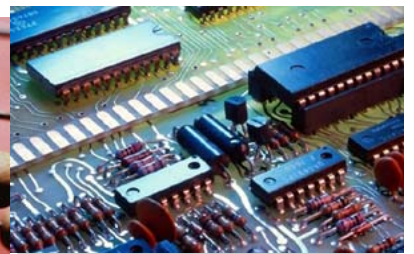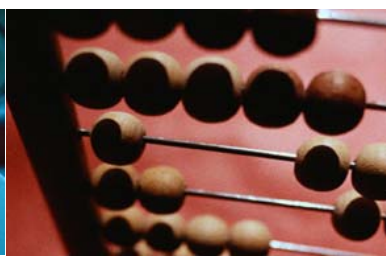**CADRE DR K-12 Resource Network**
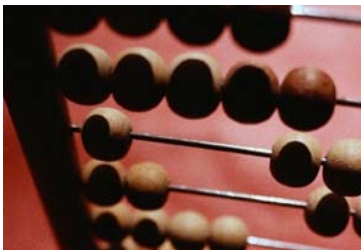
CADRE Fellows Survey

Cohort 2012 - 2013

Technical Report Submitted to CADRE at EDC, Inc.
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CADRE Fellows Survey

Cohort 2012 - 2013

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The University of Massachusetts Donahue Institute is the public service, outreach, and economic development unit of the University of Massachusetts President's Office. Established in 1971, the Institute strives to connect the Commonwealth with the resources of the University through services that combine theory and innovation with public and private sector applications.

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Executive Summary

The Community for Advancing Discovery Research in Education (CADRE), the official name of the Discovery Research K-12 (DR K-12) network, is a collaborative effort of three organizations: Education Development Center, Inc. (EDC); Abt Associates Inc. (Abt); and Policy Studies Associates (PSA). Funded by the National Science Foundation in 2008, CADRE provides assistance for projects funded under the NSF/EHR/DRL DR K-12 program. The University of Massachusetts Donahue Institute's Applied Research and Program Evaluation group provides evaluation services to the project. A comprehensive evaluation plan details the scope of the evaluation, which is designed to address the formative and summative information needs of CADRE partners and the NSF. This report presents the results of one research activity: a web-based survey of participants in the CADRE Fellowship program during the 2012-2013 year.

Begun in 2009, the CADRE Fellowship is a capacity-building experience for early-career researchers and developers. The program is designed to provide exposure to STEM education research and researchers working beyond the Fellow's particular project and institution, as well as networking with colleagues from across the country. The program also gives Fellows an opportunity to gain insights into NSF, and what it takes to be successful and effective in STEM education research.

The survey, which was administered in June 2013, solicits participants' feedback on the strengths of the program as well as recommended modifications. Eight out of ten possible respondents completed the survey, for an 80% response rate.

Key findings are discussed below.

Overview of Fellows' Experiences

Overall, Fellows were highly satisfied with the CADRE Fellowship and experienced many benefits as a direct result of their participation in the program. Fellows appreciated the events and activities provided through the Fellowship, and especially valued the two in-person meetings and the opportunities for networking that these meetings provided. In fact, most Fellows indicated that they established personal and/or professional relationships outside of the parameters of the Fellows program. Several Fellows reported that they were able to gain knowledge and insights from their Fellowship colleagues that bridged their common experiences as early career researchers. Fellows also provided constructive feedback indicating that they would appreciate as much interaction as possible, better logistics for the webinars, and activities better tailored to their individual needs. Throughout the survey, Fellows' responses did not differ based on the amount of time spent in graduate school nor did they differ based on whether Fellows were graduate students or post-docs.

Benefits of the CADRE Fellowship

Fellows anticipated that the CADRE Fellowship would offer the opportunity to grow professionally in a number of ways including the opportunity to network with peers, to access professional development opportunities, and to make contact with senior researchers or professionals in the field. These expectations were exceeded for many respondents, and for the majority of respondents, all were met to some degree.

Fellows derived many important benefits from participating in the program. For example, all respondents believe the Fellowship strengthened their CVs. In addition, the majority of respondents reported that they better understand NSF funding mechanisms (88%), and they benefitted from professional contact with senior researchers or professionals (75%). Further, more than half of respondents acquired increased awareness of career opportunities in STEM education research (63%); increased confidence to participate in professional conversations (63%); and a better perspective of what it means to be a STEM researcher or professional (63%). One Fellow explained:

> "The whole experience definitely has helped and will continue to help me in building my career as a researcher and educator. I am very impressed by the experiences we were given and the connections with professionals in the field that were made available to us."

Fellows believe that the program will continue to have a beneficial effect on their careers moving forward. Notably, several reported that the information they learned related to securing grants would have an impact on their careers. Fellows additionally expressed that the contacts, information, and resources they gained through the program would influence their careers. For example, some Fellows explained:

> "I think the networking and 'inside look' at grant writing for NSF provides me with great advantages for my future career."

> "Provided useful career-building information and resources."

Moreover, for two respondents, the Fellowship had already been acknowledged in their career search activities. They described:

> "One of the PIs that I had an interview [with] for [a] job [recognized] the Fellows program."

> "[My participation in the program] was mentioned during introductions to job talk seminars."

Feedback on Activities and Events

As in past years, Fellowship events and activities included webinars, an introductory conference call, a listserv, and dedicated space on the CADRE website. Throughout the Fellowship five topic areas were explored: introductions and getting to know one another's work; writing for publication; learning about the NSF; career pathways; and developing proposals. CADRE made two significant changes to the Fellows program this year. Based on feedback from earlier cohort Fellows, an introductory in-person meeting was held at the beginning of

the Fellowship. In addition, a second in-person meeting was added at the end of the Fellowship. In the past the Fellows had attended the DR K-12 PI meeting as a capstone event. However, given that there was no DR K-12 PI meeting in 2013, Fellows were invited to attend an in-person meeting at the NSF in April 2013.

Overall, Fellows appreciated the activities and events afforded through the program. Webinars and conference calls received positive feedback, with the large majority reporting all activities and events to be beneficial. However, some Fellows noted that—from the point of view of logistics— the webinars could be improved. For example, some suggested that it would be easier if the webinars were held using a video chat service so they did not have to call in via telephone. In addition, webcams were used by presenters and EDC staff during the webinars, and some comments suggested that increasing the use of webcams among the Fellows would be beneficial.

In addition, all Fellows benefited from the paired writing activities, with most commenting that the content of the writing activities addressed their needs. Approximately half of the respondents reported that working with a partner was helpful and they received useful feedback. One Fellow noted:

> "Working with my partner allowed me to get an outside view of the work I had been doing and identify the deficits in my own writing where I had not been very helpful in explaining the material. It showed me that I really needed to work on my ability to clearly walk the readers through my thought process as well as the literature."

Those who found that working with a partner was less helpful most commonly explained that their partner was doing work in a different field. As one Fellow explained:

> "It seemed that we worked independently because the difference in the nature of interest/paper and the difference of two fields: mathematics and science."

Fellows were particularly enthusiastic about their experiences at the two in-person meetings. All respondents reported that they benefitted from the initial in-person meeting and the majority explained that they most appreciated the opportunity to get to know the other Fellows. Fellows explained, for example:

> "I think this was hugely influential because it gave us the opportunity to meet one another, hear about others' interests, and to begin having conversations in person."

> "Great way to kick off the Fellowship by giving everyone a chance to meet one another. I think an in-person meeting helped to build stronger relationships between the Fellows."

Some respondents suggested that the structure of the Fellows presentations during the initial in-person meeting could be further improved. A few respondents indicated that the presentations were rushed and provided a range of suggestions for how they could be improved including adding more time for the presentations, having Fellows deliver only a brief summary of their projects, or utilizing a poster session format instead of the presentations. Additional suggestions related to improving the meeting more generally included making the meeting longer and adding more time to the meeting for socializing and networking.

Similarly, the Fellows highly valued the in-person meeting at the NSF. Overall, all Fellows found the meeting to be beneficial—and all also rated each individual session as beneficial. The Fellows were especially enthused about the mock proposal review session and the conversation with Richard Duschl during the meeting at the NSF. Illustrative comments include:

> "I think the mock proposal was extremely valuable. I also feel like the meeting gave me a really good understanding of NSF as an organization and the way the grant/funding process works. This meeting could have been the most influential part of the fellowship. I feel like I came away with a much better understanding of how to approach applying for a grant in the future."

> "Very valuable. Perhaps the best experience out of all of the CADRE activities. Mock proposal review was extremely informative and it was great to meet some of the NSF program officers and staff."

Overall Program Reflections

Awareness, Recruitment, and Selection

Most respondents became aware of the Fellows program through their PIs. Respondents were asked how and where CADRE should recruit applicants for the program, announce new awardees, and acknowledge Fellows' completion of the program. Most commonly, Fellows said these achievements might be effectively communicated to the public through the listservs of different organizations including AERA, NARST, and NSTA. Other suggestions included publicizing the program at conferences and reaching out to graduate programs.

Interaction and Collaboration

Across the different activities provided during the Fellowship, the two in-person meetings were most strongly associated with a sense of community-building for Fellows. One Fellow noted:

> "For networking and learning, I think nothing works better than in-person meetings. The webinars were a close second, especially as presenters used cameras which still allowed for the face to face interactions."

Respondents were split between reporting that CADRE provided appropriate support to interaction and communication, and providing suggestions for how CADRE could provide additional support. Those who provided suggestions most often expressed a desire for more opportunities for interaction with each other. Illustrative comments include:

> "I really like the CADRE staff and it was a great experience. It was easy to communicate with everyone and I feel like I have some lifelong colleagues now."

> "I wish there would have been a little more interaction. Most of our interactions occurred because of the structured events. It would be nice for CADRE to facilitate more opportunities for informal interactions."

When asked how much they learned about other Fellows' work, most felt that they gained an appropriate degree of familiarity with the other Fellows' work—although two indicated that they would have liked to have learned more. Several Fellows explained that learning about the projects other Fellows were working on provided them with useful knowledge about STEM education research that is currently being conducted. In addition, some Fellows noted that they were able to gain knowledge and insights from their Fellowship colleagues that went beyond their research projects and bridged their common experiences as early career researchers. Some Fellows explained:

> "I was able to discuss with several of the Fellows some issues I was having as a grad student and I was able to get feedback from them about how they have handled similar situations. I think this was really helpful for me to talk to people outside of my program who are in similar situations."

> "During AERA, we had a great discussion about the delay between submission of new research to journals and the delay that exists in getting it published and out to the public. We also discussed the difficulty with specialized language and how that complicates the actual use of the research in the classrooms. We spoke about ideas to address these issues for a good amount of time."

The majority of Fellows established personal and/or professional relationships outside of the parameters of the Fellows program and reported talking to, emailing, or meeting other Fellows on their own initiative. Fellows reported, for example, getting together at the AERA meeting and corresponding about both personal and professional issues. Moreover, almost all of the respondents explained that they would like to and/or anticipate continuing to communicate with the other Fellows after the program concludes. Specifically, several mentioned that they would like to maintain networking relationships. As one Fellow explained:

> "I would like to continue to network with Fellows and possibly collaborate on projects."

Very few respondents contacted any of the PIs who served as panelists, although one who did contact a PI reported a very positive outcome:

> "Yes I made contact with some of the PIs and will be working with one as of next semester on a project."

Design of the Fellowship

Fellows were asked to comment on the workload associated with the Fellowship. All of those who commented indicated that the workload was appropriate. With regard to the Fellowship resources, most respondents utilized the website and the listserv. Only three respondents reported accessing the recordings of webinars and/or in-person sessions.

Respondents were asked if they got more out of the webinars and in-person sessions facilitated by other Fellows and, when they facilitated, if they benefitted from direct interaction with the PIs and POs. A few Fellows benefitted more from the sessions facilitated by the Fellows, with some noting that there was increased engagement in these sessions. However, some respondents noted that the structure of the sessions facilitated by the Fellows could be further improved. The range of feedback was large but included one Fellow who indicated that the sessions facilitated by Fellows did not add much and another who explained that facilitating with another Fellow did not result in much conversation because the task of collecting questions was relatively straightforward.

The majority of respondents indicated that CADRE responded to their feedback throughout the Fellowship to a great extent. One Fellow explained:

> "I know we were often asked about what workshops may be helpful and what we would like throughout the year. The facilitators even made a second in-person meeting happen, which we were all hoping to have."

Looking Forward

All respondents indicated that CADRE could have better supported their professional growth with additional community building activities. Most Fellows also reported that CADRE could have provided more publicity surrounding the Fellowship, and assignments that were better tailored to their individual needs. In addition, some respondents noted that they would have appreciated more activities and several indicated that adding mentoring to the Fellowship might be useful. Selected comments include:

> "More of everything. This program was really helpful and if we just went over more topics it would be even better."

> "Overall, just more time to socialize with Fellows. I guess I would have preferred tasks like the grant proposal review, paper reviews, etc. where we could really dig into details... rather than panelists who talked about careers and getting grants in a very general way."

> "I am not sure what it would look like but some form of mentoring might work out. I quite liked the peer relationships of the program so I don't know that I would substantially change that, but adding an element of a *direct relationship* with one or more more-advanced students, past Fellows, or PIs might be helpful. Perhaps bring[ing] past Fellows back to work with current Fellows in some way would be a neat idea…."

Most respondents were interested in participating in activities for next year's Fellows, including conference calls, webinars, the listserv, and the website.

Finally, respondents were asked if they had any other suggestions or comments on how CADRE could improve the Fellowship experience. Only two respondents provided comments, and of these, only one provided a suggestion: to add more meetings, conference calls and projects to the Fellowship.

I. Introduction

The Community for Advancing Discovery Research in Education (CADRE), the official name of the Discovery Research K–12 (DR K–12) network, is a collaborative effort comprised of three organizations: Education Development Center, Inc. (EDC); Abt Associates Inc. (Abt); and Policy Studies Associates (PSA). Funded by the National Science Foundation in 2008, CADRE provides assistance for projects funded under the NSF/EHR/DRL DR K–12 program. The overarching goals of CADRE are to support the improvement of research, evaluation, and development in STEM education and to support the NSF and its DR K–12 program.

The University of Massachusetts Donahue Institute's Applied Research and Program Evaluation group provides evaluation services to the project. A comprehensive evaluation plan details the scope of the evaluation, which is designed to address the formative and summative information needs of CADRE partners and the NSF. This report presents the results of one research activity: a web-based survey of participants in the CADRE Fellowship program during the 2012-2013 year. A description of the Fellowship is adapted from CADRE materials as follows:

> The CADRE Fellows, now in its fourth year, is a competitive fellowship designed to be a capacity-building experience for early career researchers and developers. Fellows will be exposed to DR K-12 research beyond their projects, gain insights into the NSF and what it takes to be successful and effective researchers and developers, and network with researchers and developers from across the country.

A. Overview of the 2012 – 2013 Fellowship

As in past years, Fellowship events and activities included webinars (4), an introductory conference call, a listserv, and dedicated space on the CADRE website. Throughout the Fellowship five topic areas were explored: introductions and getting to know one another's work; writing for publication; learning about the NSF; career pathways; and developing proposals. CADRE made two significant changes to the Fellows program this year. Based on feedback from earlier cohort Fellows, an introductory in-person meeting was held at the beginning of the Fellowship in Waltham, MA in December 2012. In addition, a second in-person meeting was added at the end of the Fellowship and was held at the NSF in April 2013. In the past the Fellows had attended the DR K-12 PI meeting as a capstone event. However, given that there was no DR K-12 PI meeting in 2013, Fellows were invited to attend an in-person meeting at the NSF. The survey solicited participants' feedback on the strengths of the program as well as recommended modifications.

B. Organization of the Report and Notes on Style

The Executive Summary provides a brief summary of Fellows' perspectives on the program, including illustrative comments. The Results section presents detailed participant feedback, incorporating scaled responses and open-ended responses, largely following the structure of the survey. Responses to closed questions are presented as tables, with the corresponding survey item text displayed in the heading. All responses to open-ended questions are presented in the report. Open-ended responses have been modified for grammar and spelling but are otherwise displayed verbatim, shown in blocks between quotation marks to make clear the changes in speakers. Response rates vary by question: in some cases this is because certain participants chose not to answer a question; in other cases, skip logic was employed, directing participants to questions based on their previous responses.

The text of the initial survey invitation that was sent by email is attached as Appendix A.

The survey instrument is attached as Appendix B.

II. Methodology

In order to maintain familiarity with the project and to keep abreast of emergent information needs, the evaluators have, from project start-up, participated in routine meetings and maintained ongoing communication with the Principal Investigator and the CADRE leadership team. Additionally, a member of the evaluation team attended all conference calls, webinars, and in-person meetings. The survey of the 2012–2013 CADRE Fellows was developed through a collaborative process between the evaluation team and the CADRE team (included as Appendix B). The three previous cohorts (2009–2010, 2010–2011, 2011–2012) also completed a feedback survey, and findings from these data collection activities informed the development of the current survey.

UMDI administered the survey through an online platform (Qualtrics). The survey consisted of scaled and open-ended items and was made available from June 20th through July 3rd, 2013. The survey was sent to the ten Fellows who participated in the 2012–2013 program and eight respondents completed it, for a total response rate of 80%.

III. Results

A. Respondents

CADRE Fellows from the 2012–2013 cohort were invited to participate in the survey. Eight out of ten possible respondents completed the survey, for a response rate of 80%. Of the eight respondents, two were post-docs and six were graduate students. The amount of time spent in graduate school varied widely among graduate students, ranging from one year to five years. Throughout the survey, Fellows' responses did not differ based on the amount of time spent in graduate school nor did they differ based on whether Fellows were graduate students or post-docs.

B. Overview of Fellows' Experiences

Fellows' Expectations

Fellows had high expectations of the program, including networking with peers, participating in activities for professional development and contact with senior researchers. Upon being awarded the CADRE Fellowship, all respondents (100%) expected the chance to network with their peers, and access to professional development opportunities. Seven of the respondents (88%) expected the opportunity to make contact with senior researchers or mentors while three (38%) expected to gain recognition in the field as a result of the Fellowship.

Table 1. Fellows' Expectations		
	Frequency	**Percent**
Opportunity to network with peers	8	100%
Access to professional development opportunities (e.g., visit to NSF, webinars, panel discussions)	8	100%
Opportunity to make contact with senior researchers or professionals in the field	7	88%
Recognition in my field	3	38%

Respondents were asked to indicate how well the Fellowship had met their expectations for each of the choices they had selected. Results are indicated in the table below. Most respondents (n=7; 88%) reported that the Fellowship exceeded or completely met their expectations related to access to professional development. In addition, for five respondents (63%) the Fellowship exceeded or completely met their expectations in opportunities to network with peers and opportunities to make contact with senior researchers. For the three respondents who had expected the Fellowship to provide recognition in their field, only one felt that the Fellowship completely met expectations.

Table 2. Extent Fellowship met Fellows' Expectations					
	Not at all	**Somewhat**	**Completely**	**Exceeded expectations**	**Total Responses**
Access to professional development opportunities	0	1	2	5	8
Opportunity to network with peers	0	3	2	3	8
Opportunity to make contact with senior researchers or professionals in the field	1	1	1	4	7
Recognition in my field	0	2	1	0	3

Fellowship Benefits

Fellows were asked to indicate what benefits they derived from the program experience, if any. As shown in the table on the following page, all respondents indicated that the Fellowship has strengthened their CV. In addition, more than three-quarters (88%) indicated they had a better understanding of NSF funding mechanisms and three-quarters benefitted from professional contact with senior researchers or developers in the DR K-12 community. Other commonly selected benefits included increased awareness of career opportunities in STEM education research (63%); increased confidence to participate in professional conversations (63%); better perspective of what it means to be a STEM researcher or professional (63%); and increased knowledge related to publishing a journal article (50%).

Table 3. Fellowship Benefits		
	Frequency	**Percent**
Stronger CV	8	100%
Better understanding of NSF funding mechanisms	7	88%
Professional contact with senior researchers or professionals in the DR K-12 community	6	75%
Increased awareness of career opportunities the STEM education field	5	63%
Increased confidence to participate in professional conversations	5	63%
Better perspective on what it means to be a STEM education researcher or developer	5	63%
Increased knowledge related to publishing a journal article	4	50%
Name recognition as a result from having been a Fellow	2	25%
Learned about a job opportunity as a result of being a Fellow	2	25%

Two respondents elaborated on their expectations for the Fellowship and/or benefits they received. One comment reflected enthusiasm for the program while the other provided feedback related to areas that CADRE could further improve upon.

> "The whole experience definitely has helped and will continue to help me in building my career as a researcher and educator. I am very impressed by the experiences we were given and the connections with professionals in the field that were made available to us."

> "Honestly, the information presented during the CADRE Fellow was too 'common sense.' I didn't ever learn anything new, or that I hadn't learned in my first year of school. I expected more networking opportunities for jobs and working on collaborative research projects with other fellows."

C. Fellows' Perspectives on Program Activities and Processes

Respondents were asked to provide feedback on each of the events they attended over the course of the year. Following, Fellows' perspectives on these events are presented.

Conference Call and Webinars

Respondents were asked to rate how beneficial the initial conference call and four webinars provided during the Fellowship were. Across all of the events, the large majority of respondents found them to be somewhat or very beneficial.

Table 4. Conference Call and Webinars			
	Not at all beneficial	**Somewhat beneficial**	**Very beneficial**
Initial Conference Call (November 20th)	1	3	4
Writing for Publication Webinar (January 25th)	1	3	4
Publications Webinar (February 19th)	1	4	3
University Career Pathways Webinar (March 14th)	0	5	3
Developing Proposals Webinar (May 29th or June 3rd)	1	4	3

When asked to elaborate on their experiences with the conference call and webinars, several respondents provided feedback. Some respondents noted that webinars could be improved logistically, others provided positive feedback about specific webinars they appreciated, and some indicated that the information provided during the webinars was too basic. Fellows commented:

> "Not sure that the current format used for webinars are ideal for fostering productive large-group discussions. Found the format for webinars really difficult and distracting to use. Having to juggle multiple things at once made it extremely challenging to focus on the conversation and discussion (e.g., logging in with a computer for visual input, using a phone for audio input, having to mute myself off and on in order to participate, experiencing a silent delay between muting on and off that created problems with communication, also having to keep an eye on the chat window for messages, etc.)."

> "I think the in-person activities really helped more than the webinars. The writing webinar was helpful because we got takeaways."

> "The getting to know each other Webinar really required face time more than voices on the phones. The publication seminars were more helpful when based on the nuances of publication rather than on what one can find through an Internet search - I loved the 'insider' perspective and lived experiences of the Webinar presenters."

> "Again, the information was too basic-level. In my opinion, all of us should have already know[n] the information presented in most of the webinars!"

"I felt like much of the webinar information was geared toward early graduate students and that wasn't as interesting as a seasoned post-doc."

Respondents were then asked to comment on how, if at all, the webinars could be improved. They were asked to specifically consider any issues related to either logistics or the content of the webinars that could be improved. Most respondents had suggestions related to the logistics of the webinars, with some suggesting different platforms. In addition, webcams were used by presenters and EDC staff during webinars, and some comments suggested that increasing the use of webcams among Fellows would be beneficial. One Fellow provided suggestions related to how the content of the webinars could be improved.

"Could CADRE use a more streamlined video chat service? Google Hangout works well, but there may be a limit to group size."

"The webinars were very helpful. Scheduling was never a problem because they asked us for our availability beforehand. I really like the opportunity to hear from multiple individuals during the webinars. My only suggestion is to encourage all CADRE members to use their webcams and to allow for a little more discussion so that the webinars feel a little more personal."

"Not having to call in via the telephone."

"If more people did face time to be sure all were participating, although I don't know how you get Fellows to do so more than asking as often as you already did."

"I would have liked to work collaboratively with other Fellows on an actual writing project. It would also have been helpful to have webinars where we learn what past CADRE Fellows are currently working on—have them present about their research."

In-person Meeting in Waltham, MA (December 6th- 7th)

Fellows were asked to provide feedback about the in-person meeting held in Waltham, MA on December 6-7, 2012. Three-quarters of respondents felt that the initial in-person meeting was very beneficial. The remaining respondents reported that the meeting was somewhat beneficial.

Table 5. Benefit of Initial In-Person Meeting		
	Frequency	**Percent**
Very beneficial	6	75%
Somewhat beneficial	2	25%
Not at all beneficial	0	0%
Total	8	100%

Respondents explained that the meeting was beneficial because it allowed them to meet the other Fellows in-person and provided opportunities for networking.

> "The initial in-person meeting allowed us to really get acquainted and facilitated easy conversation later in the program."

> "This meeting was so important! I'm happy they made the decision to send us out early on because it was nice to have the opportunity to meet one another in person at the beginning. It was nice to meet everyone. We didn't have nearly enough time to interact with each other or each other's research."

> "It was good to meet the other Fellows in person and begin networking together. It was also interesting to hear what other Fellows were working on in their respective projects."

> "It was great to network with the other Fellows and the PIs who were invited."

Respondents were reminded that this was the first year that the Fellows program began with an in-person meeting and asked to comment on how, if at all, an initial in-person meeting influenced their experience with the Fellowship. Respondents reported that the initial in-person meeting helped them to get to know the other Fellows, feel more connected, and led to stronger relationships.

> "In my opinion it made the program more real. Rather than an abstract group of people you've never met talking through the computer, we knew who each person was. For me, this really helped because I have had projects where I have worked for a year with someone and never met them in person and at times it depersonalized the relationship."

> "It was so helpful to have met all the people that you are interacting with in person. Otherwise it can be hard to get to know others and collaborate."

> "I think this was hugely influential because it gave us the opportunity to meet one another, hear about others' interests, and to begin having conversations in person."

> "It helped me have a better idea of who I was working with on presentations and made everyone a little less of a stranger."

> "Great way to kick off the Fellowship by giving everyone a chance to meet one another. I think an in-person meeting helped to build stronger relationships between the Fellows."

"It allowed me the opportunity to feel more connected and a part of the Fellows group."

"Can't imagine doing it without having met everyone first! It was easier to converse during the webinars after getting a sense for who was in the group."

Finally, the respondents were asked to comment on ways that the initial in-person meeting could be improved. A few respondents indicated that the presentations were rushed and provided a range of suggestions for how they could be improved. Additional suggestions related to improving the meeting more generally included making the meeting longer and adding more time to the meeting for socializing and networking.

"More time. The presentations on the second day were extremely rushed, not allowing much time for feedback, suggestions, answering questions, etc. I think allowing more time for us to talk about our projects with the group and to get their feedback would have made the day more productive."

"The second day of the meeting (which was essentially several hours of Fellows presenting one after the other) could be better organized. Maybe a poster session would be a more informal way to share about research work. Or breaking the presentations up into 2-3 separate sessions across the two days with other activities scheduled in between. Also think it wouldn't be a bad idea to include a fun social event (especially for the first meeting) such as an outing to a local site or dinner out to encourage socializing and networking."

"I think perhaps having shorter presentations that offered only a brief summary of the projects, followed by the opportunity to meet in smaller groups with the other Fellows whose projects more closely aligned or seemed interesting would be helpful. This way we could network more closely with other upcoming scholars closely aligned to our own field/interests."

"More time for socializing.... It was difficult to get around to everyone. I was surprised more people didn't get together after the formal discussions to chat informally."

"Make it longer. Give us more time to interact with each other."

Writing Activities

During the Writing for Publication portion of the Fellowship, Fellows were divided into two groups: writing or peer editing. Of those who responded to the survey, seven were part of the writing group and one was part of the peer-editing group. Respondents who were part of the writing group were asked how beneficial the paired activities were. Most respondents (71%) reported that the writing activities were somewhat beneficial and two (29%) reported that they were very beneficial (see Table 6).

Table 6. Benefit of Paired Activities for the Writing Group		
	Frequency	**Percent**
Very beneficial	2	29%
Somewhat beneficial	5	71%
Not at all beneficial	0	0%
Total	7	100%

In addition, the one respondent who participated in the peer-editing group reported that the activities were very beneficial.

Fellows were asked to comment specifically on the "pairing" aspect of the activities they completed during the Writing for Publication phase of the program. Approximately half of the respondents explained that working with a partner was a helpful process and they received useful feedback. The other respondents noted that they completed much of the work individually, with several explaining that this was because their partner was doing work in a different field.

> "Working with my partner allowed me to get an outside view of the work I had been doing and identify the deficits in my own writing where I had not been very helpful in explaining the material. It showed me that I really needed to work on my ability to clearly walk the readers through my thought process as well as the literature."

> "My partner and I reviewed each other's work. It was really helpful to get someone else's opinion about my work. Especially an outside opinion."

> "Working with a partner is always beneficial because it helps further develop my ideas."

> "It was interesting to read the work of someone in a different field and to practice giving useful comments."

> "It was great to have someone to bounce ideas off of, but I feel that due to my own situation at the time, I was not far enough in the writing process to make this as beneficial an opportunity as it seemed it could have been. Regardless, I think working one on one with another fellow at least furthered the process of building a scholarly network."

> "It seemed that we worked independently because the difference in the nature of interest/paper and the difference of two fields: mathematics and science."

> "Working with a partner wasn't as productive as I had hoped it would be. Most of our work was done individually and we just shared our links/ideas via email. I'm not sure that my learning was really influenced by working with a partner much at all. Also, his area of expertise is math and mine is science so the journals that we were interested in were very different."

"Not very beneficial to work with a partner. We essentially worked alone and then presented as a pair, without much collaboration."

Next, the respondents were asked to comment on the Writing for Publication activities themselves and whether the activities addressed their needs regarding writing. Most commented that the activities did address their needs, however a few noted that perhaps their needs related to writing could have been better addressed.

"They did. My partner and I helped one another form better plans for writing and both of us used these to advance our ideas towards a final product."

"I did. However, it was not that much to do. I just narrow[ed] down the content and journals to submit."

"Yes."

"The activity was good because it was my first experience in researching journals from a publication standpoint."

"For where I was at in my writing process, it at least helped me gain more motivation to progress further than I had previously."

"Not really because I already knew the information that we were presenting. I thought we were actually going to try to write something together to try to publish—that might have been a good way to collaborate our expertise."

"Somewhat.... Most of the comments were wording/ sentence structure rather than content. So it was helpful but not necessarily transformative."

Fellows were asked to provide any feedback they had on how the Writing for Publication portion of the program could be improved. The suggestions varied:

"Honestly, I think it is hard because the difference in field and interest inhibits collaboration. However, I think if we were [given] practice building the case for some research and made an argument for some implications, it w[ould] be very helpful."

"Eliminate the partnership piece and just have individuals do their own research on potential journals."

"Perhaps asking what sort of issues individual Fellows are having in order to create groups that are a little more specific in addressing the needs of Fellows. For example, for those who are not far along in the writing stage, perhaps hearing from professionals about how they make progress in their own writing would have been more helpful since I was not quite at the publication writing stages offered."

"It was too bad that there weren't more people ready to do this part—I think having others read your work is really beneficial."

In-person Meeting at the National Science Foundation (April 21st- 22nd)

Seven of the eight survey respondents attended the in-person meeting at the National Science Foundation from April 21-22, 2013. Those who attended the meeting were asked to provide feedback on the meeting sessions.

First, respondents were asked to report on the Non-University Career Pathways session. Most respondents (71%) found this session to be very beneficial while two respondents (29%) found the session to be somewhat beneficial (See Table 7).

Table 7. Benefit of Non-University Career Pathways Session		
	Frequency	**Percent**
Very beneficial	5	71%
Somewhat beneficial	2	29%
Not at all beneficial	0	0%
Total	7	100%

Next, respondents reported on the Mock Proposal Review session with Program Officer, Elizabeth VanderPutten. All respondents reported that they reviewed the sample proposals and prepared feedback and/or comments in advance of the session. The majority of participants (86%) found the session to be very beneficial and one reported that the session was somewhat beneficial.

Table 8. Benefit of Mock Proposal Review Session		
	Frequency	**Percent**
Very beneficial	6	86%
Somewhat beneficial	1	14%
Not at all beneficial	0	0%
Total	7	100%

Most respondents reported that the Conversation on Compendia: Brown Bag for Program Officers and Fellows session was somewhat beneficial (86%), and one Fellow noted that the session was very beneficial.

Table 9. Benefit of Conversation on Compendia		
Answer	**Frequency**	**Percent**
Very beneficial	1	14%
Somewhat beneficial	6	86%
Not at all beneficial	0	0%
Total	7	100%

Most respondents (86%) found the discussion with Richard Duschl very beneficial and one reported that the session was somewhat beneficial.

Table 10. Benefit of Discussion with Richard Duschl		
	Frequency	**Percent**
Very beneficial	6	86%
Somewhat beneficial	1	14%
Not at all beneficial	0	0%
Total	7	100%

Respondents were fairly evenly split in reporting that the networking opportunities were very beneficial (43%) and somewhat beneficial (57%).

Table 11. Benefit of Networking Opportunities at the Meeting		
	Frequency	**Percent**
Very beneficial	3	43%
Somewhat beneficial	4	57%
Not at all beneficial	0	0%
I did not participate in networking	0	0%
Total	7	100%

Most Fellows (71%) reported that, overall, the in-person meeting at the NSF was very beneficial. Two Fellows reported that the meeting was somewhat beneficial.

Table 12. Overall Benefit of the In-Person Meeting at the NSF		
	Frequency	**Percent**
Very beneficial	5	71%
Somewhat beneficial	2	29%
Not at all beneficial	0	0%
Total	7	100%

The Fellows were asked to comment on whether they thought the in-person meeting at the NSF was a valuable part of the program. All respondents explained that they found the meeting to be valuable and provided examples of how the meeting was beneficial, with every respondent using this opportunity to express appreciation for the Mock Proposal Review session. Moreover, three of the respondents explained that they felt the meeting at the NSF was the most valuable part of the entire Fellows program.

> "I think the mock proposal was extremely valuable. I also feel like the meeting gave me a really good understanding of NSF as an organization and the way the grant/funding process works. This meeting could have been the most influential part of the Fellowship. I feel like I came away with a much better understanding of how to approach applying for a grant in the future."

> "Very valuable. Perhaps the best experience out of all of the CADRE activities. Mock proposal review was extremely informative and it was great to meet some of the NSF program officers and staff."

> "Understanding the proposal review process and participating in a mock version of it provides all of us as Fellows with a significant advantage in the future, especially as we begin to prepare our own grant proposals. I truly feel that I have a much better grasp on the process and requirements than I would have if I had just read the call for proposals (especially now that it is even more open). It was also great to reunite with the other Fellows again, and continue to build our educational researchers' cohort."

> "This was my favorite part of the CADRE Fellows program. It was awesome to get a chance to visit NSF after all these years. I enjoyed meeting program officers, and gained valuable insight about the grant proposal writing and reviewing process. Applying to a grant seems less intimidating (good thing... I'm working on an EHR CORE proposal right now). I really enjoyed the mock-review of proposals especially. It was very valuable to think about how they are evaluated, and to get a chance to read and think about proposals that were funded (and why)."

> "I think it helped explain how the process of grant review works and puts a face to the process. I found it to be helpful."

> "It was great to understand how the review process works. I think it made it more real to be at NSF while doing it."

All Fellows were asked to comment on how, if at all, the meeting could be improved. Only three of the respondents provided comments, with one providing only positive feedback. The two respondents who did provide suggestions for how the meeting could be further improved both indicated that the meeting would have been improved if there were more time available to meet with NSF personnel.

> "It was great and should be a mandatory part of the program."

> "What about including an opportunity to meet with an NSF program officer in small groups to discuss possible proposal ideas?"

> "I would have liked to hear more from the other people who work at NSF, but otherwise, the mock proposal review made the whole trip highly informative and worthwhile."

D. Overall Program Reflections

Fellowship Program: Awareness, Recruitment, and Selection

Most Fellows (63%) became aware of the Fellows program through their PIs. One Fellow learned about the program through a colleague, and another learned about it from a former Fellow. In addition, one respondent who selected other explained:

> "I think it was on a listserv."

Table 13. Awareness of Fellows Program		
	Frequency	**Percent**
My PI brought it to my attention.	5	63%
A colleague brought it to my attention.	1	13%
A former Fellow brought it to my attention.	1	13%
Other (please describe)	1	13%
I saw an announcement in a CADRE newsletter.	0	0%
I saw it advertised on the CADRE website.	0	0%

When asked how and where CADRE should publicize the program and recruit applications, several respondents suggested that CADRE could utilize the listservs of different organizations, including AERA, NARST, and NSTA. Other suggestions included publicizing the program at conferences and reaching out to graduate programs.

"AERA and NARST listservs."

"NSTA, AERA."

"Contact graduate schools and programs. I don't think I would have known about the program if a former Fellow hadn't mentioned it to me."

"I am not sure—perhaps at AERA or other conferences. Not sure if it would be seen. I think through PI's worked well, but that is because mine is so supportive and encouraging, looking out for opportunities for me often."

"NARST listserv."

Similarly, respondents indicated that CADRE could use the same listservs to announce new awardees to the Fellows program and acknowledge Fellows' completion of the program.

"AERA and NARST listservs, as well as through the CADRE."

"NSTA, AERA."

"Not sure."

"NARST."

"Maybe the Chronicle?"

Respondents were reminded of the criteria CADRE uses to select Fellows and were asked to suggest different or additional criteria. Two respondents indicated that the current criteria were appropriate and two made suggestions for how the criteria could be improved.

> "These seem to be solid criteria—not sure what to add."

> "Nope... that sounds good."

> "Perhaps opening it up to more than the DR K-12 members. Just make the requirement that they are working on grants in STEM education. I have told several people about the project who were very interested only they are not members of a DR K-12 grant and therefore do not qualify."

> "Since the program seems to emphasize research-based careers (writing for publication, applying for grants), might make this a criterion: 'exhibit interest in a career in STEM education research'."

Interaction and Collaboration

Respondents were asked to rate how well different Fellowship opportunities for interaction and/or collaboration contributed to an increased sense of community for them. Across the different activities, the two in-person meetings were most strongly associated with a sense of community-building for Fellows.

Table 14. Extent that Program Opportunities Contributed to a Sense of Community					
	Not at all	**To some extent**	**To a great extent**	**I did not participate in this opportunity**	**Total**
The first conference call	0	6	2	0	8
The webinars	3	4	1	0	8
The website	2	6	0	0	8
The listserv	1	7	0	0	8
The first in-person meeting	0	1	7	0	8
Triads and dyads for assignments	0	5	3	0	8
Facilitation of sessions in pairs	1	6	1	0	8
The second in-person meeting[1]	0	0	7	1	8

Two respondents explained:

> "The group projects and in-person meetings really helped build relationships between Fellows."

> "For networking and learning, I think nothing works better than in-person meetings. The webinars were a close second, especially as presenters used cameras which still allowed for the face to face interactions."

Respondents were asked to comment on CADRE's overall support to interaction and communication between Fellows. Respondents were split between reporting that CADRE provided appropriate support to interaction and communication and providing suggestions for how CADRE could provide additional support to interaction and communication.

> "I really like the CADRE staff and it was a great experience. It was easy to communicate with everyone and I feel like I have some lifelong colleagues now."

> "Very supportive—the listserv and website did allow us to plan a get together at AERA, which was a nice extra opportunity to reconnect with the other Fellows."

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[1] One respondent did not attend the second in-person meeting, and should have selected "I did not participate in this opportunity." This respondent's response was re-coded to "I did not participate in this opportunity" in order to present accurate and useful data.

"It was great—especially the in-person meetings. Would have liked more social time during those meetings."

"I wish there would have been a little more interaction. Most of our interactions occurred because of the structured events. It would be nice for CADRE to facilitate more opportunities for informal interactions."

"There really wasn't much for us to interact together on. Some of the assignments seemed superficial."

"Did not think that the format for encouraging participation in webinars was useful (asking everyone to submit questions and then just dividing up the questions asked). I know that CADRE was trying to ensure that everyone participate in the call, but it felt forced, stilted and awkward. Think there should be a way to have a conversation with the panel in a more organic way than having a list of questions for them to respond to."

When asked how much they learned about other Fellows' work, most felt that they gained an appropriate degree of familiarity with the other Fellows' work—although two indicated that they would have liked to have learned more.

Table 15. Amount Learned about Other Fellows' Work		
	Frequency	**Percent**
Too little	2	25%
About right	6	75%
Too much	0	0%
Total	8	100%

Several Fellows explained that learning about the projects other Fellows were working on provided them with useful knowledge about STEM education research that is currently being conducted. Others noted that it was useful to hear about other Fellows' work but they would have liked to have had more time to talk one-on-one with the other Fellows about their work. Finally, one respondent noted that the presentations were interesting although not closely related to his or her work.

"It was really important to me to see what other work was being done out there in real time. Too often you only hear about the work once it's all completed. This way we got a chance to see what was happening right now and see where it was happening."

"It was helpful to get to know their research interests."

"It was useful to hear about the other projects."

"Interesting to hear about what others are doing. (An indication of the breadth of projects NSF funds.)"

"Somewhat... especially the Fellows whose work was similar to mine. It was useful to get a sense of the breadth of work in the DR K–12 program."

"Some work sounded close to my own research, but we never had the opportunity to talk because we ran out of time at the in-person meeting."

"It could be very useful if we had more time to interact with each other about our research."

"Not really because my Fellows' interests vary so much. I found some of them interesting, but not really closely related to the work I am doing."

In addition, several Fellows noted that they were able to gain knowledge and insights from their Fellowship colleagues that went beyond their research projects and bridged their common experiences as early career researchers. Some Fellows explained:

"I was able to discuss with several of the Fellows some issues I was having as a grad student and I was able to get feedback from them about how they have handled similar situations. I think this was really helpful for me to talk to people outside of my program who are in similar situations."

"During AERA, we had a great discussion about the delay between submission of new research to journals and the delay that exists in getting it published and out to the public. We also discussed the difficulty with specialized language and how that complicates the actual use of the research in the classrooms. We spoke about ideas to address these issues for a good amount of time."

"I had a really great lunch conversation with two Fellows during our December meeting where we were discussing research and ideas generally. Those types of conversations didn't happen during the rest of the meetings.... presumably because the time was very structured?"

"I think our biggest constraint was time. There was not enough time in our in-person meetings for us to really talk about our ideas or get feedback."

The majority of respondents (88%) established personal and/or professional relationships outside of the parameters of the Fellows program and reported talking to, emailing, or meeting other Fellows on their own initiative.

Table 16. Fellows Connections Outside of the Structured Fellows Program		
	Frequency	**Percent**
Yes	7	88%
No	1	13%
Total	8	100%

Fellows reported, for example, getting together at the AERA meeting and corresponding about both personal and professional issues.

"Some correspondence related to personal and professional issues."

"It was mostly to coordinate seeing each other at AERA or sending funny comments. I corresponded with another Fellow regarding doing qualitative research and a course that I took."

"AERA get together was external of the Fellows planned program, and future potential get-togethers were similarly discussed."

"I saw one Fellow at NARST and we chatted a little. I tried to get together with another Fellow when I visited her city, but our schedules became too cramped."

Almost all of the respondents explained that they would like to and/or anticipate continuing to communicate with the other Fellows after the program concludes. Several specifically mentioned that they would like to maintain relationships related to networking.

"I think I will likely continue a relationship with the Fellows at the very least in a professional context (networking, collaboration, etc.)"

"Might be more about networking."

"Mostly networking and friendships."

"I would like to continue to network with Fellows and possibly collaborate on projects."

"Anticipate meeting with Fellows informally at future conferences. Might network with other Fellows for job opportunities."

"I hope to continue at least a networking/professional relationship with a few other Fellows, and perhaps a friendship."

"I would like to continue conversation with a few Fellows--two are in similar areas that I will likely see at NARST. Another is in math, so probably unlikely to communicate much."

"Probably not."

Very few respondents contacted any of the PIs who served as panelists, although one who did contact a PI reported a very positive outcome:

> "Yes I made contact with some of the PIs and will be working with one as of next semester on a project."

> "Not yet at this time because of the differences in research interest. However, I might contact the PIs [who spoke at the Non-University Career Pathways session]for additional insight into job opportunities."

> "No I have not. At this point, I'm so focused on my graduate work that it's been difficult to think beyond the dissertation."

> "Probably not."

> "Not at this time, but if I find that they can assist me with something as it comes up, I hope I won't hesitate to contact them. As a novice researcher, I still get intimidated by those who have been in the profession longer."

> "Probably not."

Design of the Fellowship

Most respondents utilized the website (88%) and the listserv (75%). Three respondents (38%) reported utilizing the recordings of webinars and/or in-person sessions.

Table 17. Utilization of Resources		
	Frequency	**Percent**
The listserv	6	75%
The website	7	88%
Recordings of webinars and/or in-person sessions	3	38%

A few Fellows explained how they utilized the resources:

> "I used them because I had to. Really email is so much easier than trying to use a website that is unnecessary."

> "To contact other Fellows and to look up handouts for in-person meetings."

"Just to refer to materials as part of the workshop."

Respondents were asked to provide feedback on facilitating the sessions in pairs. Specifically, they were asked if they got more out of the sessions facilitated by other Fellows and, when they facilitated, if they benefitted from directly interacting with the PIs and POs. Several respondents benefitted from the sessions facilitated by the Fellows, with some noting that there was increased participation in the sessions facilitated by the Fellows. Some respondents, though, felt that the structure of the sessions facilitated by the Fellows could be further improved.

"I think the sessions facilitated by the Fellows went really well. For most of them, all the Fellows were asked to give input, which allowed the facilitators to guide the sessions in a way that benefited all of us."

"I definitely got more out of the session I facilitated. It was more engaging that way."

"I don't feel like it added that much, other than requiring a stronger commitment by Fellows during this part of the project, which I guess was beneficial in maintaining momentum and continued participation."

"It is not comparable because the focuses of the sessions are different. I personally did not directly interact with the PI and PO before the conference."

"No. It was a superficial way to have us interact with each other."

"Did not find this useful."

"I didn't like having set questions that we were going to ask the panelists rather than leaving the conversation open to a more natural flow. It felt a bit canned. Likewise, facilitating with another Fellow didn't result in much conversation between the two of us since it was pretty straightforward to collect questions and then decide which of us would read them."

Most respondents (71%) indicated that CADRE responded to a great extent to their feedback throughout the program and used the Fellows' input to guide the program. One Fellow reported that CADRE responded to some extent and one indicated that CADRE was not at all responsive.

Table 18. Extent of CADRE's responsiveness to Fellows' Feedback		
	Frequency	**Percent**
To a great extent	5	71%
To some extent	1	14%
Not at all	1	14%
Total	7	100%

Two Fellows commented:

> "I know we were often asked about what workshops may be helpful and what we would like throughout the year. The facilitators even made a second in-person meeting happen, which we were all hoping to have."

> "I'm not sure."

Fellows were asked to comment on the workload associated with the Fellowship and all of those who commented indicated that the workload was appropriate.

> "It was not as intensive as I thought it would be but I think it worked well with having other obligations. Having [had] more work may not be a bad thing but too much more and it may have been an inconvenience."

> "It is about right."

> "Adequate."

> "It was very manageable."

> "Not too bad. Manageable."

> "Reasonable."

> "It was just about right!"

Suggestions for Improvement

All respondents indicated that CADRE could have better supported their professional growth with additional community-building activities. In addition, most respondents (75%) reported that CADRE could have also provided more publicity surrounding the Fellowship and assignments that were better tailored to the individual needs of Fellows.

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Table 19. Ways CADRE Could Better Support Fellows		
	Frequency	**Percent**
Additional community-building activities for Fellows	8	100%
More publicity surrounding Fellowship	6	75%
Assignments better tailored to individual needs	6	75%
Additional conference calls	1	13%
Additional webinars	1	13%

Fellows explained:

> "More of everything. This program was really helpful and if we just went over more topics it would be even better."

> "For networking it is always helpful to have more publicity and community activities."

> "Overall, just more time to socialize with Fellows. I guess I would have preferred tasks like the grant proposal review, paper reviews etc. where we could really dig into details... rather than panelists who talked about careers and getting grants in a very general way."

Respondents were asked to reflect on changes that they would recommend for next year's Fellows program. First, they were asked if any new assignments, activities, or processes (including mentoring) should be added to the Fellows program.

> "I am not sure what it would look like but some form of mentoring might work out. I quite liked the peer relationships of the program so I don't know that I would substantially change that but adding an element of a *direct relationship* with one or more more-advanced students, past Fellows, or PIs might be helpful. Perhaps bring past Fellows back to work with current Fellows in some way would be a neat idea. But again I'm not sure what that would look like."

> "Mentoring could be useful but it depends on the structure. One idea is to have post-docs mentor those of us who are still in graduate school. I enjoyed hearing from those who had already gone through the process and graduated."

> "CV workshop."

> "I think asking Fellows what form of support they may require at the specific point they are at in their careers. We had doctoral students struggling with starting the dissertation process, others finishing up their dissertations, and post-docs furthering their careers by seeking their own research niches. I think providing time to give some guidance for these respective differences would be great (but require more resources and time, which I'm sure are limited)."

Fellows were asked to comment on any conference call or webinar topics that might be useful in future years. They responded:

"Writing practice and editing."

"I think the topics we covered were very useful."

Finally, respondents were asked if there were any assignments, activities, processes, conference calls, or webinar topics that they thought should be eliminated in future years. Only two Fellows provided comments:

"No. I think they were all worthwhile."

"I personally did not find the non-university career path discussion useful, but that's just because I know I want to go into academia. I am sure other Fellows found that activity informative. Definitely keep as much in-person as possible."

Impact of Fellowship and Looking Forward

Fellows believe that the Fellowship will impact their careers in a variety of ways. Several specifically noted that the information they learned related to securing a grant was likely to have an impact on their career. Fellows additionally thought that the contacts, information, resources they gained through the program would have an impact on their careers.

"I hope that it has helped equip me with the skills to secure a grant at some point in the future. I also hope that it will set me apart from other candidates as I apply for jobs."

"I think the networking and 'inside look' at grant writing for NSF provides me with great advantages for my future career."

"I'm not sure. The visit to NSF and associated activities was a useful experience that opened up my perspective on grant-getting."

"I hope that I will be able to use the contacts I have made in the future for collaborative work, as well as for job searching."

"I think I am much better aware of the process that professors have to go through in order to be successful members of the community."

"Provide multiple sources of information that can be beneficial in the future."

"Provided useful career-building information and resources."

"I hope it will look good on my CV."

Two respondents had the Fellows program acknowledged in their professional activities at the time that they completed the survey. For others, it had not yet been acknowledged, although one respondent described how it might be acknowledged in the future.

> "One of the PIs that I had an interview [with] for [a] job [recognized] the Fellows program."

> "[My participation in the program] was mentioned during introductions to job talk seminars."

> "Not at this time, but I see potential down the road with working with other Fellows on projects (perhaps) and having it on my CV."

> "Not yet."

> "No."

Most respondents were interested in participating in activities for next year's Fellows: 71% were interested in participating in conference calls, webinars, and the listserv while 57% were interested in participating with the website.

Table 20. Interest in Participation with Activities Next Year		
	Frequency	**Percent**
Conference calls	5	71%
Listserv	5	71%
Mentoring	5	71%
Website	4	57%

Finally, respondents were asked if they had any other suggestions or comments on how CADRE could improve the Fellowship experience. Only two respondents provided comments, and of these, only one provided a suggestion.

> "Have more meetings, conference calls and projects so that we can engage more with each other."

> "Not at this time."

Appendix A: Initial Email

Dear [First Name] [Last Name],

You are receiving this email because you participated in the 2012- 2013 CADRE Fellowship.

Please take a few moments to complete a feedback survey being conducted by CADRE's external evaluators, the University of Massachusetts Donahue Institute. This survey will contribute to the CADRE team's understanding of the quality, relevance, and usefulness of CADRE's Fellowship activities and events. Your input will be used to inform the design and implementation of the future Fellows program.

Follow this link to the Survey:
{SurveyLink}

Or copy and paste the URL below into your internet browser:
{SurveyURL}

Survey responses are **confidential** and submitted directly to the University of Massachusetts Donahue Institute. Results will be reported in the aggregate such that individual responses will not be identifiable. The University of Massachusetts Donahue Institute will manage all aspects of data collection, management, and analysis to ensure confidentiality.

The time needed to complete the survey is approximately 15 minutes. The survey will be available until June 28, 2013.

Please feel free to contact Hadley Moore at the University of Massachusetts Donahue Institute at hmoore@donahue.umassp.edu or 774-455-7361 with any questions or concerns.

Thank you in advance,

Hadley Moore

Follow the link to opt out of future emails:
${l://OptOutLink?d=Click here to unsubscribe}

Appendix B: Survey Instrument

This survey is being conducted by the University of Massachusetts Donahue Institute, the external evaluator to the Community for Advancing Discovery Research in Education (CADRE) project.

This survey gathers feedback from the 2012-2013 Fellows. Analysis of survey results will contribute to the CADRE team's understanding of the quality, relevance, and usefulness of CADRE's Fellowship activities and events. Survey results will inform the CADRE leadership team's planning of future Fellowship opportunities.

This survey is estimated to take approximately 15 minutes. It addresses questions relating to:

·   Your perspectives on Fellowship activities and support

·   Possible improvements to the Fellowship offerings

The survey comprises closed questions and optional open-ended response items. Please feel free to write as much or as little as you like. We know that your time is limited and we appreciate whatever you can do.

Survey responses are confidential and submitted directly to the University of Massachusetts Donahue Institute. Results will be reported in the aggregate such that individual responses will not be identifiable. The Donahue Institute will manage all aspects of data collection, management, and analysis to ensure confidentiality.

Thank you in advance for your time and attention.

I. Overview of Your Experience

1. **What were your expectations after being awarded a CADRE Fellowship?** Please check all that apply.

    Recognition in my field
    Opportunity to network with peers
    Opportunity to make contact with senior researchers or professionals in the field
    Access to professional development opportunities (e.g., visit to NSF, webinars, panel discussions)
    Other (please describe)

    _____

(**Skip Logic here, only those expectations selected in Q1 will appear in the matrix in Q2)

2. **To what extent did the Fellowship meet your expectations in the areas above?**

	Not at all	Somewhat	Completely	Exceeded expectations
Recognition in my field				
Opportunity to network with peers				
Opportunity to make contact with senior researchers or professionals in the field				
Access to professional development opportunities (e.g., visit to NSF, webinars, panel discussions)				
Other (please describe)				

3. **What benefits did you receive from being a CADRE Fellow, if any?** Please select all that apply.

  Stronger CV
  Name recognition as a result of having been a Fellow
  Increased confidence to participate in professional conversations
  Better perspective on what it means to be a STEM Education researcher or developer
  Professional contact with senior researchers or developers in the DR K-12 community
  Better understanding of NSF funding mechanisms
  Increased knowledge related to publishing a journal article
  Increased awareness of career opportunities in the STEM education field
  Learned about a job opportunity as a result of being a Fellow
  Other (please describe)

4. **Please elaborate on your expectations for the Fellowship as well as any benefits you received (optional).**

II. Your Perspectives on the Fellows Program Activities and Processes

CADRE is interested in shaping the Fellows program so that the activities and processes are as beneficial as possible to the new Fellows. Please comment on the following activities and events.

A.	Conference Call and Webinars

A1. Please rate how beneficial the following conference call and webinars were.

	Not at all beneficial	Somewhat beneficial	Very beneficial	I did not attend
Initial Conference Call (November 20th) *(Topics: "Meet" one another and CADRE staff, overview of CADRE and DR K-12)*				
Writing for Publication Webinar (January 25th) *(Topics: Common publication questions, finalizing manuscript ideas, selecting a journal)*				
Publications Webinar (February 19th) *(Topics: Selecting a journal/conference, content preparation, thinking/planning for a Special Issue journal, and handling feedback)*				
University Career Pathways Webinar (March 14th) *(Topics: Finding a post-doc or faculty position at a university, applying & interviewing, what to do after you get a job)*				
Developing Proposals Webinar (May 29th or June 3rd) *(Topics: Discussion with PIs about their experiences developing a proposal)*				

A2. Please explain [open]

A3. How, if at all, could the webinars be improved? In particular, were there any issues related to either the logistics (video and audio, scheduling, etc.) or any issues related to the content of the webinars that could be improved? [open]

B. In-person meeting in Waltham, MA (December 6th- 7th)

B1. In-person meeting in Waltham, MA (December 6-7)
(*Topics: Orientation to program, CADRE, and the NSF; building a community of Fellows*)

The meeting had the following sessions:

- Principal Investigator Panel (evening prior to the day-long session)
- Fellows Presentations
- Website Orientation
- Networking

B2. Overall, how beneficial was this in-person meeting?
   Not at all beneficial   Somewhat beneficial   Very beneficial

B3. Please explain [open].

B5. This year was the first where the Fellows program began with an in-person meeting. In retrospect, how, if at all, did an initial in-person meeting influence your experience with the Fellowship? [open]

B6. How, if at all, could the first in-person meeting be improved? [open]

C. Writing Activities (January- February)

B1. During the Writing for Publication portion of the Fellowship, Fellows were divided into 2 groups: Writing or Peer Editing. Which group were you in? (Select all that apply)
   Writing   Peer Editing

B2. [Those in writing group only] Writing partner work
(*Activities: Working in pairs on either writing or researching journals*)

How beneficial was this activity?
   Not at all beneficial   Somewhat beneficial   Very beneficial
   I did not participate in this activity

B3. [Those in peer editing group only] Peer editing partner work
(Activities: Working in pairs providing peer review to written work)

How beneficial was the peer review activity?
   Not at all beneficial   Somewhat beneficial   Very beneficial
   I did not participate in this activity

B4. Please comment on the "pairing" aspect of the activities you completed during the Writing for Publication phase of the program. How beneficial was the opportunity to conduct your work with a partner? How was your learning influenced through working with a partner? [open]

B5. Please comment on the Writing for Publication activities themselves. Did the activity you participated in address your needs regarding writing? [open]

B6. How, if at all, could the Writing for Publication activities be improved? [open]

D. In-person meeting at the NSF in Arlington, VA (April 21st- 22nd)

D1. In-person meeting at the National Science Foundation Meeting, Arlington VA (April 21-22)
(*Topics: Non-University Career Pathways, Introduction to NSF, Mock Proposal Review, CADRE developed compendia*)

Did you attend this meeting?
        Yes
        No

[if no, skip to Section E]

Day 1 (April 21, 2013)

D2. Non-University Career Pathways Session
(*Topics: Career options in non-academic/non-university settings*)

How beneficial was this session? [Select only one response.]
    Not at all beneficial   Somewhat beneficial   Very beneficial
    I did not participate in this session

Day 2 (April 22, 2013)

D3. Mock Proposal Review with Elizabeth VanderPutten, NSF Program Officer
(*Topic: Orientation to the panel review process*)

Did you review the sample proposals in advance of the session with the NSF Program Officer?
        Yes
        No

Did you prepare feedback and/or comments for the session with the NSF Program Officer?
            Yes
            No

How beneficial was this session?

Not at all beneficial   Somewhat beneficial   Very beneficial

D4. Conversation on Compendia
(*Topics: Brown bag for Program Officers and Fellows, overview of two CADRE-developed compendia on teacher outcome assessments and student outcome assessments*)

How beneficial was this session?
Not at all beneficial   Somewhat beneficial   Very beneficial

D5. Discussion with Richard Duschl
(*Topics: Division director conducted debriefing of the mock proposal review and provided insights into the future of NSF*)

How beneficial was this session?
Not at all beneficial   Somewhat beneficial   Very beneficial

D6. How beneficial were the networking opportunities provided during the meeting at the National Science Foundation?
Not at all beneficial   Somewhat beneficial   Very beneficial
I did not participate in networking

D7. Overall, how beneficial was the in-person meeting at the NSF?
Not at all beneficial   Somewhat beneficial   Very beneficial

D8. This was the first year that the Fellows had an in-person meeting at the NSF. Do you think that an in-person meeting at the NSF was a valuable part of the program? If so, in what ways was the meeting valuable? [open]

D9. How, if at all, could the in-person meeting at the NSF be improved? [open]

III. Concluding Reflections

Fellowship Program: Awareness, Recruitment, and Selection

1. How did you first become aware of the Fellows program?

My PI brought it to my attention.
A former Fellow brought it to my attention.
A colleague brought it to my attention.
I saw an announcement in a CADRE newsletter.
I saw it advertised on the CADRE website.
Other (please describe)_____

 2. From your perspective, how and where should CADRE…

       2.a **….publicize the program and recruit applicants for the program**? [open]

       2.b…**announce new awardees**? [open]

       2.c … **acknowledge Fellows' completion of the program?** [open]

3. Currently CADRE uses the following criteria to select candidates for the Fellows program:

1. Exhibit evidence of leadership and academic success.
2. Demonstrate the desire and potential to advance STEM education in meaningful ways.
3. Be a current member of the project team for an active DR K-12 grant.
4. Be a graduate student, research assistant, post-doctoral researcher, or the equivalent. This program is not appropriate for co-PIs or faculty members.
5. Priority will be given to accepting a diverse group of Fellows and nominations from projects/PIs who have not had a Fellow in the past.

Do you have any suggestions for different or additional criteria CADRE could use to identify the best candidates for the Fellows program?

Interaction and Collaboration: **The next questions are about your experience interacting and collaborating with other Fellows, including** <u>structured</u> **collaboration (such as triads and dyads for assignments, and facilitating sessions in pairs) as well as any** <u>informal</u> **collaboration that you participated in with other Fellows, including those opportunities that arose during in-person meetings.**

4. CADRE is interested in building a sense of community among the Fellows. Please rate how well the following opportunities for interaction and/or collaboration contributed to an increased sense of community for you.

	Not at all	To Some Extent	To a Great Extent	I did not participate in this opportunity
The first conference call				
The webinars				
The website				
The listserv				
The first in-person meeting				
Triads and dyads for assignments				
Facilitation of sessions in pairs				
The second in-person meeting				

Please explain.

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5. **Please comment on CADRE's overall support to interaction and communication between Fellows [open].**

6. How much did you learn about the other Fellows' work?

  Too little
  About right
  Too much

How important was the opportunity to gain knowledge about other Fellows' work? If you learned about the other Fellows' work, how was it useful to you? [optional].

7. More broadly, did you gain <u>other</u> knowledge or insights from your Fellows colleagues? If yes, please describe what factors helped you to acquire these learnings. If no, what constraints impeded your learning from the other Fellows?

CADRE is interested in learning if Fellows establish personal and/or professional relationships outside of the parameters of the program.

8. Outside of the structured Fellows program, did you talk to, email, or meet other Fellows on your own initiative?

        Yes
         No
      Comment [optional]_____

If yes, please comment further.

9. Please comment on whether you anticipate continuing to communicate with the other Fellows now that the Fellows program has ended. If you anticipate keeping in touch with the other Fellows, what type of communication do you hope to maintain (for example, friendship, networking, collaborating on projects)? [open]

10. Have you contacted, or do you plan to contact, any of the PIs who participated as panelists for the Fellows events throughout the Fellowship? If yes, please elaborate. If no, why not? [open]

Design of the Fellowship

11. Did you utilize any of the following resources during the Fellowship? (Please select all that apply.)

        The listserv
        The website
        Recordings of webinars and/or in-person sessions

Please explain. [open]

12. Beginning in March, Fellows were asked to facilitate sessions in pairs. How did the Fellows facilitation of these sessions influence your experience? For example, did you get more out of the sessions facilitated by other Fellows? Why or why not? When you facilitated a session, did you benefit from directly interacting with the PI's and PO's? Why or why not? [open]

13. How well do you think that CADRE responded to your feedback throughout the Fellows program and used your input to guide the program?

> Not at all
> To some extent
> To a great extent

Please explain.

14. Overall, what did you think of the workload associated with the Fellowship? [open]

Suggestions for Improvement

15. In what ways could CADRE have better supported your professional growth, if at all? Please check all that apply**.**

> More publicity surrounding Fellowship
> Additional community-building activities for Fellows
> Assignments better tailored to your individual needs
> Additional conference calls
> Additional webinars
> Meetings with PIs
> Mentorship opportunities
> Other (please describe)

> Please explain.

16. Thinking about next year's Fellows program…

16.a What new <u>assignments, activities</u>, <u>or processes</u>, if any, do you think would be interesting or effective to add to the program? In particular, should mentoring be added? If so, what would it look like? [open]

16.b What conference calls or webinar topics might be useful for Fellows in future years? [open]

16c. Are there any assignments, activities, processes, conference calls, or webinar topics that you think should be eliminated in future years? [open]

Impact of the Fellowship and Looking Forward

17. At this point, how do you think your Fellowship experience will impact your career? [open]

18. Has your participation in the Fellows program been acknowledged in any of your professional activities to date (e.g., job searches, publications processes)? Please describe. [open]

19. If opportunities were made available, would you be interested in participating in any of the following offerings next year? (Please select all that apply.)

> Website
> Listserv
> Conference Calls
> Mentoring new Fellows

20. Do you have any other suggestions or comments on how CADRE can improve the Fellowship experience? [open]

Thank you for your time and feedback!