

Appendix E

STEM Faculty Crosswalk and Survey

Crosswalk of STEM Faculty Survey Items to Research Questions and Uses in Analysis

Survey Item	Research Questions ¹				Analysis ²
	RQ 1b	RQ 1d	RQ 2a	RQ 2d	
A. Respondent Characteristics					
Number of years the respondent has held faculty position at IHE					A,M
Academic position during recently completed academic year					A,M
Tenure Status					M
Content area/discipline of department					M
Respondent's principal activity at IHE					M
B. Respondent's Relationship with the Noyce Program					
Respondent's familiarity with the Noyce program					A,M
C. Teacher Preparation Activities of Respondent and Department					
Was math or science education a designated career track or major in respondent's department?					M
Number of years the respondent had responsibilities for preparing K-12 STEM teachers					A,M
How respondent prepared students to become K-12 STEM teachers during last academic year		•		•	A,D,M
How respondent prepared students to become K-12 STEM teachers before Noyce					M
Proportion of other faculty members in respondent's department were involved in preparing students to become K-12 STEM teachers					M
D. Respondent's Involvement with Noyce					
Noyce-related activities in which the respondent participated during last academic year	•	•		•	A,D,M
Noyce-related activities in which other faculty members in respondent's department participated during last academic year	•	•		•	A,D,M
E. Respondent's Perceived Impact of The Noyce Award					
Changes to respondent's teaching style or courses resulting from participation in or exposure to Noyce				•	A,D
Perceived changes in IHE resulting from participation in Noyce			•	•	D,M
Other perceived changes in respondent's teaching, the students, or the institution resulting from receipt of Noyce funding.					M

¹Research Questions Answered by STEM Faculty Survey

- RQ1b What strategies do Noyce awardees use to recruit and select Noyce candidates?
- What activities do teacher preparation programs that have Noyce awards use to support Noyce completers once they are teaching?
- RQ1d What effects do PIs and STEM faculty believe the Noyce award has had on recruitment of STEM teachers, in terms of quantity, quality, and diversity, the retention of those teachers? How do they perceive the burdens imposed by the Noyce award?
- RQ2a What are STEM departmental/faculty responsibilities for preparing K-12 mathematics and science teachers? What are STEM faculty/departments perceptions of the effects of the Noyce award on their departments?
- RQ2d

²Analysis Notes

STEM Faculty Survey Items

Dear [Respondent Name],

As a STEM Faculty member at a college or university participating in the **Robert Noyce Teacher Scholarship Program**, you are invited to participate in a short survey about your experiences.

This survey is being conducted by [Abt Associates Inc.](#), an independent social research firm, for the [National Science Foundation](#) (NSF) to gain a better understanding of how institutions of higher education are implementing activities associated with Noyce awards, and how the program as a whole is attracting and retaining science and math teachers. It is part of a comprehensive evaluation, the results of which will be used to make recommendations regarding the Noyce Program.

OMB Clearance Number: XXXX-XXXX	Expiration Date: XX/XX/XXXX
<i>Burden Disclosure Statement</i> According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection is XXXX-XXXX. Public reporting burden for this collection of information is estimated to average 30 minutes, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.	

Confidentiality and Participation

Participation in the survey is voluntary, and nonparticipation will have no impact on you or your institution. All information that would permit identification of an individual respondent will be held in strict confidence, will be used by only persons engaged in and for the purpose of the survey, and will not be disclosed or released to others for any purpose except as required by law. Reports will never identify you by name, and information from the study will only be reported in the aggregate at the program level, combined with about 400 other responses. Survey data files will be shared with NSF at the end of the study, only after study team members have examined the data to be free of any information that could help identify you; your frank and open responses will help NSF make changes to improve the program to make it more effective. Hence, we encourage you to respond candidly about your experiences.

If you have questions about the study, please contact us at NoyceEval@abtassoc.com. You may also contact Joan Prival, the Lead Program Director of the Robert Noyce Teacher Scholarship Program, by e-mailing jprival@nsf.gov, or Connie Kubo Della-Piana, the Program Evaluation Officer at the Division of Undergraduate Education within the National Science Foundation, by e-mailing cdellapi@nsf.gov.

Completing the Survey

[Programming instruction: Insert text from "Completing the Survey.doc"]

Consent

If you agree to participate in this study, please press "Next" to continue with the survey.

Programming Instructions:

- The text that is highlighted in yellow needs to be replaced.
- Programming instructions are indicated in blue text.
- Terms that require pop-up definitions are highlighted in blue. See Glossary document for full list of definitions.
- A text box should appear whenever a respondent selects a response option with the text "Other (Please specify)", "Other (Explain)" or something similar.
- Unless otherwise indicated, only one response is allowed per question.
- For questions that allow multiple responses, if "Don't Know" or "Not Applicable" is checked, no other option may be selected.
- If response list includes "None of the above," only allow this to be checked if all the other items are unchecked.
- We will send you a Glossary and FAQ document separately.

A. Respondent Characteristics

First, we are going to ask you a few questions about your faculty position at [IHE] and the types of activities you participated in **during the most recently completed academic year (2009-2010)**.

- A1. **Up to and including** the most recently completed academic year (2009-2010), for how many years have you held a faculty position at [IHE]?

I have been a faculty member here for a total of: [dropdown menu]
<input type="checkbox"/> Less than 1 year (2010-2011 is my 1 st year as a faculty member at this institution)
<input type="checkbox"/> 1 year (2009-2010 was my 1 st year as a faculty member at this institution)
<input type="checkbox"/> 2 years
<input type="checkbox"/> 3 years
<input type="checkbox"/> 4 years
<input type="checkbox"/> [Programming Instruction: List individual years through 20]
<input type="checkbox"/> Over 20 years

₉₆ N/A: I was not in a faculty position during academic year 2009-2010.

[\[Programming Instructions: This is a required question. If “less than 1 year” or “N/A: Not in a faculty position” is selected, go to the end of the survey and display the following “Thank You Script”: For this survey we are interested in surveying STEM Faculty who were teaching at \[IHE\] during academic year 2009-2010. We must have received your name in error. We apologize. Thank you for your time.” Survey Status = Ineligible Respondent.\]](#)

- A2. What was your academic position at [IHE] *during the most recently completed academic year (2009-2010)? (Please check one)*

- ₁ Full Professor
₂ Associate Professor
₃ Assistant Professor
₄ Instructor
₅ Lecturer
₉₅ Other faculty position (Please specify)
₉₆ Non-faculty position (Please specify)

[\[Programming Instructions: This is a required question. If respondent’s only position is “a non-faculty position,” go to the end of the survey and display the following “Thank You Script”: For this survey we are interested in surveying STEM Faculty who were teaching at \[IHE\] during academic year 2009-2010. We must have received your name in error. We apologize. Thank you for your time.” Survey Status = Ineligible Respondent.\]](#)

A3. What was your tenure status *during the 2009-2010 academic year*?

- ₁ Tenured
- ₂ Tenure-track, not tenured
- ₃ Not in a tenure-track position, but institution had a tenure system
- ₄ Institution did not have a tenure system

A4. Which of the following disciplines listed below were most closely aligned with the content area of your department *during the 2009-2010 academic year*? (Select all that apply)

- ₁ Biological sciences
- ₂ Chemistry
- ₃ Computer science
- ₄ Engineering
- ₅ Geosciences/environmental sciences
- ₆ Mathematics
- ₇ Physics
- ₈ K-12 mathematics education
- ₉ K-12 science education
- ₉₅ Other **STEM** discipline (Please specify)
- ₉₆ Non-STEM discipline (Please specify)

[Programming Instructions: A4 is a required question. If recipient selected "Other STEM discipline" or "Non-STEM discipline" but does not provide a text response, display a soft prompt that asked them to specify the discipline. If respondent only chooses "Non-STEM discipline", go to the end of the survey and display the following "Thank You Script": For this survey we are interested in surveying faculty who were teaching in a Science, Technology, Engineering and/or Mathematics (STEM) field during academic year 2009-2010. We must have received your name in error. We apologize. Thank you for your time.". Survey Status = Ineligible Respondent.]

A5. What was your principal activity at [IHE] *during the 2009-2010 academic year*? (Please check one)

If you had equal responsibilities among activities, please select one.

- ₁ Teaching
- ₂ Research
- ₃ Administration (e.g., Dean, Chair, Director etc.)
- ₄ Other (Please specify)

B. Respondent's Involvement in the Noyce Program

- B1. The National Science Foundation's **Robert Noyce Teacher Scholarship Program** awards grants to teacher preparation programs in higher educational institutions to provide scholarships and stipends to recruit and prepare talented Science, Technology, Engineering and Mathematics (STEM) professionals and students who commit to teaching in K-12 settings, particularly in high-need districts.

How familiar are you with the Noyce Program?

- ₁ I have never heard of it
- ₂ I am aware of it, but I know little about it
- ₃ I am familiar with the Noyce Program, but I have not been involved with any activities associated with the award in our institution
- ₄ I used to be involved with activities associated with the Noyce award in our institution, but I was not involved in it during the most recently completed academic year (2009-2010)
- ₅ I was involved with activities associated with the Noyce award in our institution during the most recently completed academic year (2009-2010)

[Programming Instruction: This is a required question. If B1=1 or 2, go to the end of the survey and display the following "Thank You Script": For this survey we are interested in surveying STEM faculty who are familiar with the **Robert Noyce Teacher Scholarship Program**. Thank you for your time." Survey Status = Ineligible Respondent.]

C. Teacher Preparation Activities of Respondent and Department

Questions in this section ask about your department within [IHE] and academic activities during the most recently completed academic year (2009-2010).

C1. Was mathematics or science education a designated career track or major in your department during the 2009-2010 academic year?

- ₁ Yes
₀ No
₉₈ Don't Know

C2. Have you ever had responsibilities for preparing students to become K-12 STEM teachers?

- ₁ Yes
₀ No [SKIP to C3]
₉₈ Don't Know [SKIP to C3]

Note: This includes teaching courses on K-12 STEM teaching; mentoring or supervising students in the teacher preparation program; advising the teacher preparation program on STEM-related issues; and helping to place graduates into K-12 STEM teaching positions.

C2a. **Excluding** the current 2010-2011 academic year, for approximately how many years have you had responsibilities for preparing students to become K-12 STEM teachers?

I have prepared K-12 STEM teachers for a total of: [dropdown menu]
<input type="checkbox"/> 1 year (2009-2010 was my 1 st year with this responsibility)
<input type="checkbox"/> 2 years
<input type="checkbox"/> 3 years
<input type="checkbox"/> [Programming Instruction: List individual years through 30]
<input type="checkbox"/> Over 30 years

- ₉₆ I did not have responsibilities for preparing students to become K-12 STEM teachers prior to academic year 2010-2011.

C3. Please check all of the activities below that you participated in during the most recently completed academic year (2009-2010) at [IHE]. (Select all that apply)

- ₁ I **discussed the possibility** of being a K-12 STEM teacher with students
- ₂ I **taught a course** designed specifically for students majoring in STEM disciplines preparing to be K-12 educators
- ₃ I **helped find K-12 STEM teaching positions** for former students
- ₄ I **supervised, advised, or mentored** future K-12 STEM teachers during their teaching practicum, **field experiences**, or first years of teaching
- ₅ I advised or consulted with the **teacher preparation program** on issues related to teaching STEM disciplines in K-12 schools
- ₉₅ Other (Please specify) [Programming note: if R chooses “other,” ask R to list up to 3 other activities and allow R to provide a response for each.]
- ₉₆ I did not participate in any of these activities

[Programming Instructions:

If no box is selected for C3, display the following soft prompt: “Please select any activities listed below that you participated in during the 2009-2010 academic year. If you participated in any other activities that help prepare K-12 STEM teachers, please select “Other” and explain. Please do not leave this question blank. If, during the 2009-2010 academic year, you did not participate in any activities that may have helped prepare students to become K-12 STEM teachers, select “I did not participate in any of these activities.”

If “I did not participate in any of these activities” is selected, or C3=Missing, SKIP to C5.

If “I did not participate in any of these activities” is selected, no other response may be selected.]

C4. You mentioned that you participated in the following activities during the 2009-2010 academic year. Which of these activities did you participate in before the Noyce award was received at [IHE]?

[Programming Instruction: Limit response list to those that were selected under C3.]

Before the Noyce award was received in our institution ...	Yes	No	DK
a. I discussed the possibility of being a K-12 STEM teacher with a student.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I taught a course designed specifically for students majoring in STEM disciplines preparing to be K-12 educators.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I helped find K-12 STEM teaching positions for former students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I supervised, advised, or mentored future K-12 STEM teachers during their teaching practicum, field experiences , or first years of teaching.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I advised or consulted with the teacher preparation program on issues related to teaching STEM disciplines in K-12 schools.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. [Other Response from C3]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- C5. In addition to yourself, did any other faculty members in **your department** (not including part-time or adjunct faculty) have responsibilities for preparing K-12 STEM teachers during the most recently completed academic year (2009-2010)?

Note: This includes teaching courses on K-12 STEM teaching; mentoring or supervising students in the teacher preparation program; advising the teacher preparation program on STEM-related issues; and helping to place graduates into K-12 STEM teaching positions.

- ₁ Yes
₀ No [[Skip to Section D](#)]
₉₈ Don't Know [[Skip to Section D](#)]

[Programming note: If B1 ≠ 5, this question should simply read "Did any faculty members in **your department** (not including part-time or adjunct faculty) have responsibilities for preparing K-12 STEM teachers?"]

- C6. As far as you know, approximately what proportion of the faculty members in **your department** (not including part-time or adjunct faculty) were involved with preparing K-12 STEM teachers during the most recently completed academic year (2009-2010)?

- ₁ A few (1-25% of the faculty members in my department were involved)
₂ Some (26-50%)
₃ Most (51-75%)
₄ Almost all (76-100%)
₉₈ Don't Know

[Programming instruction: : If B1 ≠ 5 and C5 = No, then SKIP to Section E]

D. Respondent's Involvement with Noyce

The following questions concern involvement in activities associated with the Noyce award at [IHE] and activities associated with it *during the most recently completed academic year (2009-2010)*.

[Programming Instruction: If B1 ≠ 5, SKIP to D2.]

D1. Please check all the *Noyce-related activities* below that you participated in during the 2009-2010 academic year. (Select all that apply)

- ₁ I mentioned to a STEM class or a student majoring in a STEM discipline about the availability of Noyce support for STEM majors who are interested in getting teacher certification
- ₂ I recommended a student majoring in a STEM discipline for receipt of a Noyce scholarship or stipend
- ₃ I helped decide which applicants would receive Noyce scholarship or stipends (e.g., this could include interviewing candidates, reviewing applications, and/or making award decisions)
- ₄ I taught or led a class, seminar, or other educational activity designed specifically for Noyce recipients
- ₅ I mentored Noyce recipient(s) during their first few years of teaching
- ₆ I helped Noyce recipients find teaching positions
- ₇ I attended meetings on developing or managing activities associated with the Noyce award [Ask D1a]
- ₈ I was a member of an advisory board or otherwise provided advice or oversight of the Noyce award
- ₉₅ Other (Please specify)

[Programming instruction: If D1 is not answered, display the following: "Earlier you indicated that you were involved with activities associated with the Noyce award in your institution during the most recently completed academic year (2009-2010). Please specify which of the above activities you were involved in. If you were not involved in any of the activities listed, please select "Other" and explain. Thank you!" Please use the "Scholarship/Stipend applicant" definition for "applicants."]

[Programming Instruction: If R checks “I attended meetings developing or managing activities associated with the Noyce award” for D1, ask D1a. Otherwise SKIP to D2.]

D1a. You selected “I attended meetings on developing or managing activities associated with the Noyce award.”

Which of the following best describes your attendance at Noyce meetings during the 2009-2010 academic year?

- ₁ I attended only one meeting
- ₂ I attended meetings occasionally, but not regularly
- ₃ I attended meetings regularly

[Programming instruction: If C5 ≠ Yes, SKIP to section E.]

D2. Please check the Noyce-related activities below that **other faculty members in your department (besides yourself)** participated in during the 2009-2010 academic year.

Programming Instruction: If B1 ≠ 5, use the following wording for this question:

D2. Please check the Noyce-related activities below that **faculty members in your department** participated in during the 2009-2010 academic year.

When thinking of “other faculty members,” please exclude part-time and adjunct faculty.

	Yes	No	Don't Know
a. Making presentations (or allowing presentations to be made) in STEM classes introducing students to the Noyce award (i.e., the availability of Noyce support for STEM majors who are interested in getting teacher certification)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₀	<input type="checkbox"/> ₉₈
b. Recommending students majoring in STEM disciplines to apply for a Noyce scholarship	<input type="checkbox"/> ₁	<input type="checkbox"/> ₀	<input type="checkbox"/> ₉₈
c. Participating in deciding which applicants would receive Noyce scholarship or stipends (e.g., this could include interviewing candidates, reviewing applications, and/or making award decisions)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₀	<input type="checkbox"/> ₉₈
d. Teaching or leading a class, seminar, or other educational activity designed specifically for Noyce recipients	<input type="checkbox"/> ₁	<input type="checkbox"/> ₀	<input type="checkbox"/> ₉₈
e. Mentoring a Noyce recipient during their first few years of teaching	<input type="checkbox"/> ₁	<input type="checkbox"/> ₀	<input type="checkbox"/> ₉₈
f. Helping Noyce recipients find teaching positions	<input type="checkbox"/> ₁	<input type="checkbox"/> ₀	<input type="checkbox"/> ₉₈
g. Attending meetings on developing or managing activities associated with the Noyce award	<input type="checkbox"/> ₁	<input type="checkbox"/> ₀	<input type="checkbox"/> ₉₈
h. Participating in an advisory board or providing advice or oversight of the Noyce award program	<input type="checkbox"/> ₁	<input type="checkbox"/> ₀	<input type="checkbox"/> ₉₈
i. Other (Please specify)	<input type="checkbox"/> ₁	<input type="checkbox"/> ₀	<input type="checkbox"/> ₉₈

[Programming instruction: If “Yes” is not selected for at least one response, ask D2a. Otherwise, skip to Section E. Please use the “Scholarship/Stipend applicant” definition for “applicants.”]

D2a. In addition to yourself, did any other faculty members in **your department** (not including part-time or adjunct faculty) participate in Noyce-related activities during the 2009-2010 academic year?

₁ Yes

₀ No

₉₈ Don't Know

[Programming instruction: If “Yes” ask D2b. Otherwise, skip to Section E.]

[Only ask D2b if D2a=Yes.]

D2b. You indicated that other faculty members in your department (beside yourself) participated in Noyce-related activities during the 2009-2010 academic year. Please indicate which activities they participated in. If these activities are not listed below, please select “other” and describe the activities in your own words.

When thinking of “other faculty members,” please exclude part-time and adjunct faculty.

- a. Making presentations (or allowing presentations to be made) in STEM classes introducing students to the Noyce award (i.e., the availability of Noyce support for STEM majors who are interested in getting teacher certification)
- b. Recommending students majoring in STEM disciplines to apply for a Noyce scholarship
- c. Participating in deciding which applicants would receive Noyce scholarship or stipends (e.g., this could include interviewing candidates, reviewing applications, and/or making award decisions)
- d. Teaching or leading a class, seminar, or other educational activity designed specifically for Noyce recipients
- e. Mentoring a Noyce recipient during their first few years of teaching
- f. Helping Noyce recipients find teaching positions
- g. Attending meetings on developing or managing activities associated with the Noyce award
- h. Participating in an advisory board or providing advice or oversight of the Noyce award program
- i. Other (Please specify)
- j. I don't Know

[Programming instruction: Please use the “Scholarship/Stipend applicant” definition for “applicants.”]

E. Respondent's Perceived Impacts of The Noyce Award

The questions in this section ask about your perceptions of the impacts of the Noyce award on the **STEM** teacher preparation program. When answering these questions, please consider all the years that **[IHE]** has received Noyce funding up through the most recently completed academic year (2009-2010).

E1. Have you made any changes in your own teaching style or courses that you would attribute to your participation in or exposure to activities associated with the Noyce award?

₁ Yes

₀ No [\[Skip to E3\]](#)

E2. What are the most important changes you have made?

[\[Programming Instruction: Open-ended text response\]](#)

- E3. Please review the list below and indicate the extent to which you agree with each statement about how [IHE] may have changed as a result of receiving Noyce funding or participating in activities associated with the Noyce award. Again, when answering these questions, please consider all of the years that your institution has received Noyce funding up through the most recently completed academic year (2009-2010).

<i>As a result of receiving Noyce funding or participating in activities associated with the Noyce award ...</i>		Strongly Agree	Agree	Disagree	Strongly Disagree	Don't Know
a.	A greater proportion of STEM teacher certification candidates are from STEM undergraduate programs	1	2	3	4	98
b.	A greater proportion of STEM teacher certification candidates are recruited from STEM fields of employment	1	2	3	4	98
c.	The diversity of K-12 STEM teachers trained in our teacher preparation program has increased	1	2	3	4	98
d.	The quality of candidates applying to the teacher preparation program has increased	1	2	3	4	98
e.	New K-12 STEM teachers trained in our institution begin teaching with more skills and preparation than they did before Noyce funding began	1	2	3	4	98
f.	New K-12 STEM teachers trained in our institution begin teaching with more STEM knowledge than they did before Noyce funding began	1	2	3	4	98
g.	STEM Faculty members are more involved in recruiting STEM K-12 teaching candidates	1	2	3	4	98
h.	STEM Faculty members are more involved in training STEM K-12 teachers	1	2	3	4	98
i.	STEM content has strengthened in STEM K-12 teacher certification courses	1	2	3	4	98
j.	Noyce recipients receive more support than most new STEM teachers when they begin teaching	1	2	3	4	98
k.	Noyce recipients are more prepared to meet the needs of students in high-need schools than most new STEM teachers	1	2	3	4	98
l.	The number of faculty members in my department participating in STEM K-12 teacher preparation has increased	1	2	3	4	98
m.	The number of faculty members in my department who have relationships with or who participate in activities in K-12 schools has increased	1	2	3	4	98
n.	Faculty members in my department have become more actively involved in STEM K-12 teacher preparation	1	2	3	4	98

Programming instructions: If any of the rows for E3 are not answered, display the following soft prompt: "Please try to provide a response for each item below. If you are not sure how to respond for a particular item, please select "Don't Know." Thank you!"

E4. Are there any other ways that your teaching, the students, or the institution have changed as a result of receiving Noyce funding? If yes, please describe them in the space below.

[Programming Instruction: The response will be in a text box with space for a large amount of text].

Thank you for taking the time to respond to this survey! Your responses will help the National Science Foundation support teacher preparation in the future.

[Programming instruction: Once R submits responses, send them a thank you e-mail/confirmation that responses have been submitted.]