# **Appendix H**

# **Noyce Intern Crosswalk** and **Survey**

Crosswalk of Intern Survey Items to Research Questions and Uses in Analysis

Research Question		ons <sup>1</sup>		
Survey Item	RQ 1e	RQ 2e	RQ 2f	Analysis <sup>2</sup>
A. Background Information				
Background information (name, IHE)				Α
Participation in Noyce scholarship program				Α
B. Current Status				
Undergraduate status				M
Major/area of concentration				M
Did Noyce influence choice of major/area of concentration?				M
C. Initial Status when applied for the Noyce Internship				
<u>Undergraduate status</u>				M
D. Reasons for applying for a Noyce Internship	•			
Reasons for applying for a Noyce Internship				M
E. Characteristics of the Noyce Internship Program				
When did Internship experience take place?				М
Setting of Noyce Internship experience	•			D
Types of activities conducted as part of Internship experience	•			D
Did internship experience include seminars or workshops with other Noyce interns/faculty members?				М
Did internship experience include interactions with STEM graduates/faculty/teachers/researchers?				М
F. Motivation to Teach STEM				
When did you first become interested in teaching scient and/or math?		•		D
Before Noyce, had you already considered being a K-12 teacher?		•		D
G. Perceived impact of Noyce Internship Program				
Influence of Noyce Internship program on interest in science and/or math teaching			•	D
Likelihood to work as K-12 teacher in the future and perceived impact of Noyce on this decision			•	D
Percieved beneifts and impact of the Noyce Internship program			•	D,M
Participation in Noyce Teacher Scholarship program				М
E. Respondent Background and Demographic Information				
Gender, race/ethnicity, and age				M

<sup>&</sup>lt;sup>1</sup>Research Questions Answered by Intern Survey

What activities do teacher preparation programs that have Noyce awards use to introduce Noyce

RQ1e interns to teaching mathematics and science as a career option?

How do Noyce recipients perceive the preparation they received from their teacher preparation
program in preparing them for teaching? When did Noyce recipients first become interested in

RQ2e teaching? What are the reasons Noyce recipients give for leaving the program or for teaching or not
How do Noyce interns perceive the influence of their participation in the Noyce Program on their

RQ2f decision to enter teaching and on their interest in math and science? How else has the Noyce

<sup>&</sup>lt;sup>2</sup>Analysis Notes

# Intern Survey Items

## Dear [Respondent Name],

As a current or former recipient of the **Robert Noyce Teacher Scholarship Program**, you are invited to participate in a short survey about your experiences.

This survey is being conducted by <u>Abt Associates Inc.</u>, an independent social research firm, for the <u>National Science Foundation</u> (NSF) to gain a better understanding of the implementation and effectiveness of the Robert Noyce Teacher Scholarship Program. 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

#### **Burden Disclosure Statement**

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 20 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. 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. Separate from your individual responses to the survey, we will provide NSF any updated contact information we have found or requested from you. None of this contact information will be linked in any way to your survey responses.

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

# **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.

# **SECTION A: BACKGROUND INFORMATION**

Before we begin, please confirm the following information.				
$Yes_{\square_1}$	No □ <sub>0</sub>	a.	Your name is [name of respondent]	
$\square_{1}$	$\Box_0$	b.	You attended [IHE]	
$\Box_{1}$	$\square_0$ $\square_0$		At some point, you received funding from the following Robert Noyce Teacher  Scholarship Program: [Noyce Program Name]  You started receiving funding from the Robert Noyce Teacher Scholarship Program	
Dragrammi	na instru	ıction	prior to academic year 2010-2011	
<ul><li>above are un</li><li>If A1c indivicurre the "b</li></ul>	e as this insure ho = Yes and duals wh nt acade	r all 4 inform w to a d A1d no beg emic y tton a	of these items is required. If any are left blank, display text: "Please answer all of the items mation is necessary to confirm that we are communicating with the correct person. If you answer this question, please contact us at <a href="NoyceEval@abtassoc.com">NoyceEval@abtassoc.com</a> . Thank you." l=No, display the following text: "For this survey, we are interested in speaking with gan receiving funding from the Robert Noyce Teacher Scholarship Program prior to this rear (2010-2011). If you did, in fact, start these activities prior to 2010-2011, please click on and revise your answer. Otherwise, please click the "Submit Responses" button to close the tus = ineligible respondent.	
[If A1a = No A1aa. Wh A1ab. "We nickname?	at is you ere you e	ur na		
	Yes			
	No, but No	t my	name is very similar. This appears to be a spelling error or typo.	
apolog Respor auto-n respon	mming ir ize for th nses" but otificatio dent. In	ne inc tton t on to i iclude	ction: A1ab is required if A1a=No. If R does not select 1 or 2, display the following text: "We convenience. This survey was intended for [Name of Respondent]. Please click the "Submit to close the survey." Then SKIP to "Thank You Script" at the end of the survey and send an noyceeval@abtassoc.com with responses to A1, A1aa and A1ab. Survey status = incorrect a back button on this "thank you" page so R has the option of revising their response to the survey.	
[If A1b = No A1bb. Wh			or universities did you attend?	

Have you ever received funding from the Robert Noyce Teacher Scholarship Program?  1 Yes, I received Noyce funding from: (Text Box)
No, I had applied for Noyce funding (or funding from [Award Name]) but never received it.
3 No, I never applied for or received funding from a Noyce Program.
ramming instruction: This question is required if A1c=No. If A1cc=2 or 3, display the following text on a new en: "For this survey, we are interested in speaking with individuals who received funding from the Robert te Teacher Scholarship Program. We had been told by the [Award Name] principal investigator, [PI Name], you had received funding from this program; we apologize for any inconvenience. One of our staff members contact you to clarify this information. In the meantime, please feel free to contact us at the Eval@abtassoc.com with any questions or concerns. Thank you for your time." Then, SKIP to "Thank You to staff member will call R and/or PI to clarify Noyce status. Survey status = ineligible respondent. Include a button on this "thank you" page so R has the option of revising their response to A1cc and finishing the ey.
= No and A1d= Yes, ask A1dd]
You indicated that you received funding from the Robert Noyce Teacher Scholarship Program prior to academic year 2010-2011, but this was not from [Noyce Program Name]. Please specify the name of the Noyce Program from which you received funding:
ou ever participated in an internship program that was funded by the National Science Foundation's Noyce Teacher Scholarship Program?
Yes (Go to the section B)
No (Go to "thank-you script" at the end of the survey. Survey Status = Ineligible Respondent)
3 I don't know (Go to the Section B)
grammer note: This question is required. If A2 = DK or Missing, ask the question again but replace the stion text with the following: "The Robert Noyce Teacher Scholarship Program, funded by the National Science redation (NSF), awards grants to institutions to provide scholarships and stipends to recruit and prepare need Science, Technology, Engineering and Mathematics (STEM) professionals and students who commit to hing in K-12 settings, particularly in high-need districts. Participating juniors and seniors typically receive
larship money to support their tuition for teacher preparation programs, while the freshmen and sophomores cally receive a minimal stipend for an internship to introduce teaching as a possible career option. Have you participated in this <b>internship</b> program?"

# **SECTION B: YOUR STATUS ON FEBRUARY 1, 2010**

The following questions ask about your education status as of February 1, 2010.

B1.	What wa	as your undergraduate status as of February 1, 2010? (Check only one response)
		I was a freshman in college (or had an equivalent number of credits)
	2	I was a sophomore in college (or had an equivalent number of credits)
	3	I was a junior in college (or had an equivalent number of credits)
	4	I was a senior in college (or had an equivalent number of credits)
	95	Other (Please specify)
B2.	As of Fe	<b>bruary 1, 2010,</b> had you selected a major/area of concentration in your undergraduate i?
		Yes [Ask Question B2a]
	$\Box_0$	No [SKIP to Question B2b]
		immer note: If B2 = Missing, display prompt: "If you had selected a major as of February 1 <sup>st</sup> , 2010, even if not officially declared, select 'Yes.' Otherwise, select 'No'." If still missing, SKIP to B2b]
	B2a. V	What was your major/area of concentration? (Check all that apply)
		☐ <sub>1</sub> Biological sciences
		$\square_1$ Computer science
		☐ <sub>1</sub> Education
		$\square_1$ Engineering
		☐ <sub>1</sub> Geosciences/Environmental sciences
		☐ <sub>1</sub> Mathematics
		1 Physical sciences
		$\square_1$ Physics
		Other (Please specify)
		[SKIP to Question B2c]

B2b. What is	your most likely choice? (Check all that apply)
	Biological sciences
	Chemistry
	Computer science
	Education
	Engineering
	Geosciences/Environmental sciences
	Mathematics
	Physical sciences
	Physics
	Other (Please specify)
	Undecided [Skip to Section C]
[Progra	mming instructions: If "Undecided" is selected, don't allow R to select another response choice.]
	Noyce internship experience influence your choice or most likely choice of major/area of tration?
	Yes
o	No

# SECTION C. INITIAL STATUS WHEN YOU APPLIED FOR THE NOYCE INTERNSHIP

When answering this question, please refer to the time when you first applied to the Robert Noyce Internship Program. This information may have changed, but for this question, we are interested in your initial status – i.e., when you just started receiving Noyce funding or just prior to this time point.

C1.	What w	as your undergraduate status when you <b>first applied</b> to the Noyce Internship Program?
	$\square_1$	I was a freshman (or had an equivalent number of credits)
	2	I was a sophomore (or had an equivalent number of credits)
	3	I was a junior in college (or had an equivalent number of credits)
	4	I was a senior in college (or had an equivalent number of credits)
	5	Other (Please specify)

# SECTION D. REASONS FOR APPLYING FOR A NOYCE INTERNSHIP

Why did	you apply for a Noyce internship? (Check all that apply).
nted to	
	gain exposure in the field of education
	explore the possibility of a career in teaching mathematics and/or science
	help school-age children learn about mathematics and science
	become more active in the community
	gain hands-on research experiences to reinforce what I am learning in class
	apply my mathematics and/or science knowledge in real world settings
	gain confidence in my potential to be a K-12 teacher
	Other (Please specify)
	•

#### SECTION E. CHARACTERISTICS OF THE NOYCE INTERNSHIP PROGRAM

Questions in this section refer to your Noyce Internship Program and experiences while in this program.

When did you participate in the Noyce Internship Program? (Check all that apply) E1. **Calendar Year** 2008 2009 2010 Summer  $\square_1$  $\square_1$  $\Box_1$ Spring Break Other times during the academic year E2. Which of the following best describes the setting for your Noyce internship experience(s)? (Check all that apply) | |1 K-12 School [Ask Questions E2a and E2a1] Math/Science Camp [Ask Questions E2b and E2b1] Museum (e.g. Science, Aquarium, Nature Centers) [Ask Question E2c] Science research laboratory at your university and/or industry [Ask Question E2d] In For-credit summer course in science, technology, engineering, mathematics or education at your university or in a K-12 district or school [SKIP Question E3] Other (Please specify) [SKIP to Question E3] [Programming instructions: If "Other" is selected, but text is not entered, display the following soft prompt: "You selected

Other' but did not describe this setting. Please do so now. Thank you!" If E2 is left blank, display the following soft prompt: "Please describe the primary location of your Noyce-funded internship program. If none of the settings listed below appear to describe this location accurately, please select "other" and describe the setting in detail. Thank you!" If E2 is still left blank, SKIP to E3]

[Programming in	structions: Only ask if "K-12 School(s)" is selected for E2]
	dicate the types of activities that you conducted as part of your internship experience <b>in a K-12</b> Check all that apply)
	Conducted classroom observations in a K-12 classroom
	Modified existing lessons, activities, or modules for use with K–12 students
	Designed new lessons, activities, or modules for use with K–12 students
	Presented lessons/lectures to K–12 students
	Led small group activities/discussions with K–12 students
	Planned, coordinated, and/or led field trips/excursions for K-12 students
	Planned, coordinated, and/or facilitated hands-on learning activities for K-12 students
	Demonstrated scientific procedures, tools, and techniques in a K-12 classroom
1	Set up laboratory equipment
	Helped K–12 students understand and use technology (e.g., computer software)
	Assisted with administrative tasks (e.g., grading, gathering lab supplies, photocopying)
	Other (Please specify)
below. If none o	structions: If E2a is left blank, display the following soft prompt: "Please select at least one activity f the prelisted activities appear to accurately describe the activities you conducted as part of your Noyce e select "other" and describe the activities in detail. Thank you!"]
	ning instructions: Only ask if "K-12 School(s)" is selected for E2] as this experience in a high-need school?
	□ <sub>1</sub> Yes
	□ <sub>0</sub> No
	□ <sub>98</sub> I don't know
primary	nming instructions: If E2a1 is left blank, display the following soft prompt: "Please indicate whether the location of your Noyce-funded internship program was in a K-12 school that you would define as "high If you are not sure how to respond to this question, please select "I don't know." Thank you!"

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	nstructions: Only ask if "Math/Science Camps" is selected for E2]
	dicate the types of activities that you conducted as part of your internship experience in a
mathem	atics or science camp. (Check all that apply)
	Modified existing lessons, activities, or modules for use with K-12 students
	Designed new lessons, activities, or modules for use with K-12 students
	Presented lessons/lectures to K-12 students
	Led small group activities/discussions with K-12 students
	Planned, coordinated, and/or led student field trips/excursions for K-12 students
	Planned, coordinated, and/or facilitated hands-on learning activities for K-12 students
	Demonstrated scientific procedures, tools, and techniques
$\square_1$	Helped K–12 students understand and use technology (e.g., computer software)
$\square_1$	Assisted with administrative tasks (e.g., gathering lab supplies, photocopying)
	Other (Please specify)
below. If none	instructions: If E2b is left blank, display the following soft prompt: "Please select at least one activity of the prelisted activities appear to accurately describe the activities you conducted as part of your Noyce se select "other" and describe the activities in detail. Thank you!"]
	gramming instructions: Only ask if "Math/Science Camps" is selected for E2]  L. While interning at the math/science camp, did you work with students from disadvantaged backgrounds?
	□ <sub>1</sub> Yes
	□₀ No
	☐ <sub>98</sub> I don't know
worked belong enviror and ab	mming instructions: If E2b1 is left blank, display the following soft prompt: "Please indicate whether you with students from disadvantaged backgrounds – i.e., Children living near or below the poverty line; ing to a minority group that is underrepresented in various facets of society; or residing in an imments containing factors that would prevent an individual from obtaining the necessary skills, knowledge lities to succeed professionally or have access to higher education. If you are not sure how to respond to estion, please select "I don't know." Thank you!"

E2c. Please indicate the types of activities that you conducted as part of your internship experience in museums. (Check all that apply)
$\square_1$ Led visitors through the exhibit (e.g. tour/exhibit guide)
$\square_1$ Planned, coordinated, and/or facilitated hands-on learning activities for K–12 students
$\square_1$ Demonstrated scientific procedures, tools, and techniques
$\square_1$ Helped K–12 students understand and use technology (e.g., computer software)
$\square_1$ Assisted with administrative tasks (e.g., gathering exhibit supplies, photocopying)
$\square_1$ Other (Please specify)
[Programming instructions: If E2c is left blank, display the following soft prompt: "Please select at least one activity below. If none of the prelisted activities appear to accurately describe the activities you conducted as part of your Noyce internship, please select "other" and describe the activities in detail. Thank you!"]
[Programming instructions: Only ask if "Science research laboratory at your university and/or industry" is selected for E2] E2d. Please indicate the types of activities that you conducted as part of your internship experience in a science research laboratory. (Check all that apply)
$\square_1$ Conducted hands-on research activities under supervision
1 Set up laboratory equipment
Modified existing instructional materials, activities, or modules for use with undergraduate students
Developed instructional materials, activities, or modules for use with undergraduate students
Presented my work at a professional conference
Assisted with administrative tasks (e.g., gathering lab supplies, inventory of lab supplies/materials)
$\square_1$ Other (Please specify)
[Programming instructions: If E2d is left blank, display the following soft prompt: "Please select at least one activity below. If none of the prelisted activities appear to accurately describe the activities you conducted as part of your Noyce internship, please select "other" and describe the activities in detail. Thank you!"]
E3. As part of your internship experience, did you participate in seminars or workshops with other Noyce interns and/or faculty members?
□ <sub>1</sub> Yes
□ <sub>0</sub> No
Programming instructions: If E3 is left blank, display the following soft prompt: "Please respond to the following question. Thank you!"

E4.	As part of your internship experience, did you interact with any of the following individuals? (Check all that apply)
	$\square_1$ Graduate mathematics and science students
	$\square_1$ Faculty members in a science, technology, engineering, or mathematics department
	$\square_1$ Education faculty members in your college or university
	$\square_1$ Non-faculty researchers
	☐ <sub>1</sub> Mathematics and science K-12 teachers
	☐ <sub>1</sub> Other K-12 teachers
	Other (Please specify)

# SECTION F. MOTIVATION TO TEACH SCIENCE, TECHNOLOGY, ENGINEERING, OR MATHEMATICS

F1.	When d	id you first become interested in science and/or mathematics teaching?
		I am not very interested in science and/or mathematics teaching
	2	I have been interested since childhood
	3	Before college
	4	During college
	98	I don't remember
	[Progr	amming instruction: Only allow one response.]
F2.		you first learned about the <mark>Noyce Internship Program</mark> or had the opportunity to apply for a Noyce nip, had you already considered being a <mark>K-12</mark> teacher?
	$\square_1$	Yes
	$\Box_0$	No
	amming i	nstructions: If F2 is left blank, display the following soft prompt: "Please respond to the following question.

# SECTION G. PERCEIVED IMPACT OF THE NOYCE INTERNSHIP PROGRAM

G1.	Which of the following statements most accurately describes the influence of your participation in the Noyce Internship Program on your interest in science and/or mathematics teaching?
	$\square_1$ My interest in teaching mathematics and/or science <i>increased</i>
	$\square_2$ My interest in teaching mathematics and/or science decreased
	$\square_3$ My interest in teaching math/science <i>remained the same</i>
	[Programming instructions: Only allow one response. If G1 is left blank, display the following soft prompt: "Pleasindicate whether your interest in teaching math and/or science increased, decreased or remained the same after participating in the Noyce Internship Program. Thank you!" ]
G2.	How likely is it that you will work as a K-12 teacher in the future?
	☐ <sub>1</sub> Very unlikely
	₃ Likely
	☐ <sub>4</sub> Very likely
	[Programming instruction: Only allow one response. If G2 is left blank, display the following soft prompt: "Please respond to the following question. Thank you!" If respondent checked 'Likely' or 'Very Likely' in Question G2, please ask Question G2a. Else, SKIP to G3]
	G2a. Which of the following statements most accurately describes the influence of your participation in the Noyce Internship Program on your decision to enter teaching?
	$\square_1$ Not a factor in my decision
	☐₃ Moderately influenced my decision
	Greatly influenced my decision
	[Programming instruction: Only allow one response. If G2a is left blank, display the following soft prompt: "Please respond to the following question. Thank you!"]

Γhe Noyce Internship Program:	Strongly Agree	Agree	Disagree	Strongly Disagree
Clarified or affirmed my career goal	□ <sub>1</sub>		□ <sub>3</sub>	□ <sub>4</sub>
Provided me with an opportunity to work with students of diverse (e.g., cultural, racial/ethnic, socio-economic) backgrounds	□1	□ <sub>2</sub>	Пз	<b>□</b> 4
Increased my understanding of the value of teamwork			Пз	<b>□</b> 4
Increased my understanding of the role of science and technology in everyday life	□ <sub>1</sub>		Пз	<b>□</b> 4
Increased my ability to solve problems independently	<b>□</b> 1		Пз	<b>□</b> 4
Increased my ability to think critically and analytically	□ <sub>1</sub>		Пз	<b>□</b> 4
Increased understanding of subject matter	□ <sub>1</sub>	$\square_2$	Пз	□ <sub>4</sub>
hich specific feature, if any, of the Noyce Internship pact on you?	Program do <sup>v</sup>	you belie	ve has had	the greate

Please indicate whether you agree or disagree with the following statements about your participation

G3.

G4.

G5.	Have you received or are you applying for a Robert Noyce Teacher Scholarship to support your education
	in a teacher preparation program?
	1 Yes [Ask Question G5a]
	☐ <sub>2</sub> No [SKIP to Section H]
	☐ <sub>98</sub> I don't know [SKIP to Section H]
	[Programmer note: If G5 = DK or Missing display the following text before skipping to section H: "The Robert Noyce Teacher Scholarship Program, funded by the National Science Foundation (NSF), awards grants to 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. Participating juniors and seniors typically receive <b>scholarship money</b> to support their tuition for teacher preparation programs – i.e., a program designed to prepare college students to obtain a license or certificate to teach in a public school. Have you ever applied for or received scholarship money from this program to support your teacher preparation program? (please answer below).]
	G5a. Did your participation in the Noyce Internship Program motivate you to apply for the Robert Noyce Teacher Scholarship?
	□ <sub>1</sub> Yes
	□ <sub>0</sub> No

### SECTION H. RESPONDENT BACKGROUND

We would like to conclude by asking some questions about your background. The following questions help us understand how different groups of individuals perceive the Robert Noyce Teacher Scholarship Program and K-12 teaching as a career.

H1.	How old are you? years
	ramming instruction: Make this a numeric variable that only allows values 16-90.]
H2.	What is your gender? ☐₁ Male
Н3.	What is your ethnicity?
	☐₁ Hispanic or Latino/a
	One of Latino/a
H4.	What is your race? (Check all that apply)
	□ <sub>2</sub> Asian
	☐₃ Black or African-American
	☐ 4 Native Hawaiian or Other Pacific Islander
	□ <sub>5</sub> White

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

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