

**Attachment 3e:
Principal Investigator Interview Protocol**

Noyce Program Evaluation Interview Protocol: Principal Investigators

OBJECTIVES:

The purpose of this inquiry is to obtain comprehensive responses from Principal Investigators (PIs) concerning the perceived impact, effectiveness, and development of the Noyce Program over time. Additionally, it seeks to explore the factors that influence the success of projects and the perceptions of collaborators and partners in the STEM education community.

INTERVIEWER SCRIPT:

INTRODUCTION

- Hello, my name is **[NAME OF INTERVIEWER]**, and I will be facilitating this confidential interview today.
- I am an independent evaluation and research consultant. I work for WhitworthKee Consulting. We are partnering with the National Science Foundation to evaluate the Robert Noyce Teacher Scholarship Program and identify areas that are working well and opportunities for growth. NSF has contracted the WKC Evaluation Team as a third-party evaluator so that the Noyce community can express their true perceptions and experiences with Noyce without having personal information tied to responses.
- Joining us today is my colleague **[NAME OF CO-INTERVIEWER/NOTETAKER]** who will function in the background to take notes and observe the session. They will remain in the background without video but may also ask follow-up questions.
- As you may know, the interviews were organized by your role or position within the Noyce Program when possible. This is the *principal investigator* interview.
- The purpose of this interview is to discuss your perceptions of the impact of the Noyce Program, how well the Program has worked, and how the Program has changed over time. We will also discuss your perception of the factors related to the Program's success and perceptions of those invested in the STEM education community. There are no right or wrong answers, and please be straightforward with your responses. You may not have experience with or know the answer to

every question. Because Noyce projects and roles can vary, please feel free to share with us if you don't know the answer to the question or it doesn't apply to you. The last portion of the interview will be an opportunity for you to provide us contact information for others you have worked with on your Noyce project, such as program support staff or faculty members, if you have not had the chance to forward the referral information we sent in your questionnaire completion email. This interview will last no more than 60 minutes.

- You can skip any question that you do not want to answer, and you can stop participating in the interview at any time. Your participation in this interview will not impact you or your institution's ability to receive funding from NSF either now or in the future.

CONFIDENTIALITY

Your answers in today's interview will remain private. The WKC Evaluation Team will not connect your name or any personal details to your responses. The results will be summarized to reflect the overall group's perspectives. Before sharing the information with external parties (e.g., NSF, NSF's website, reports to Congress, Noyce events, other conferences, publication audiences, or other professional communities), the team will make sure that any identifying details are removed.

We would like to record this interview session so that we can ensure that we have time to think deeply about your responses. To maintain data security, the recording will be stored in a password-protected cloud-based drive. It will not be shared with anyone except the researchers working on the Noyce Program evaluation. Please verbally acknowledge your consent to recording by saying, "I agree."

[INTERVIEWER NOTE: MAKE NOTE OF PARTICIPANT CONSENT (YES/NO) IN THE TRACKER]

Do you have any questions before we get started?

[IF YES, PLEASE ANSWER ANY QUESTIONS AS BEST YOU CAN. IF YOU ARE UNABLE TO ANSWER A QUESTION, PLEASE REACH OUT TO THE PROJECT LEAD OR CO-LEAD]

[IF NO, BEGIN THE INTERVIEW QUESTIONS]

INTERVIEW QUESTIONS

[INTERVIEWER NOTE: START RECORDING IF PARTICIPANT CONSENTED; IF THEY DID NOT, BOTH THE INTERVIEWER AND NOTETAKER WILL TAKE NOTES TO CAPTURE AS MUCH DATA AS POSSIBLE] I'm going to start the recording now.

Background

[INFORMATION ON NAME, CURRENT ROLE, TRACK, AND NAME OF THE NOYCE-FUNDED PROJECT FOR WHICH RESPONDENT IS A PI WILL BE CAPTURED FROM THE DEMOGRAPHIC QUESTIONNAIRE - SHARE THE RESPONDENT'S DEMOGRAPHIC QUESTIONNAIRE ANSWERS AND VERIFY THEY ARE CORRECT.

IF ANY INFORMATION IS INCORRECT, PLEASE NOTE THE RESPONDENT'S CORRECTED INFORMATION AND GIVE THE UPDATED INFORMATION TO THE PROJECT LEAD OR CO-LEAD]

INTERVIEWER SCRIPT: In this section, we will discuss the Noyce application process with NSF. Please feel free to share your experience with applying for the Noyce Award.

1. How long have you personally been actively applying for Noyce funding, across all institutions where you've worked? **[BACKGROUND]**

STEM Teacher Preparation Field

2. From your perspective, what specific parts of the STEM teacher preparation field do you think should be emphasized and funded? **[1A]**

INTERVIEWER SCRIPT: As you may know, the Noyce Program provides funding to higher education institutions via (a) scholarships, (b) stipends, and (c) other means of programmatic support to recruit and prepare science, technology, engineering, and mathematics (STEM) majors and other professionals to become K-12 teachers and teacher leaders.

3. If the Noyce Program could fund anything (the sky is the limit), what would you suggest that NSF fund to recruit, prepare, and retain STEM teachers and teacher leaders in high-need school districts? **[1]**

- a. Probe:** Can you identify specific areas within STEM education that are currently underserved or overlooked that could benefit from additional funding? **[1A]**
- b. Probe:** Are there specific populations of individuals in STEM education that are currently underserved or overlooked that you think could benefit from additional funding?
- c. Probe:** How could the Noyce Program be expanded to further support the professional development of STEM teachers and teacher leaders? **[1A]**

INTERVIEWER SCRIPT: We'd now like to transition to talking about your experience applying for Noyce funding.

- 4. What support from NSF, your institution, or other sources, did you consider when applying for Noyce funding? **[IF NEEDED: FOR EXAMPLE, TO WHAT EXTENT ARE TRAINING, INSTITUTIONAL SUPPORT, MATERIALS AND RESOURCES, EASE OF APPLICATION, ETC., FACTORS WHEN APPLYING FOR NOYCE FUNDING?] [1B]**
 - a. Probe:** With which entities do you collaborate as part of your Noyce project? **[IF NEEDED: NON-PROFIT PARTNERS THAT PROVIDED PROFESSIONAL DEVELOPMENT, INTERNSHIPS, RESEARCH EXPERIENCES; OTHER INSTITUTIONS; OTHER DEPARTMENTS; LOCAL SCHOOL DISTRICTS; ETC.]** What role do they have? How did you develop these relationships? **[1B, 2A]**
 - b. Probe:** Which entities are missing from your existing partnerships that would help support your Noyce project? **[1B, 2A]**
- 5. What motivated you to apply? What factors or which people influenced your decision? For example, what factors existed within society, the larger field, at the institution level, and/or at the college, department, and faculty level? **[1B, 2A]**
- 6. What are the barriers to applying for Noyce funding? **[IF NEEDED: FOR EXAMPLE, TO WHAT EXTENT ARE COST-SHARING REQUIREMENTS, DEGREE OF ALIGNMENT OF THE TRAINING MODELS BEING USED BY INSTITUTIONS WITH THE NOYCE REQUIREMENTS, OVERALL FUNDING LIMITATIONS, FUNDING**

LIMITATIONS FOR STUDENTS, WAYS IN WHICH INFORMATION IS COMMUNICATED, ETC., BARRIERS TO APPLYING?] [1C]

- a. **Probe:** What are some specific challenges or complexities that you encountered during the application phase? For example, what challenges or complexities existed within society, the larger field, at the institution level, and/or at the college, department, and faculty level? **[1B, 1C, 3, 3B, 3C, 3D]**
 - b. **Probe:** What types of support or resources do you think would be most beneficial for PIs to apply for a Noyce Award (e.g., technical assistance, funding)? **[1B, 3, 3C, 3D]**
 - c. **Probe:** How does the burden of applying for the Noyce Award compare to other similar funding opportunities in STEM education (if you have applied for other similar opportunities)? **[IF NEEDED: FOR EXAMPLE, WAS IT EASIER, MORE DIFFICULT, ABOUT THE SAME?] [1B, 1C, 3, 3B, 3C, 3D]**
 - d. **Probe:** **[IF PARTICIPANT IS TRACK 1, 2, OR 3]** What are your perceptions of the scholar/fellow data tracking and reporting requirements of the Noyce Award?
 - e. **Probe:** Was there sufficient technical support available from NSF when you had questions or needed assistance with your application? **[1B, 3, 3C, 3D]**
7. What do you think could be learned from the Noyce Program and applied to other similar STEM teacher preparation and teacher leader initiatives? **[1D]**

Perceptions of the Noyce Program

INTERVIEWER SCRIPT: In this next set of questions, we would like to explore your perceptions about the Noyce Program overall and its impact as well as any gaps in its reach.

8. What is your overall perception of the Noyce Program? **[2A]**
 - a. **Probe:** What is your perception of current Noyce scholars and fellows? **[2B]**
 - b. **Probe:** What is your perception of former Noyce scholars and fellows? **[2C]**

INTERVIEWER SCRIPT: The Noyce Program addresses the critical need for recruiting, preparing, and retaining highly effective elementary and

secondary mathematics and science teachers and teacher leaders who persist as classroom teachers in high-need school districts.

[INTERVIEWER NOTE: READ DEFINITION VERBATIM AND PROVIDE TEXT IN CHAT OR ON PAPER.] Per the Higher Education Act of 1965, a high-need school district is defined as having at least one school that **meets at least one of the following criteria:**

- a. not less than 20% of the children served by the agency are from low-income families;
- b. serves at least 10,000 children from low-income families;
- c. is eligible for funding under the Small, Rural School Achievement Program under 20 U.S.C. 7345(b); **or**
- d. is eligible for funding under the Rural and Low-Income School Program under 20 U.S.C. 7351(b); **and,**

Meets one of the following criteria:

- a. has a high percentage of teachers not teaching in the academic subject areas or grade levels in which the teachers were trained to teach; or
- b. has a high teacher turnover rate or a high percentage of teachers with emergency, provisional, or temporary certification or licensure.

9. In this definition, what are your thoughts on the way the term "high-need school district" is described? Do you think the definition supports the Noyce Program's goals of reaching high-need K-12 students? If yes, why? If not, why not? **[2A]**

a. Probe [IF PARTICIPANT INDICATES THE DEFINITION SHOULD BE DIFFERENT]: What alternative definition would you recommend to further help the Noyce Program reach high-need K-12 students? **[2A]**

b. Probe: What are your perspectives on how Noyce scholars and fellows can teach in a school that is not high-need (but may reside in a district that is high-need by definition) to fulfill their program requirements?

10. How do you determine if a school is high-need with respect to Noyce's definition? Are there certain data or metrics you use?

- a. Probe:** Would it be helpful if Noyce's definition was more specific? Less specific? Why or why not?
11. What is your perception of the impact of the Program (i.e., after implementation)? For example, how does the Noyce Program address STEM teacher shortages and/or retaining STEM teachers in high-need schools? **[2D]**
- a. Probe:** What factors contribute to your perception of the impact of the Program?
- b. Probe:** What are the gaps in the Noyce Program's reach and impact to addressing the critical need for recruiting, preparing, and retaining highly effective STEM teachers and teacher leaders in high-need school districts.)? **[2D]**

Changes to the Solicitation

INTERVIEWER SCRIPT: The next few questions are about changes to the Noyce Program solicitation.

12. During the time you've been familiar with the Noyce Program solicitation, how have substantial changes to the solicitation that NSF posts impacted how you perceive the Program? **[3]**
- a. Probe:** What specific changes to the solicitation have impacted your perception? For example, how have changes in participant support allocation, elimination of cost-sharing requirements, etc., impacted how you think about the Program? **[3]**
13. In what ways has the application process changed? **[3A]**
- a. Probe:** To what extent has the amount of effort it takes to complete a Noyce Award application changed over time? **[3A]**
- b. Probe:** In what ways did these changes impact whether you applied for Noyce funding or not? **[3B]**

Merit Review Process and Program Outcomes

INTERVIEWER SCRIPT: For the next few questions, we will discuss your views on the merit review and funding process for the Award.

14. Have you gone through the merit review process? **[IF PARTICIPANT SAYS NO, CONTINUE TO QUESTION #15; IF YES, CONTINUE WITH PROBES BELOW AND THEN ASK QUESTION #17]**
- a. **Probe:** What are your impressions/perspectives on the Noyce application merit review process? **[4, 4B]**
 - b. **Probe:** Do you think that the merit review process is conducted fairly and objectively? Can you share any specific experiences or observations that shaped your view on this? **[4, 4B]**
 - c. **Probe:** What are your thoughts on the expertise of the reviewers involved in the merit review process? Did they seem adequately knowledgeable about the field and the goals of the Program? **[4, 4B]**
 - d. **Probe:** What were your perceptions of the feedback you received on your Noyce solicitation application? **[4B]**
 - e. **Probe:** Overall, how satisfied are you with the merit review process, and what changes, if any, would you recommend? **[4, 4B]**
15. **[IF PARTICIPANT ANSWERS NO TO QUESTION #14]** What has NSF communicated to you about the Noyce application merit review process? **[4A]**
16. **[IF PARTICIPANT ANSWERS NO TO QUESTION #14]** What were your perceptions of the feedback you received on your Noyce solicitation application? **[4B]**
17. **[ASK ALL PARTICIPANTS]** How, if at all, did the merit review process influence your project's design and implementation? **[4, 4A, 4B]**
- a. **Probe:** From your experience, how does the merit review process of the Noyce Program affect which projects get funded? **[4, 4B]**
18. Have you been through a Noyce Award declination process? **[IF PARTICIPANT SAYS YES, MOVE TO PROBE A.; IF NO, SKIP TO QUESTION #19]**
- a. **Probe:** If you have been through a Noyce Award declination process, what were your impressions of that process? **[4B]**

b. Probe: How did NSF describe the reasons for declination to you? Did you review any comments you received from the Program Officer in Research.gov? **[4B]**

Wrap Up

19. As we wrap up our time together, would you like to share any lessons learned during your involvement with the Noyce Program or any growth opportunities that could help improve the Program? **[5]**

20. Lastly, if you have not had the opportunity to forward the recruitment information that was enclosed in your demographic questionnaire submission confirmation email, we invite you to provide the contact information for individuals that may be in the following roles in your Noyce project. You can verbally tell us the information and we can write it down, or you can copy and paste it into the chat or email it to us.

[INTERVIEWER NOTE: RETAIN THE REFERRAL INFORMATION PROVIDED IN THE NOTES AND/OR CHAT TO TRANSFER TO THE NOYCE TRACKER.]

- Program coordinators/support staff
- Noyce faculty members
- External evaluators
- K-12 high-need school and district leaders

INTERVIEWER SCRIPT: Thank you for your time and for sharing your experiences and perceptions. This will be extremely helpful for NSF as they identify areas in Noyce that are working well and opportunities for growth. As I mentioned at the beginning of our interview, all information that you provided will remain confidential, and any identifying details will be removed before any information is shared with external parties. Finally, all of the recordings will only be made accessible to the WKC Evaluation Team.