

**Tuesday, June 27 Session: Why Evaluate?**  
**Using Evaluation to Inform, Improve, and Sustain Your Noyce Project(s)**  
**Rock Creek Ballroom, Salon A**

**Summary of Evaluation Approaches by Noyce Track**

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**NOYCE CAPACITY BUILDING**

- Monitoring of the institutional change
- Progress made to write the full grant
- Data collection focuses more on the institutional level and faculty involvement

→ Sample of Typical evaluation questions for Capacity Building:

To what extent:

- has progress been made toward grant writing, sustaining or “scaling up” project activities?
- do stakeholders view the project as a viable option for partner institutions?
- do prospective students feel they have the ability to engage in STEM?
- have the institutions developed the capacity for Noyce (despite the barriers or challenges they faced)?

**NOYCE TRACK 1: SCHOLARSHIPS AND STIPENDS (S&S)**

- Monitor outreach, recruitment, selection, training, support, and program completion of teacher candidates; and monitor retention of graduates as teachers of record at high-needs schools
- Data collection targets project activities, individual teacher candidates, and program staff, faculty, and district partners engagement.

→ Sample of Typical evaluation questions for Track 1:

To what extent:

- is the implementation of the project occurring as planned?
- do the Noyce scholars show any benefits from the program?
- has the project contributed to the teaching profession in the schools and districts it serves?

**NOYCE TRACK 2: TEACHING FELLOWSHIP (TF)**

- Select an evaluation framework in the early stages of the evaluation design.<sup>1</sup>
- Develop a logic model with the program leadership, stakeholders
- Documentation of recruitment and retaining of the Fellows (e.g.: meetings, recruitment events, flyers, interviews of applicants by STEM Faculty, etc.)
- Documentation of how the proposed Noyce Program adds value to the Fellows’ education (distinguishing it from the teacher preparation program) (e.g.: interviews, survey items, focus groups, etc.)
- Choose readily developed survey as much as possible
- Conduct pre-post/post surveys, focusing on high-need school districts (at least three-time points)
- Develop a formative data reporting cycle to ensure program improvements

**NOYCE TRACK 3: MASTER TEACHING FELLOWSHIPS (MTF)**

- Select an evaluation framework in the early stages of the evaluation design.<sup>2</sup>

<sup>1</sup> <https://aaas-arise.org/2020/11/04/program-evaluation-frameworks-why-do-they-matter/> <sup>2</sup> Alemdar, M., Cappelli, C.J., Criswell, B.A., & Rushton, G.T. (2018). Evaluation of a Noyce Program: Development of Teacher Leaders in STEM Education. Evaluation and Program Planning 71, 1-11.

- Develop a conceptual framework (theory of change) with the project PIs and

program stakeholders.

- Guiding theories are helpful for developing evaluation questions.
- Documentation of recruitment and retaining of MTFs.
- Longitudinal (same themes/constructs across 5 years) data collection: Surveys, interviews.
- Customize the survey to include new scales (yearly findings inform the decisions)
- Maintain rigorous involvement with program planning and activities
- Develop a formative data reporting cycle to ensure program changes and theory of

change → Sample of Typical evaluation questions for Track 2 and 3:

To what extent:

- do TFs apply new ideas, knowledge, and information in classroom practice?
- does the program impact participants' self-efficacy in teaching STEM?
- do TFs/MTFs feel prepared to teach (e.g., STEM content, instructional practices, teaching in high-needs schools)?
- does the program impact TFs/MTFs' motivation to teach STEM?
- do TFs/MTFs feel prepared to teach (e.g., STEM content, instructional practices, teaching in high-needs schools)?
- do challenges exist in transferring what TFs/MTFs are learning into the classroom (and what are they?)

#### NOYCE TRACK 4: NOYCE RESEARCH

- Either External Evaluator or Advisory Board
- For external evaluation, select an evaluation framework that fits the research and examines how the research project is conducted and its impact in the research field
- Avoid conflating research vs evaluation (understand the differences between the two)

→ Sample of Typical evaluation questions for Track 4:

To what extent:

- are components of the research project consistent with the needs for research and aligned with the Common Guidelines?
- has the research team effectively implemented the research project as planned?
- is the quality of outputs or products resulting from the research and development effort?
- is the research contributing to the understanding of teaching and to the broader impacts to be realized by the research?

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