

Important Participant Notice

Participants do not write in or submit this document.

This document provides the one-hour discussion agenda and questions. The RAOP team will facilitate the conversation, record structured notes, and use the audio recording and transcript for program evaluation, continuous improvement, and future-cycle planning.

1. Session Purpose and Intended Products

The T5 session is a structured whole-group discussion that concludes the RAOP 2026 professional development cycle. It captures educators' perspectives across recruitment, readiness, onboarding, virtual learning, the on-site hardware week, assessment burden, participant support, classroom translation, and future engagement.

- ☐ Theme summary from the live discussion
- ☐ Audio recording and transcript
- ☐ Eight educator implementation plans
- ☐ Prioritized improvement actions

2. Facilitator and Recorder Roles

Lead Facilitator

Recorder 1

Recorder 2

Suggested roles: Dr. Fadel M. Lashhab - facilitator; Dr. Imtiaz Ahmed and Dr. Katherine Picho - recorders.

3. Recording, Consent, and Ground Rules

Opening script

Thank you for participating in this final discussion. With your permission, this session will be recorded and transcribed for RAOP program evaluation and continuous improvement. Participation is voluntary, and you may decline to answer any question. Please avoid sharing student names, passwords, or sensitive personal information. Individual financial or payment concerns will be handled privately after the session. Before recording begins, the RAOP team will confirm the approved consent and university/IRB procedures.

- ☐ Consent/recording procedure confirmed before recording
- ☐ Participant count confirmed

4. One-Hour Discussion Agenda

0-5	Opening, purpose, recording notice, and ground rules
5-12	Recruitment, website, application portal, and communication
12-20	Readiness, onboarding, MATLAB/Simulink, licensing, and installation
20-29	Pre-virtual preparation and six virtual sessions
29-38	On-site hardware week, rotations, connectivity, and materials
38-43	Assessment burden, logistics, hospitality, and participant support
43-57	Educator roundtable: learning, classroom translation, and future plans
57-60	Top priorities, follow-up commitments, and closing

RAOP 2026 T5 - GROUP DISCUSSION AND CLASSROOM TRANSLATION RECORD

NSF Robert Noyce Teacher Scholarship Program - RESS | Howard University AVRC Laboratory *Recruitment, website, application, communication, readiness, and onboarding*

A. Recruitment, Website, Application Portal, and Communication

Discussion goal: determine whether prospective educators received sufficient, accurate, and timely information before applying and whether the recruitment and application process was accessible and efficient.

1. How did you first learn about RAOP, and what information encouraged you to apply?
2. Did the RAOP website clearly explain eligibility, goals, dates, expectations, benefits, platforms, and required commitments?
3. What information was missing, difficult to find, or should be added to the website?
4. Was the application form or portal easy to access, understand, complete, and submit?
5. Were emails, reminders, deadlines, Zoom links, and points of contact clear and timely?
6. What communication channel should RAOP use most consistently in the next cycle?

Recorder Summary - Recruitment, Website, Application, and Communication

Capture common themes, examples, points of disagreement, and specific recommendations.

B. Readiness, Onboarding, Software, Licenses, and Installation

1. Before onboarding, did you understand what software, accounts, files, and equipment were required?
2. How useful were the two preparation sessions held before the virtual two-week experience?
3. Was onboarding clear, appropriately paced, and sufficient for MATLAB, Simulink, QLABs, and required resources?
4. How clear was the MathWorks STEM Outreach license process, including account creation, activation, and access?
5. Were MATLAB/Simulink installation and configuration steps manageable? Which steps created difficulty?
6. Were the Quanser instructor/student resources, setup folders, user manuals, and login instructions easy to locate and use?
7. What should RAOP change to identify technical problems earlier and reduce setup burden?

Recorder Summary - Readiness and Onboarding

Record strengths, recurring barriers, support needs, and concrete setup improvements.

C. Virtual Learning Experience

The virtual phase included two preparation sessions followed by six scheduled sessions across two weeks (Monday, Wednesday, and Friday). Discuss the value, clarity, pacing, materials, and learning support across this sequence.

- 1. Did the sequence from preparation sessions to the six virtual sessions feel logical and well organized?
- 2. Was the Monday-Wednesday-Friday schedule appropriate, or would a different frequency or session length be more effective?
- 3. Were the technical concepts explained at an appropriate level for both pre-service and in-service educators?
- 4. Were demonstrations, guided activities, and time for questions balanced effectively?
- 5. Were the digital models, MATLAB/Simulink files, QLABs activities, manuals, and other resources complete and easy to use?
- 6. Could you independently locate and reopen the files and resources after each session?
- 7. Which virtual session or activity was most valuable, and which was least clear?
- 8. What additional practice, examples, recordings, office hours, or technical support would improve the virtual phase?

Quick Group Counts - Optional

The six-session virtual format should remain substantially the same.	Yes		Maybe		No	
Recorded session access would be useful for future cohorts.	Yes		Maybe		No	
Additional virtual office hours or technical clinics would be useful.	Yes		Maybe		No	

Recorder Summary - Virtual Learning

Identify the strongest elements, common barriers, pacing/resource recommendations, and any differences between pre-service and in-service perspectives.

D. On-Site Hardware Week

Discuss the transition from digital-twin activities to supervised physical hardware work on Qube-Servo 3, Aero 2, QArm, and QBot Platform.

- 1. Was the four-day rotation across the four platforms clear, fair, and easy to follow?
- 2. Did having two stations for each platform provide enough access and time for all educators?
- 3. Were platform orientations, safety guidance, and connection procedures clear before operating the hardware?
- 4. How manageable were power, USB, Ethernet/network, driver, and software-connectivity steps?
- 5. Were user manuals, laboratory procedures, Simulink models, and instructor resources sufficient at each station?
- 6. Did the introductory activity establish the basic concept before the next-level activity?
- 7. Was the balance between collaborative hardware work and individual reporting appropriate?
- 8. Did the report format help document inputs, outputs, sensor feedback, actuator response, plots, and lessons learned?
- 9. What platform, experiment, or procedure should be revised before the next cohort?
- 10. Were the daily schedule, breakfast, lunch guidance, parking, laboratory access, room setup, and hospitality satisfactory?

Recorder Summary - On-Site Hardware Week

Record platform-specific strengths and problems, station/rotation issues, connectivity barriers, reporting feedback, and logistical recommendations.

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NSF Robert Noyce Teacher Scholarship Program - RESS | Howard University AVRC Laboratory Assessment burden, participant support, hospitality, and continuous improvement

E. Assessment and Evaluation Experience

1. Were the readiness, checkpoint, laboratory report, T3, and T4 instruments clear and easy to complete?
2. Did the forms collect useful evidence without creating excessive burden or repetition?
3. Which questions or sections should be shortened, clarified, combined, or removed?
4. Did the forms help you reflect on learning and classroom translation, or did they feel separate from the activities?
5. What additional evidence would better demonstrate educator learning and program success?

Recorder Summary - Assessment Burden and Value

Identify forms to retain, simplify, combine, or revise and the best indicators of program success.

F. Participant Support, Stipend, Housing, Transportation, and Hospitality

Privacy and administrative note

Discuss the clarity and adequacy of participant support in general. Do not ask participants to disclose individual financial details publicly. The RAOP team should confirm payment records administratively and handle any missing payment or discrepancy privately after the session.

1. Were the stipend, housing, travel/transportation, and payment timelines explained clearly?
2. Was the approved \$2,590 support for the virtual and on-site participation reasonable relative to the time and work required?
3. Was the total approved participant support of \$5,900 communicated clearly, and did the payment process proceed as expected?
4. What logistical or financial information should be communicated earlier in the next cycle?
5. How could RAOP improve hospitality, meals, transportation guidance, housing coordination, or campus access?

Recorder Summary - Participant Support and Hospitality

Record general perceptions and recommendations only. Document individual payment follow-up separately and confidentially.

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Educator roundtable: learning and implementation plans, participants 1-4

G. Individual Educator Roundtable

Invite each educator to speak for approximately 90 seconds. Ask the same core prompt so the transcript can be compared and coded consistently.

Core prompt for every educator

What is the most important thing you learned from RAOP, and how do you plan to use or adapt it in your school, course, after-school activity, club, demonstration, or professional role? Identify the platform or concept, intended students or audience, approximate timeline, evidence students could collect or explain, and support you may need.

Educator / participant ID: _____

Key learning and proposed implementation

Timeline / students / support

Educator / participant ID: _____

Key learning and proposed implementation

Timeline / students / support

Educator / participant ID: _____

Key learning and proposed implementation

Timeline / students / support

Educator / participant ID: _____

Key learning and proposed implementation

Timeline / students / support

G. Individual Educator Roundtable - Continued

Continue using the same 90-second core prompt and record the implementation plan in a comparable format.

Educator / participant ID: _____

Key learning and proposed implementation	Timeline / students / support

Educator / participant ID: _____

Key learning and proposed implementation	Timeline / students / support

Educator / participant ID: _____

Key learning and proposed implementation	Timeline / students / support

Educator / participant ID: _____

Key learning and proposed implementation	Timeline / students / support

H. Continued Engagement and Follow-Up

- 1. Would continued access to the MathWorks STEM Outreach license, MATLAB, Simulink, QLABs, manuals, recordings, and instructor/student resources support implementation?
- 2. Which resources should remain available after the formal summer program ends?
- 3. Would periodic office hours, troubleshooting clinics, advanced workshops, or peer-sharing sessions be useful?
- 4. Would a visit by your students to the AVRC Laboratory be educationally useful and feasible?
- 5. Would you be willing to complete a brief follow-up implementation survey in October or November?
- 6. What evidence could you share later, such as lesson plans, student work, de-identified photos, reflections, or implementation counts?
- 7. How should RAOP maintain communication with this educator cohort during the academic year?

Optional Quick Counts

Interested in completing the October/November follow-up survey.	Yes		Maybe		No	
Interested in bringing students to visit the AVRC Laboratory.	Yes		Maybe		No	
Interested in future advanced RAOP training.	Yes		Maybe		No	
Interested in continued cohort collaboration or peer sharing.	Yes		Maybe		No	

Recorder Summary - Future Engagement and Follow-Up

Record resource priorities, follow-up commitments, interest counts, likely barriers, and proposed communication methods.

Questions Raised by Educators and RAOP Team Responses

List unresolved questions, the response provided, and any follow-up owner or deadline.

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Closing question, recorder synthesis, and recording metadata

I. Closing Question

Ask the full group: If RAOP could make only one change before the next educator cohort, what should that change be and why?

Final Group Priority

J. Recorder Synthesis

Three Strongest Program Elements

Three Highest-Priority Improvements

Immediate Follow-Up Actions, Responsible Person, and Target Date

K. Recording and Transcript Metadata

Recording start time

Recording end time

Discussion duration

Recording file name / location

Transcript file name / location

Participants present

Participants absent

Recording/consent confirmed by

Recorder 1 initials

Recorder 2 initials

Date finalized

RAOP 2026 T5 - GROUP DISCUSSION AND CLASSROOM TRANSLATION RECORD

NSF Robert Noyce Teacher Scholarship Program - RESS | Howard University AVRC Laboratory *Qualitative coding framework, analysis protocol, and program improvement log*

L. Recommended Transcript Coding Framework

REC	Recruitment, website, application, and communication	RDY	Readiness, onboarding, installation, accounts, and licensing
VRT	Virtual sessions, pacing, concepts, materials, and resources	HWR	On-site hardware, rotations, experiments, connectivity, and manuals
ASM	Assessment burden, usefulness, evidence, and success measures	SUP	Stipend, housing, transportation, hospitality, and logistics
CTL	Classroom translation, student learning, and implementation plans	FUT	Follow-up survey, student visits, continued access, and collaboration
EQY	Access, inclusion, barriers, and differentiated support	IMP	Specific continuous-improvement recommendations

Recommended analysis process

After transcription, two team members should review and code the transcript independently or through a documented consensus process. Compare themes across sections and participants, note convergent and divergent views, identify representative de-identified excerpts, and connect each major finding to a specific decision for the next RAOP cycle.

M. Program Improvement Decision Log

Finding / Theme	Decision or Revision	Owner / Target Date