

AREN Preservice Teacher Training Event Questionnaire

Consent Form for AREN Preservice Teacher Questionnaire:

Horizon Research, Inc. (HRI) is serving as the external evaluator of the AEROKATS and ROVER Education Network (AREN) project, which has provided support for this course. As part of the evaluation, we are asking course participants to complete a survey. The survey asks for feedback about your experience in the course as well as feelings of preparedness to incorporate what you learned in the course into your instruction. The survey should take approximately 10 minutes to complete. Your participation is completely voluntary, but very important to the program.

We anticipate no more than minimal risk associated with completing this survey. Your responses will never be reported with your name or any other identifying information attached.

By completing this survey, you have the opportunity to provide feedback that could lead to improvements that would make your experience in the program more effective. Your feedback may also lead to improvements that benefit future participants in the program, so please be candid in your responses. We anticipate no other benefits to you personally.

If you have questions about the survey, please contact us via e-mail (ARENeval@horizon-research.com). You may also contact the lead evaluator, Eric Banilower, at erb@horizon-research.com . If you have any questions about your rights as a participant in a research study, please contact HRI's IRB secretary, Gretchen Newman via e-mail (g.newman@horizon-research.com) or by phone, toll free, at (877) 297-6829.

Do you wish to participate?*

- Yes
- No [Disqualify and display: "You have decided not to participate in this survey. Thank you for your consideration."]

Please fill out the following information:

Typing your name serves as your electronic signature indicating that you have read the information in this consent form.*

First Name: _____

Last Name: _____

Please provide your e-mail address to be sent an electronic copy of this consent form. You may be contacted by the evaluators to provide follow-up information about your experience in the AREN project in the future. Your information will **not** be used for commercial purposes and will **not** be shared with any third party. *

E-mail address: _____

[send copy of consent form to email address]

PREVIEW

1. What was the date of the **last day** of the course you attended? [calendar drop down]

2. At what institution was the course held?

3. Please give your opinion regarding each of the following statements about the course. (Select one on each row.)

	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Agree</u>	<u>Strongly Agree</u>
a. The goals of the course were made clear.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. The course reflected careful planning and organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. There were sufficient opportunities for participants to collaborate with peers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. The content of the course was interesting to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I usually understood the content being addressed in the course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. I found the discussions during the course interesting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. The course atmosphere encouraged me to make contributions to the discussions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. I felt my contributions to the course discussions were valued.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Adequate time, structure, and guidance were provided for reflection on the substance of this course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. This course was worth the time that I invested.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. I would recommend the course to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. The pace of this course was:

- Much too slow
- Somewhat too slow
- Appropriate
- Somewhat too fast
- Much too fast

5. Overall, what aspects of the course were particularly effective for you and why?

6. In what ways could this course have been improved? Why?

7. Please give your opinion regarding each of the following statements about the course. (Select one on each row.)

	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Agree</u>	<u>Strongly Agree</u>
a. The content of the course was clearly aligned to state STEM standards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. The course adequately prepared me to use the instructional strategies addressed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. The course provided me with high-quality instructional activities that I can use.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. The course adequately prepared me to implement the activities in my instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Preview

8. Please indicate your **understanding** of each of the following (1) **prior to this course**, and (2) **now** (meaning after the course.) (Select one circle on each row in each section.)

	Understanding Prior to This Course				Understanding Now			
	<u>None</u>	<u>Some</u>	<u>Good</u>	<u>Strong</u>	<u>None</u>	<u>Some</u>	<u>Good</u>	<u>Strong</u>
a. The importance of following operations procedures (meaning safety, planning, teamwork, and communication).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. That NASA works in various disciplines (for example: aeronautics, Earth science, space exploration).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. How scientists work to understand the natural world (for example: developing scientific questions; designing and conducting investigations; analyzing data; developing models, explanations, and scientific arguments).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. How engineering is used to solve problems (for example: identifying criteria and constraints for a solution, designing solutions, optimizing/iterating solutions).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. How scientists use technologies developed by engineers to help understand the natural world.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. The tradeoffs between accuracy and scale in measurements (for example: global satellite versus local soil moisture readings).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. The difference between remote sensing (making an observation of something that is at a distance from the sensor) and in situ data collection (making an observation of something that is in contact with the sensor).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. That technologies such as kites, satellites, aircraft, ROVERS, etc., are used extensively for either remote sensing or in situ data collection to help scientists and engineers better understand our world.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. How to use AREN tools (Aeropods, ROVERS, etc.) to collect data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. How to use data visualization tools to examine data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k. Common problems that arise with the tools and procedures (for example: technologies, software) I learned about in this course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l. Careers related to the STEM content addressed in the course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m. Real-world connections to the STEM content addressed in the course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n. How to use GLOBE tools to collect and upload data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
o. How to use the AREN Mission Mapper to share data with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Please indicate your **level of preparedness** to do each of the following with the students you plan to teach (1) **prior to this course**, and (2) **now** (meaning after the course). (Select one circle on each row in each section.)

		Preparedness Prior to This Course					Preparedness Now		
		<u>Not Adequately Prepared</u>	<u>Somewhat Prepared</u>	<u>Fairly Well Prepared</u>	<u>Very Well Prepared</u>	<u>Not Adequately Prepared</u>	<u>Somewhat Prepared</u>	<u>Fairly Well Prepared</u>	<u>Very Well Prepared</u>
a.	Model operations procedures (meaning safety, planning, teamwork, and communication).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b.	Develop students' understanding of the importance of operations procedures.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c.	Ensure students adhere to operations procedures.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d.	Develop students' conceptual understanding of the STEM ideas you teach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e.	Develop students' abilities to do science (for example: develop scientific questions; design and conduct investigations; analyze data; develop models, explanations, and scientific arguments).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f.	Develop students' abilities to do engineering (for example: identify criteria and constraints for a solution, design solutions, optimize/iterate solutions).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g.	Develop students' understanding of how scientists use technologies developed by engineers to help understand the natural world.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h.	Develop students' understanding of the tradeoffs between accuracy and scale in measurements (for example: global satellite versus local soil moisture readings).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i.	Develop students' understanding of the difference between remote sensing (making an observation of something that is at a distance from the sensor) and in situ data collection (making an observation of something that is in contact with the sensor).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j.	Develop students' understanding that technologies such as kites, satellites, aircraft, ROVERS, etc., are used extensively for either remote sensing or in situ data collection to help scientists and engineers better understand our world.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k.	Have students collect data with environmental sensors (for example: cameras, temperature probes, humidity probes, dissolved O ₂ sensors).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l.	Have students use data visualization tools to examine data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m.	Troubleshoot common problems that arise with the tools and procedures (for example: technologies, software) I learned about in this course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n.	Develop students' awareness of STEM careers related to the content addressed in this course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

o	Make real-world connections (for example: current events, community concerns) related to the content addressed in this course.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
p	Have students use GLOBE tools to collect and upload data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
q	Have students use the AREN Mission Mapper to share data with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. How do you feel about using what you learned from the course in your instruction?

- Very excited
- Somewhat excited
- Okay
- Not interested in trying it

11. What concerns do you have about implementing what you have learned from the course in your instruction?

12. What additional support would be helpful in implementing what you learned in your instruction?

Responses to the next item will be used for describing the survey sample and for exploring whether different groups of people have different opinions or outcomes. All individual responses will be kept confidential. Only group results will be reported.

13. What is your race or ethnicity? (Select all that apply.)

- Asian
- Black or African American
- Hispanic or Latino
- Native American or Alaska Native
- Native Hawaiian or Other Pacific Islander
- White
- Prefer not to answer