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ARMY EDUCATIONAL OUTREACH PROGRAM

Unite

2019 Annual Program Evaluation Report

Appendices

July 2020



UNITE

1 | AEOP Consortium Contacts

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3 | Appendix A – FY19 Unite Evaluation Plan

Questionnaires

Purpose

Per the FY19 Army Education Outreach Program (AEOP) Annual Program Plan (APP), North Carolina State University (NCSU) will conduct an evaluation study of Unite that includes two post-program questionnaires:

1. AEOP Participant Questionnaire to be completed by student participants of the Unite program at all university sites; and
2. AEOP Mentor Questionnaire to be completed by Unite instructors, Unite Classroom Assistants, Unite Resource Teachers, and/or others (typically a business, industry, or DoD/Army scientist or engineer) who support students as they participate in the Unite program.

Questionnaires are the primary method of data collection for AEOP evaluation and collect information about participants' experiences with and perceptions of program resources, structures, and activities; potential benefits to participants; and strengths and areas of improvement for programs.

The questionnaires are aligned with:

- Army's strategic plan and AEOP Priorities 1 (STEM Literate Citizenry), 2 (STEM Savvy Educators) and 3 (Sustainable Infrastructure);
- Federal guidance for evaluation of Federal STEM investments (e.g., inclusive of implementation and outcomes evaluation, and outcomes of STEM-specific competencies, transferrable competencies, attitudes about/identifying with STEM, future engagement in STEM-related activities, and educational/career pathways);
- Best practices and published assessment tools in STEM education, STEM informal/outreach, and the evaluation/ research communities;
- AEOP's vision to improve the quality of the data collected, focusing on changes in intended student outcomes and contributions of AEOPs like CQL effecting those changes.

Deployment of common questionnaires with items that are appropriate for all AEOP programs allows evaluators to compare findings across AEOPs and, if administered in successive years, to establish longitudinal studies of student outcomes through the pipeline of AEOP programming. Questionnaires incorporate batteries of items from established assessments that have been validated in published research making external comparisons possible.

All AEOPs are expected to administer a Participant and a Mentor questionnaire provided to them by Purdue University. AEOP-wide Participant and Mentor questionnaires have two versions each; an

“advanced” version (for JSHS and apprenticeship programs) and a “basic” version (for GEMS, JSS, and Unite). Similar item sets are used in both versions, with slight modifications to item wording or the number of items used to accommodate the needs of participants from each individual program. Additionally, program-specific questionnaires have been customized to gather information about programmatic structures, resources, and activities that are unique to each AEOP.

Focus Group Site Visits

Purpose

As per the approved FY19 AEOP APP, the external evaluation of Unite may include site visits/onsite focus groups. In FY19 due to scheduling issues, we did not conduct any site visits of Unite programs.

Site visits provide the evaluation team with first-hand opportunities to speak with students and their mentors. We are able to observe the AEOPs in action. The information gleaned from these visits assists us in illustrating and more deeply understanding the findings of other data collected (from questionnaires). In total, the evaluation findings are used to highlight program successes and inform program changes so that the AEOPs can be even better in the future.

Evaluation Activities during Unite Site Visits:

- One or two 45 minute focus group with 6-8 apprentice participants;
- One 45-minute focus group with 6-8 mentors;
- 30-60 minutes to observe the program (specifically, to see students engaged in program activities, preferably with their mentors); and
- 10-15 minute transitions between each evaluation activity for moving groups in and out and providing evaluators with time to organize paperwork and take nature breaks.

Data Analyses

Quantitative and qualitative data were compiled and analyzed after all data collection concluded. Evaluators summarized quantitative data with descriptive statistics such as numbers of respondents, frequencies and proportions of responses, average response when responses categories are assigned to a 6-point scale (e.g., 1 = “Strongly Disagree” to 6 = “Strongly Agree”), and standard deviations. Emergent coding was used for the qualitative data to identify the most common themes in responses.

Evaluators conducted inferential statistics to study any differences among participant groups (e.g., by gender or race/ethnicity) that could indicate inequities in the Unite program. Statistical significance indicates whether a result is unlikely to be due to chance alone. Statistical significance was determined with t-tests, chi-square tests, and various non-parametric tests as appropriate, with significance defined at $p < 0.05$. Because statistical significance is sensitive to the number of respondents, it is more difficult to detect significant changes with small numbers of respondents. Practical significance, also known as effect size, indicates the magnitude of an effect, and it is typically reported when differences are

statistically significant. The formula for effect sizes depends on the type of statistical test used, and is specified, along with generally accepted rules of thumb for interpretation, in the body of the report.

4 | Appendix B – Student Participant Questionnaire

Contact Information		
Please verify the following information:		
*First Name:	<input type="text"/>	
*Last Name:	<input type="text"/>	
*Email Address:	<input type="text"/>	
<i>All fields with an asterisk (*) are required.</i>		

*1. Do you agree to participate in this survey? (required)(*Required)		
<i>Select one.</i>		
<input type="radio"/>	Yes, I agree to participate in this survey	
<input type="radio"/>	No, I do not wish to participate in this survey	Go to end of chapter

So that we can understand how diverse students think about their participation in AEOP programs, please tell us about yourself and your school.

*2. What grade will you start in the fall? (select one)(*Required)		
<i>Select one.</i>		
<input type="radio"/>	9th	
<input type="radio"/>	10th	
<input type="radio"/>	11th	
<input type="radio"/>	12th	
<input type="radio"/>	College freshman	
<input type="radio"/>	Choose not to report	
<input type="radio"/>	Other, (specify)::	<input type="text"/>

*3. What is your gender?(*Required)	
<i>Select one.</i>	
<input type="radio"/>	Male
<input type="radio"/>	Female
<input type="radio"/>	Choose not to report

*4. What is your race or ethnicity?(*Required)	
<i>Select one.</i>	
<input type="radio"/>	Hispanic or Latino
<input type="radio"/>	Asian
<input type="radio"/>	Black or African American
<input type="radio"/>	Native American or Alaska Native
<input type="radio"/>	Native Hawaiian or other Pacific Islander
<input type="radio"/>	White
<input type="radio"/>	Choose not to report
<input type="radio"/>	Other race or ethnicity, (specify):: <input type="text"/>

*5. What type of area is the school you attend located in?(*Required)	
<i>Select all that apply.</i>	
<input type="checkbox"/>	Urban - city
<input type="checkbox"/>	Suburban - near a city
<input type="checkbox"/>	Rural - in the country, not near a city
<input type="checkbox"/>	I don't know

*6. What is the primary language you speak?(*Required)	
<i>Select all that apply.</i>	
<input type="checkbox"/>	English
<input type="checkbox"/>	Other language

*7. Did at least one of your parents graduate from a college or university?(*Required)	
<i>Select all that apply.</i>	
<input type="checkbox"/>	Yes
<input type="checkbox"/>	No
<input type="checkbox"/>	Don't know
<input type="checkbox"/>	Choose not to answer

*8. Do you receive free or reduced lunches at school?(*Required)	
<i>Select one.</i>	
<input type="radio"/>	Yes
<input type="radio"/>	No
<input type="radio"/>	Choose not to report

*9. At which of the following Unite sites did you participate? (Select ONE)(*Required)	
<i>Select one.</i>	
<input type="radio"/>	Alabama State University (AL)
<input type="radio"/>	Fayetteville State University (NC)
<input type="radio"/>	Florida State University (FL)
<input type="radio"/>	Harris-Stowe State University (MO)
<input type="radio"/>	Jackson State University (MS)
<input type="radio"/>	Marshall University (WV)
<input type="radio"/>	Michigan Technological University (MI)
<input type="radio"/>	Montana Tech (MT)
<input type="radio"/>	Morgan State University (MD)
<input type="radio"/>	New Jersey Institute of Technology (NJ)
<input type="radio"/>	Savannah State University (GA)
<input type="radio"/>	Texas Southern University (TX)
<input type="radio"/>	University of Colorado, Colorado Springs (CO)
<input type="radio"/>	University of Iowa (IA)
<input type="radio"/>	University of Nevada, Las Vegas (NV)
<input type="radio"/>	University of New Mexico (NM)
<input type="radio"/>	University of Pennsylvania (PA)
<input type="radio"/>	University of Puerto Rico, Rio Piedras (PR)
<input type="radio"/>	Virginia Tech (VA)

*10. STEM PRACTICES - How often did you do each of the following in STEM classes at school?(*Required)					
<i>Select one per row.</i>					
	<i>Not at all</i>	<i>At least once</i>	<i>A few times</i>	<i>Most days</i>	<i>Every day</i>
*Work with a STEM researcher or company on a real world STEM research project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Work with a STEM researcher on a research project assigned by my teacher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Design my own research or investigation based on my own question(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Present my STEM research to a panel of judges from industry or the military	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Interact with STEM researchers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Identify questions or problems to investigate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Design and carry out an investigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Analyze data or information and draw conclusions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Work collaboratively as part of a team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Build or make a computer model	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Solve real world problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*11. STEM PRACTICES - How often did you do each of the following in Unite this year?(*Required)					
<i>Select one per row.</i>					
	<i>Not at all</i>	<i>At least once</i>	<i>A few times</i>	<i>Most days</i>	<i>Every day</i>
*Work with a STEM researcher or company on a real world STEM research project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Work with a STEM researcher on a research project topic assigned by my mentor or teacher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Design my own research or investigation based on my own question(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Present my STEM research to a panel of judges from industry or the military	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Interact with STEM reseachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Use laboratory procedures and tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Identify questions or problems to investigate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Design and carry out an investigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Analyze data or information and draw conclusions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Work collaboratively as part of a team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Build or make a computer model	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Solve real world problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*12. STEM KNOWLEDGE - As a result of your Unite experience, how much did you GAIN in the following areas?(*Required)				
<i>Select one per row.</i>				
	<i>No gain</i>	<i>Small gain</i>	<i>Medium gain</i>	<i>Large gain</i>
*In depth knowledge of a STEM topic(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Knowledge of research conducted in a STEM topic or field	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Knowledge of research processes, ethics, and rules for conduct in STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Knowledge of how scientists and engineers work on real problems in STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Knowledge of what everyday research work is like in STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*13. STEM SKILLS - As a result of your Unite experience, how much did you GAIN in the following areas?(*Required)				
<i>Select one per row.</i>				
	<i>No gain</i>	<i>Small gain</i>	<i>Medium gain</i>	<i>Large gain</i>
*Defining a problem that can be solved by developing a new or improved object, process, or system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Using knowledge and creativity to propose a testable solution for a problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Making a model of an object or system to show its parts and how they work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Carrying out procedures for an experiment and recording data accurately	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Using computer models of an object or system to investigate cause and effect relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Considering different interpretations of the data when deciding if a solution works as intended	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Organizing data in charts or graphs to find patterns and relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Supporting a solution for a problem with data from experiments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Defending an argument that conveys how a solution best meets design criteria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Integrating information from technical or scientific texts and other media to support your solution to a problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Communicating information about your design experiments and solutions in different ways (through talking, writing, graphics, or math equations)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***14. 21ST CENTURY SKILLS - As a result of your Unite experience, how much did you GAIN in the following areas?(*Required)**

Select one per row.

	<i>No gain</i>	<i>Small gain</i>	<i>Medium gain</i>	<i>Large gain</i>
*Thinking creatively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Working creatively with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Using my creative ideas to make a product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Thinking about how systems work and how parts interact with each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Evaluating others' evidence, arguments, and beliefs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Solving problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Communicating clearly (written and oral) with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Collaborating with others effectively and respectfully in diverse teams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Interacting effectively with others in a respectful and professional manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Accessing and evaluating information efficiently (time) and critically (evaluates sources)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Using and managing data accurately, creatively and ethically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Analyzing media (news) - understanding points of view in the media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Creating media products like videos, blogs, social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Use technology as a tool to research, organize, evaluate, and communicate information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Adapting to change when things do not go as planned	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Incorporating feedback on my work effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Setting goals and utilizing time wisely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Working independently and completing tasks on time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Taking initiative and doing work without being told to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Prioritizing, planning, and managing projects to achieve completion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Producing results - sticking with a task until it is finished	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Leading and guiding others in a team or group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Being responsible to others - thinking about the larger community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*15. STEM CONFIDENCE - As a result of your Unite experience, how much did you GAIN in the following areas?(*Required)				
<i>Select one per row.</i>				
	<i>No gain</i>	<i>Small gain</i>	<i>Medium gain</i>	<i>Large gain</i>
*Interest in a new STEM topic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Interest in pursuing a STEM career	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Sense of accomplishment from my work in STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Feeling prepared for more challenging STEM activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Confidence to try out new ideas or procedures on my own in a STEM project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Desire to build relationships with mentors who work in STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***16. MENTORING STRATEGIES** - The list below includes effective teaching and mentoring strategies. From the list, please indicate which strategies that your mentor(s) used when working with you in Unite:(*Required)

Select one per row.

	<i>Yes - my mentor used this strategy with me</i>	<i>No - my mentor did not use this strategy with me</i>
*Helped me become aware of STEM in my everyday life	<input type="radio"/>	<input type="radio"/>
*Helped me understand how I can use STEM to improve my community	<input type="radio"/>	<input type="radio"/>
*Used a variety of strategies to help me learn	<input type="radio"/>	<input type="radio"/>
*Gave me extra support when I needed it	<input type="radio"/>	<input type="radio"/>
*Encouraged me to share ideas with others who have different backgrounds or viewpoints than I do	<input type="radio"/>	<input type="radio"/>
*Allowed me to work on a team project or activity	<input type="radio"/>	<input type="radio"/>
*Helped me learn or practice a variety of STEM skills	<input type="radio"/>	<input type="radio"/>
*Gave me feedback to help me improve in STEM	<input type="radio"/>	<input type="radio"/>
*Talked to me about the education I need for a STEM career	<input type="radio"/>	<input type="radio"/>
*Recommended Army Educational Outreach Programs that match my interests	<input type="radio"/>	<input type="radio"/>
*Discussed STEM careers with the DoD or government	<input type="radio"/>	<input type="radio"/>

*17. PROGRAM FEATURES - Which category best describes the focus of your Unite experience?(*Required)	
<i>Select one.</i>	
<input type="radio"/>	Science
<input type="radio"/>	Technology
<input type="radio"/>	Engineering
<input type="radio"/>	Mathematics

*18. PROGRAM SATISFACTION - How SATISFIED were you with each of the following?(*Required)					
<i>Select one per row.</i>					
	<i>Did not experience</i>	<i>Not at all</i>	<i>A little</i>	<i>Somewhat</i>	<i>Very much</i>
*Applying or registering for the program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Communicating with your Unite host site organizers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*The physical location(s) of Unite activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*The variety of STEM topics available to you in Unite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Teaching or mentoring provided during Unite activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Stipends (payment)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Educational materials (e.g., workbooks, online resources, etc.) used during program activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Invited speakers or “career” events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Field trips or laboratory tours	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*19. FUTURE INTEREST - How interested are you in participating in the following programs in the future?(*Required)					
<i>Select one per row.</i>					
	<i>I've never heard of this program</i>	<i>Not at all</i>	<i>A little</i>	<i>Somewhat</i>	<i>Very much</i>
*Gains in the Education of Mathematics and Science (GEMS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Unite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Junior Science & Humanities Symposium (JSHS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Science & Engineering Apprenticeship Program (SEAP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Research & Engineering Apprenticeship Program (REAP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*High School Apprenticeship Program (HSAP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*College Qualified Leaders (CQL)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*GEMS Near Peer Mentor Program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Undergraduate Research Apprenticeship Program (URAP)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Science Mathematics, and Research for Transformation (SMART) College Scholarship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*National Defense Science & Engineering Graduate (NDSEG) Fellowship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*20. STEM CAREERS - How many jobs/careers in STEM did you learn about during Unite?(*Required)	
<i>Select one.</i>	
<input type="radio"/>	None
<input type="radio"/>	1
<input type="radio"/>	2
<input type="radio"/>	3
<input type="radio"/>	4
<input type="radio"/>	5 or more

*21. DOD STEM CAREERS - How many Army or Department of Defense (DoD) STEM jobs/careers did you learn about during Unite?(*Required)	
<i>Select one.</i>	
<input type="radio"/>	None
<input type="radio"/>	1
<input type="radio"/>	2
<input type="radio"/>	3
<input type="radio"/>	4
<input type="radio"/>	5 or more

*22. DOD STEM RESEARCH - How much do you agree or disagree with the following statements about Department of Defense (DoD) researchers and research: (*Required)					
<i>Select one per row.</i>					
	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither Agree nor Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
*DoD researchers advance science and engineering fields	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*DoD researchers develop new, cutting edge technologies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*DoD researchers solve real-world problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*DoD research is valuable to society	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***23. STEM INTEREST - AS A RESULT OF YOUR Unite experience, are you MORE or LESS likely to engage in the following activities in science, technology, engineering, or mathematics (STEM) outside of school requirements or activities?(*Required)**

Select one per row.

	<i>Much less likely</i>	<i>Less likely</i>	<i>About the same before and after</i>	<i>More likely</i>	<i>Much more likely</i>
*Watch or read non-fiction STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Tinker (play) with a mechanical or electrical device	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Work on solving mathematical or scientific puzzles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Use a computer to design or program something	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Talk with friends or family about STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Mentor or teach other students about STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Help with a community service project related to STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Participate in a STEM camp, club, or competition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Take an elective (not required) STEM class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Work on a STEM project or experiment in a university or professional setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*24. FUTURE ENGAGEMENT - After you have participated in Unite, how far do you want to go in school?(*Required)	
<i>Select one.</i>	
<input type="radio"/>	Graduate from high school
<input type="radio"/>	Go to a trade or vocational school
<input type="radio"/>	Go to college for a little while
<input type="radio"/>	Finish college (get a Bachelor's degree)
<input type="radio"/>	Get more education after college

*25. RESOURCES - How much did each of the following resources help you learn about Army Educational Outreach Programs (AEOPs)?(*Required)					
<i>Select one per row.</i>					
	<i>Did not experience</i>	<i>Not at all</i>	<i>A little</i>	<i>Somewhat</i>	<i>Very much</i>
*Technology Student Association (TSA) website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Army Educational Outreach Program (AEOP) website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*AEOP on Facebook, Twitter, Pinterest or other social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*AEOP printed materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*My Unite instructor(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Invited speakers or "career" events during Unite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Participation in Unite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***26. RESOURCES - How much did each of the following resources help you learn about STEM careers in the Army or Department of Defense (DoD)?(*Required)**

Select one per row.

	<i>Did not experience</i>	<i>Not at all</i>	<i>A little</i>	<i>Somewhat</i>	<i>Very much</i>
*Technology Student Association (TSA) website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Army Educational Outreach Program (AEOP) website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*AEOP on Facebook, Twitter, Pinterest or other social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*AEOP print materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*My Unite instructor(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Invited speakers or "career" events during UNITE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Participation in Unite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***27. OVERALL IMPACT - Which of the following statements describe you AFTER PARTICIPATING IN THE Unite PROGRAM?(*Required)**

Select one per row.

	<i>Disagree - This did not happen</i>	<i>Disagree - This happened but not because of Unite</i>	<i>Agree - Unite contributed</i>	<i>Agree - Unite was primary reason</i>
*I am more confident in my STEM knowledge, skills, and abilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*I am more interested in participating in STEM activities outside of school requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*I am more aware of other AEOP opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*I am more interested in participating in other AEOP opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*I am more interested in taking STEM classes in school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*I am more interested in earning a STEM degree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*I am more interested in pursuing a career in STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*I am more aware of Army or DoD STEM research and careers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*I have a greater appreciation of Army or DoD STEM research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*I am more interested in pursuing a STEM career with the Army or DoD	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28. What topic(s) from your Unite experience were most impressive?

29. How have your Unite activities or experience helped increase your interest in pursuing a career in STEM disciplines?

30. What are the three most important ways that Unite has helped you?	
Benefit #1:	<input type="text"/>
Benefit #2:	<input type="text"/>
Benefit #3:	<input type="text"/>

31. What are the three ways that we could make Unite better?	
Improvement #1:	<input type="text"/>
Improvement #2:	<input type="text"/>
Improvement #3:	<input type="text"/>

32. Please tell us about your overall satisfaction with your Unite experience.

5 | Appendix C – Mentor Questionnaire

<u>Contact Information</u>		
Please verify the following information:		
*First Name:	<input type="text"/>	
*Last Name:	<input type="text"/>	
*Email Address:	<input type="text"/>	
<i>All fields with an asterisk (*) are required.</i>		

*1. Do you agree to participate in this survey? (required)(*Required)	
<i>Select one.</i>	
<input type="radio"/> Yes, I agree to participate in this survey	(Go to question number 2.)
<input type="radio"/> No, I do not wish to participate in this survey	Go to end of chapter

*4. What is your gender?(*Required)
<i>Select one.</i>

<input type="radio"/>	Male
<input type="radio"/>	Female
<input type="radio"/>	Choose not to report

*5. What is your race or ethnicity?(*Required)	
<i>Select one.</i>	
<input type="radio"/>	Hispanic or Latino
<input type="radio"/>	Asian
<input type="radio"/>	Black or African American
<input type="radio"/>	Native American or Alaska Native
<input type="radio"/>	Native Hawaiian or Other Pacific Islander
<input type="radio"/>	White
<input type="radio"/>	Choose not to report
<input type="radio"/>	Other race or ethnicity, (specify):: <div style="border: 1px solid black; height: 15px; width: 100%; margin-top: 5px;"></div>

*6. Which of the following BEST describes the organization you work for? (select ONE)(*Required)	
<i>Select one.</i>	
<input type="radio"/>	No organization
<input type="radio"/>	School or district (K-12)
<input type="radio"/>	State educational agency

<input type="radio"/>	Institution of higher education (vocational school, junior college, college, or university)
<input type="radio"/>	Private Industry
<input type="radio"/>	Department of Defense or other government agency
<input type="radio"/>	Non-profit
<input type="radio"/>	Other, (specify):

*7. Which of the following BEST describes your current occupation? (select ONE)(*Required)		
<i>Select one.</i>		
<input type="radio"/>	Teacher	(Go to question number 8.)
<input type="radio"/>	Other school staff	(Go to question number 8.)
<input type="radio"/>	University educator	(Go to question number 13.)
<input type="radio"/>	Scientist, Engineer, or Mathematician in training (undergraduate or graduate student, etc.)	(Go to question number 13.)
<input type="radio"/>	Scientist, Engineer, or Mathematics professional	(Go to question number 13.)
<input type="radio"/>	Other, (specify):: <div></div>	(Go to question number 13.)

*8. What grade level(s) do you teach (select all that apply)?(*Required)
<i>Select all that apply.</i>

<input type="checkbox"/>	Upper elementary
<input type="checkbox"/>	Middle school
<input type="checkbox"/>	High school
<input type="checkbox"/>	N/A

*11. Do you work at a "Title-I" school?(*Required)	
<i>Select one.</i>	
<input type="radio"/>	Yes
<input type="radio"/>	No
<input type="radio"/>	I am not sure
<input type="radio"/>	N/A

*12. Which of the following subjects do you teach? (select ALL that apply)(*Required)	
<i>Select all that apply.</i>	
<i>If answered, go to question number 14.</i>	
<input type="checkbox"/>	Upper elementary
<input type="checkbox"/>	Physical science (physics, chemistry, astronomy, materials science, etc.)
<input type="checkbox"/>	Biological science
<input type="checkbox"/>	Earth, atmospheric, or oceanic science
<input type="checkbox"/>	Environmental science
<input type="checkbox"/>	Computer science

<input type="checkbox"/>	Technology
<input type="checkbox"/>	Engineering
<input type="checkbox"/>	Mathematics or statistics
<input type="checkbox"/>	Medical, health, or behavioral science
<input type="checkbox"/>	Social science (psychology, sociology, anthropology)
<input type="checkbox"/>	Other, (specify)::
<input type="checkbox"/>	N/A

*13. Which of the following best describes your primary area of research?(*Required)	
<i>Select one.</i>	
<input type="radio"/>	Physical science (physics, chemistry, astronomy, materials science, etc.)
<input type="radio"/>	Biological science
<input type="radio"/>	Earth, atmospheric, or oceanic science
<input type="radio"/>	Environmental science
<input type="radio"/>	Computer science
<input type="radio"/>	Technology
<input type="radio"/>	Engineering
<input type="radio"/>	Mathematics or statistics
<input type="radio"/>	Medical, health, or behavioral science
<input type="radio"/>	Social science (psychology, sociology, anthropology)
<input type="radio"/>	Other, (specify)::

○	N/A

*14. At which of the following Unite sites did you participate? (Select ONE)(*Required)

Select one.

<input type="radio"/>	Alabama State University (AL)
<input type="radio"/>	Fayetteville State University (NC)
<input type="radio"/>	Florida State University (FL)
<input type="radio"/>	Harris-Stowe State University (MO)
<input type="radio"/>	Jackson State University (MS)
<input type="radio"/>	Marshall University (WV)
<input type="radio"/>	Michigan Technological University (MI)
<input type="radio"/>	Montana Tech (MT)
<input type="radio"/>	Morgan State University (MD)
<input type="radio"/>	New Jersey Institute of Technology (NJ)
<input type="radio"/>	Savannah State University (GA)
<input type="radio"/>	Texas Southern University (TX)
<input type="radio"/>	University of Colorado, Colorado Springs (CO)
<input type="radio"/>	University of Iowa (IA)
<input type="radio"/>	University of Nevada, Las Vegas (NV)
<input type="radio"/>	University of New Mexico (NM)
<input type="radio"/>	University of Pennsylvania (PA)
<input type="radio"/>	University of Puerto Rico, Rio Piedras (PR)
<input type="radio"/>	Virginia Tech (VA)

*15. Which of the following BEST describes your role during Unite?(*Required)

Select one.

- ☐ Instructor (typically a University or Army Scientist or Engineer)
- ☐ Classroom Assistant
- ☐ Resource Teacher
- ☐ Other, (specify)::

*16. How many Unite students did you work with this year?(*Required)

students.

***19. STEM PRACTICES - How often did YOUR STUDENTS have opportunities to do each of the following in Unite?(*Required)**

Select one per row.

	<i>Not at all</i>	<i>At least once</i>	<i>A few times</i>	<i>Most days</i>	<i>Every day</i>
*Work with a STEM researcher or company on a real world STEM research project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Work with a STEM researcher on a research project topic assigned by the mentor/teacher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Design their own research or investigation based on their own question(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Present their STEM research to a panel of judges from industry or the military	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Interact with STEM researchers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Use laboratory or field techniques, procedures, and tools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Identify questions or problems to investigate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Design and carry out an investigation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Analyze data or information and draw conclusions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Work collaboratively as part of a team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Build or make a computer model	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Solve real world problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*20. STEM KNOWLEDGE - AS A RESULT OF THEIR Unite EXPERIENCE, how much did your students GAIN in the following areas?(*Required)

Select one per row.

	<i>No gain</i>	<i>Small gain</i>	<i>Medium gain</i>	<i>Large gain</i>
*In depth knowledge of a STEM topic(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Knowledge of research conducted in a STEM topic or field	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Knowledge of research processes, ethics, and rules for conduct in STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Knowledge of how professionals work on real problems in STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Knowledge of what everyday research work is like in STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***21. STEM SKILLS - AS A RESULT OF THEIR Unite EXPERIENCE, how much did your students GAIN in their abilities to do each of the following?(*Required)**

Select one per row.

	<i>No gain</i>	<i>Small gain</i>	<i>Medium gain</i>	<i>Large gain</i>
*Asking a question that can be answered with one or more scientific experiments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Using knowledge and creativity to suggest a testable explanation (hypothesis) for an observation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Using knowledge and creativity to suggest a solution to a problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Making a model of an object or system showing its parts and how they work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Designing out procedures for an experiment that are appropriate for the question to be answered	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Identifying the limitations of the methods and tools used for data collection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Carrying out procedures for an experiment and recording data accurately	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Creating charts or graphs to display data and find patterns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Considering multiple interpretations of data to decide if something works as intended	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Supporting an explanation with their STEM knowledge or data from experiments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Identifying the strengths and limitations of data or arguments presented in scientific or technical texts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Presenting an argument that uses data and/or findings from an experiment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Defending an argument based upon findings from an experiment or other data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Integrating information from technical or scientific texts or other media to support an explanation of an experiment or solution to a problem	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***22. 21ST CENTURY SKILLS - AS A RESULT OF THEIR Unite EXPERIENCE, how much did your students GAIN in their abilities to do each of the following?(*Required)**

Select one per row.

	<i>No gain</i>	<i>Small gain</i>	<i>Medium gain</i>	<i>Large gain</i>
*Thinking creatively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Working creatively with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Using creative ideas to make a product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Thinking about how systems work and how parts interact with each other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Evaluating others' evidence, arguments, and beliefs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Solving problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Communicating clearly (written and oral) with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Collaborating with others effectively and respectfully in diverse teams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Interacting effectively with others in a respectful and professional manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Accessing and evaluating information efficiently (time) and critically (evaluates sources)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Using and managing data accurately, creatively, and ethically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Analyzing media (news) understanding points of view in the media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Creating media products like videos, blogs, social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Use technology as a tool to research, organize, evaluate, and communicate information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Incorporating feedback into work effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Setting goals and utilizing time wisely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Working independently and completing tasks on time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Taking initiative and doing work without being told to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Prioritizing results - sticking with a task until it is finished	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Leading and guiding others in a team or group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Being responsible to others - thinking about the larger community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***23. MENTORING STRATEGIES** - The list below describes mentoring strategies that are effective ways to establish the relevance of learning activities for students. From the list below, please indicate which strategies you used when working with your students in Unite. (*Required)

Select one per row.

	<i>Yes - I used this strategy</i>	<i>No - I did not use this strategy</i>
*Become familiar with my student(s) background and interests at the beginning of the Unite experience	<input type="radio"/>	<input type="radio"/>
*Giving students real-life problems to investigate or solve	<input type="radio"/>	<input type="radio"/>
*Selecting readings or activities that relate to students' backgrounds	<input type="radio"/>	<input type="radio"/>
*Encouraging students to suggest new readings, activities, or projects	<input type="radio"/>	<input type="radio"/>
*Helping students become aware of the role(s) that STEM plays in their everyday lives	<input type="radio"/>	<input type="radio"/>
*Helping students understand how STEM can help them improve their own community	<input type="radio"/>	<input type="radio"/>
*Asking students to relate real-life events or activities to topics covered in Unite	<input type="radio"/>	<input type="radio"/>

***24. MENTORING STRATEGIES** - The list below describes mentoring strategies that are effective ways to support the diverse needs of students as learners. From the list below, please indicate which strategies you used when working with your students in Unite. (*Required)

Select one per row.

	<i>Yes - I used this strategy</i>	<i>No - I did not use this strategy</i>
*Identify the different learning styles that my students may have at the beginning of the Unite experience	<input type="radio"/>	<input type="radio"/>
*Interact with students and other personnel the same way regardless of their background	<input type="radio"/>	<input type="radio"/>
*Use a variety of teaching and/or mentoring activities to meet the needs of all students	<input type="radio"/>	<input type="radio"/>
*Integrating ideas from education literature to teach/mentor students from groups underrepresented in STEM	<input type="radio"/>	<input type="radio"/>
*Providing extra readings, activities, or learning support for students who lack essential background knowledge or skills	<input type="radio"/>	<input type="radio"/>
*Directing students to other individuals or programs for additional support as needed	<input type="radio"/>	<input type="radio"/>
*Highlighting under-representation of women and racial and ethnic minority populations in STEM and/or their contributions in STEM	<input type="radio"/>	<input type="radio"/>

*25. MENTORING STRATEGIES - The list below describes mentoring strategies that are effective ways to support student development of collaboration and interpersonal skills. From the list below, please indicate which strategies you used when working with your students in Unite. (*Required)

Select one per row.

	<i>Yes - I used this strategy</i>	<i>No - I did not use this strategy</i>
*Having my students tell other people about their backgrounds and interests	<input type="radio"/>	<input type="radio"/>
*Having my students explain difficult ideas to others	<input type="radio"/>	<input type="radio"/>
*Having my students listen to the ideas of others with an open mind	<input type="radio"/>	<input type="radio"/>
*Having my students exchange ideas with others whose backgrounds or viewpoints are different from their own	<input type="radio"/>	<input type="radio"/>
*Having my students give and receive constructive feedback with others	<input type="radio"/>	<input type="radio"/>
*Having students work on collaborative activities or projects as a member of a team	<input type="radio"/>	<input type="radio"/>
*Allowing my students to resolve conflicts and reach agreement within their team	<input type="radio"/>	<input type="radio"/>

***26. MENTORING STRATEGIES** - The list below describes mentoring strategies that are effective ways to support students' engagement in "authentic" STEM activities. From the list below, please indicate which strategies you used when working with your students in Unite. (*Required)

Select one per row.

	<i>Yes - I used this strategy</i>	<i>No - I did not use this strategy</i>
*Teaching (or assigning readings) about specific STEM subject matter	<input type="radio"/>	<input type="radio"/>
*Having my students search for and review technical research to support their work	<input type="radio"/>	<input type="radio"/>
*Demonstrating laboratory/field techniques, procedures, and tools for my student(s)	<input type="radio"/>	<input type="radio"/>
*Supervising my students while they practice STEM research skills	<input type="radio"/>	<input type="radio"/>
*Providing my students with constructive feedback to improve their STEM competencies	<input type="radio"/>	<input type="radio"/>
*Allowing students to work independently to improve their self-management abilities	<input type="radio"/>	<input type="radio"/>
*Encouraging students to learn collaboratively (team projects, team meetings, journal clubs, etc.)	<input type="radio"/>	<input type="radio"/>
*Encouraging students to seek support from other team members	<input type="radio"/>	<input type="radio"/>

***27. MENTORING STRATEGIES** - This list describes mentoring strategies that are effective ways to support students STEM educational and career pathways. From this list, please indicate which strategies you used when working with your students in Unite. (*Required)

Select one per row.

	<i>Yes - I used this strategy</i>	<i>No - I did not use this strategy</i>
*Asking my student(s) about their educational and/or career goals	<input type="radio"/>	<input type="radio"/>
*Recommending extracurricular programs that align with students' goals	<input type="radio"/>	<input type="radio"/>
*Recommending Army Educational Outreach Programs that align with students' goals	<input type="radio"/>	<input type="radio"/>
*Providing guidance about educational pathways that will prepare my students for a STEM career	<input type="radio"/>	<input type="radio"/>
*Discussing STEM career opportunities within the DoD or other government agencies	<input type="radio"/>	<input type="radio"/>
*Discussing STEM career opportunities in private industry or academia	<input type="radio"/>	<input type="radio"/>
*Discussing the economic, political, ethical, and/or social context of a STEM career	<input type="radio"/>	<input type="radio"/>
*Recommending student and professional organizations in STEM to my students	<input type="radio"/>	<input type="radio"/>
*Helping students build a professional network in a STEM field	<input type="radio"/>	<input type="radio"/>
*Helping my students)with their resume, application, personal statement, and/or interview preparations	<input type="radio"/>	<input type="radio"/>

*28. PROGRAM SATISFACTION - How SATISFIED were you with the following Unite features?(*Required)

Select one per row.

	<i>Did not experience</i>	<i>Not at all</i>	<i>A little</i>	<i>Somewhat</i>	<i>Very much</i>
*Application or registration process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Communicating with Technology Student Association (TSA)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Communicating with Unite site coordinators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*The physical location(s) of Unite's activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Support for instruction or mentorship during program activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Stipends (payment)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Invited speakers or “career” events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Field trips or laboratory tours	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*29. FUTURE INTEREST - Which of the following AEOPs did YOU EXPLICITLY DISCUSS with your student(s) during Unite? (check ALL that apply)(*Required)

Select one per row.

	<i>Yes - I discussed this program with my student(s)</i>	<i>No - I did not discuss this program with my student(s)</i>
*Gains in the Education of Mathematics and Science (GEMS)	<input type="radio"/>	<input type="radio"/>
*Unite	<input type="radio"/>	<input type="radio"/>
*Junior Science & Humanities Symposium (JSHS)	<input type="radio"/>	<input type="radio"/>
*Science & Engineering Apprenticeship Program (SEAP)	<input type="radio"/>	<input type="radio"/>
*Research & Engineering Apprenticeship Program (REAP)	<input type="radio"/>	<input type="radio"/>
*High School Apprenticeship Program (HSAP)	<input type="radio"/>	<input type="radio"/>
*College Qualified Leaders (CQL)	<input type="radio"/>	<input type="radio"/>
*GEMS Near Peer Mentor Program	<input type="radio"/>	<input type="radio"/>
*Undergraduate Research Apprenticeship Program (URAP)	<input type="radio"/>	<input type="radio"/>
*Science Mathematics, and Research for Transformation (SMART) College	<input type="radio"/>	<input type="radio"/>
*National Defense Science & Engineering Graduate (NDSEG) Fellowship	<input type="radio"/>	<input type="radio"/>
*I discussed AEOP with my student(s) but did not discuss any specific program	<input type="radio"/>	<input type="radio"/>

*30. DoD RESEARCH - How much do you agree or disagree with the following statements about Department of Defense (DoD) researchers and research:(*Required)

Select one per row.

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neither Agree nor Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
*DoD researchers advance science and engineering fields	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*DoD researchers develop new, cutting edge technologies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*DoD researchers solve real-world problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*DoD research is valuable to society	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***31. RESOURCES** - How useful were each of the following in your efforts to expose students to Army Educational Outreach Programs (AEOPs) during Unite?(*Required)

Select one per row.

	<i>Did not experience</i>	<i>Not at all</i>	<i>A little</i>	<i>Somewhat</i>	<i>Very much</i>
*Technology Student Association (TSA) website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Army Educational Outreach Program (AEOP) website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*AEOP on Facebook, Twitter, Pinterest or other social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*AEOP print materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Unite Program administrator or site coordinator	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Invited speakers or “career” events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Participation in Unite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***32. RESOURCES** - How USEFUL were each of the following in your efforts to expose your students to Department of Defense (DoD) STEM careers during Unite. (*Required)

Select one per row.

	<i>Did not experience</i>	<i>Not at all</i>	<i>A little</i>	<i>Somewhat</i>	<i>Very much</i>
*Technology Student Association (TSA) website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Army Educational Outreach Program (AEOP) website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*AEOP on Facebook, Twitter, Pinterest or other social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*AEOP print materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Unite Program administrator or site coordinator	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Invited speakers or “career” events	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Participation in Unite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*33. OVERALL IMPACT - Which of the following statements describe YOUR STUDENTS after participating in the Unite program?(*Required)

Select one per row.

	<i>Disagree - This did not happen</i>	<i>Disagree - This happened but not because of Unite</i>	<i>Agree - Unite contributed</i>	<i>Agree - Unite was primary reason</i>
*More confident in STEM knowledge, skills, and	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*More interested in participating in STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*More aware of other AEOPs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*More interested in participating in other AEOPs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*More interested in taking STEM classes in school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*More interested in earning a STEM degree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*More interested in pursuing a career in STEM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*More aware of DoD STEM research and careers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*Greater appreciation of DoD STEM research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*More interested in pursuing a STEM career with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

34. What are the three most important strengths of Unite?

Strength #1:

Strength #2:

Strength #3:

35. What are the three ways Unite should be improved for future participants?

Improvement #1:

Improvement #2:

Improvement #3:

36. Please tell us about your overall satisfaction with your Unite experience.

6 | Appendix D – 21st Century Skills Assessment Rubric

<u>Contact Information</u>		
Please verify the following information:		
*First Name:	<input type="text"/>	
*Last Name:	<input type="text"/>	
*Email Address:	<input type="text"/>	
<i>All fields with an asterisk (*) are required.</i>		

*1. Enter the first and last name of your student that you are assessing with this instrument: (*Required)
<input type="text"/>

*2. Please indicate if this is the PRE (first) or POST (second) assessment you are completing for this student: (*Required)	
<i>Select all that apply.</i>	
<input type="checkbox"/>	Pre
<input type="checkbox"/>	Post

*3. Enter today's date: (*Required)
<input type="text"/>

4. Please rate the student on this Creativity and Innovation Skill:				
<i>Select one per row.</i>				
	<i>Needs improvement - selects one idea without evaluation of others and/or uses existing ideas without imagining new ones</i>	<i>Progressing - develops some original ideas; evaluates ideas, but not thoroughly before selection; shows some imagination in shaping ideas but stays within conventional boundaries</i>	<i>Demonstrates mastery - uses a wide range of idea creation techniques to develop several original ideas; elaborates, refines, analyzes and evaluates own ideas in order to improve and maximize creative efforts</i>	<i>Did not observe</i>
Ability to think creatively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Please rate the student on this Creativity and Innovation Skill:				
<i>Select one per row.</i>				
	<i>Needs improvement - does not ask new questions or elaborate on the selected ideas and/or does not contribute to group discussions and/or distracts from group progress</i>	<i>Progressing - considers and uses some feedback but does not seek it out; asks questions but only makes minor tweaks; contributes to group discussions and activities occasionally</i>	<i>Demonstrates mastery - asks new questions and takes different perspectives to elaborate on ideas; seeks and uses group feedback and critique to revise ideas and formulate new ones; contributes to group discussions frequently; takes initiative to ensure all group members are on task</i>	<i>Did not observe</i>
Ability to work creatively with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Please rate the student on this Creativity and Innovation Skill:

Select one per row.

	<i>Needs improvement - shows a lack of originality and/or understanding</i>	<i>Progressing - makes some attempts of relevant originality; solutions demonstrate some understanding and creativity</i>	<i>Demonstrates mastery - implements innovative ideas to make a tangible and meaningful product; attempts creativity multiple times and understands the cyclical process of small successes and frequent mistakes; product/solution displays unique, detailed perspective</i>	<i>Did not observe</i>
Ability to implement innovations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Please rate the student on this Critical Thinking and Problem Solving Skill:

Select one per row.

	<i>Needs improvement - does not use reasoning as appropriate to the situation</i>	<i>Progressing - uses one type of reasoning appropriate to the situation</i>	<i>Demonstrates mastery - uses various types of reasoning (inductive, deductive, etc.) as appropriate to the situation</i>	<i>Did not observe</i>
Ability to reason effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Please rate the student on this Critical Thinking and Problem Solving Skill:

Select one per row.

	<i>Needs improvement - fails to demonstrate how parts of a whole interact with each other</i>	<i>Progressing - inconsistent in analyzing how parts of a whole interact with each other to produce overall outcomes in complex systems</i>	<i>Demonstrates mastery - analyzes how parts of a whole interact with each other to produce overall outcomes in complex systems</i>	<i>Did not observe</i>
Ability to use systems thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Please rate the student on this Critical Thinking and Problem Solving Skill:

Select one per row.

	<i>Needs improvement - lacks analysis and evaluation of evidence, arguments, claims, and beliefs and/or lacks alternative points of view and/or lacks connections between information and arguments and/or does not interpret information and draw conclusions and/or does not reflect critically on learning experiences and processes</i>	<i>Progressing - limited analysis and evaluation of evidence, arguments, claims, and beliefs; missing key alternative points of view; missing key connections between information and arguments; interprets information and draws conclusions based on inaccurate analysis; limited reflection on the learning experiences and processes</i>	<i>Demonstrates mastery - effectively analyzes and evaluates evidence, arguments, claims, and beliefs; analyzes and evaluates major alternative points of view; synthesizes and makes connections between information and arguments; interprets information and draws conclusions based on the best analysis; reflects critically on learning experiences and processes</i>	<i>Did not observe</i>
Ability to make judgments and decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Please rate the student on this Critical Thinking and Problem Solving Skill:

Select one per row.

	<i>Needs improvement - does not attempt to solve problems and/or does not identify and ask significant questions that clarify various points of view and lead to better solutions</i>	<i>Progressing - attempts to solve different kinds of non-familiar problems; identifies and asks questions occasionally that clarify a point of view and lead to better solutions</i>	<i>Demonstrates mastery - solves different kinds of non-familiar problems in both conventional and innovative ways; identifies and asks significant questions that clarify various points of view and lead to better solutions</i>	<i>Did not observe</i>
Ability to solve problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please rate the student on this Communication, Collaboration, Social and Cross-Cultural Skill:

Select one per row.

	<i>Needs improvement - does not consistently articulate thoughts and ideas effectively and/or does not listen to others and/or does not consistently communicate with others to instruct, motivate, or persuade and/or utilizes media and technologies in ineffective ways</i>	<i>Progressing - articulates thoughts and ideas occasionally using oral, written and nonverbal communication skills; listens occasionally to decipher meaning, including knowledge, values, attitudes, and intentions; uses communication for some purposes (inform, instruct, motivate, or persuade); utilizes some media and technologies and knows how to judge their effectiveness as well as assess their impact</i>	<i>Demonstrates mastery - articulates thoughts and ideas effectively using oral, written, and nonverbal in a variety of forms and contexts; listens effectively to decipher meaning, including knowledge, values, attitudes and intentions; uses effective communication for a range of purposes (inform, instruct, motivate and persuade); utilizes multiple media and technologies and knows how to judge their effectiveness as well as assess their impact</i>	<i>Did not observe</i>
Ability to communicate clearly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Please rate the student on this Communication, Collaboration, Social and Cross-Cultural Skill:				
<i>Select one per row.</i>				
	<i>Needs improvement - does not work effectively and respectfully with others and/or not willing to be flexible and work toward a common goal and/or not willing to be responsible for shared work and/or does not value the individual contributions of others</i>	<i>Progressing - demonstrates ability to work effectively and respectfully with diverse teams; assumes shared responsibility some of the time for collaborative work and values the individual contributions made by each team member</i>	<i>Demonstrates mastery - demonstrates ability to work effectively and respectfully with diverse teams; exercises flexibility and willingness to be helpful in making necessary compromises to accomplish a common goal; assumes shared responsibility for collaborative work and values the individual contributions made by each team member</i>	<i>Did not observe</i>
Ability to collaborate with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Please rate the student on this Communication, Collaboration, Social and Cross-Cultural Skill:				
<i>Select one per row.</i>				
	<i>Needs improvement - does not contribute to the group or does not allow others to contribute and/or displays disrespect to other members of the group</i>	<i>Progressing - conducts themselves in respectful, professional manner</i>	<i>Demonstrates mastery - knows when it is appropriate to listen and when to speak; conducts themselves in a respectful, professional manner; leverages social and cultural differences to create new ideas and increase both innovation and quality of work</i>	<i>Did not observe</i>
Ability to interact effectively with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Please rate the student on this Information, Media, and Technological Literacy Skill:				
<i>Select one per row.</i>				
	<i>Needs improvement - does not use time efficiently (time) and effectively (sources) and/or does not evaluate information</i>	<i>Progressing - does not consistently access information efficiently (time) and effectively (sources); does not consistently evaluate information critically and competently</i>	<i>Demonstrates mastery - accesses information efficiently (time) and effectively (sources); evaluates information critically and competently</i>	<i>Did not observe</i>
Ability to access and evaluate information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. Please rate the student on this Information, Media, and Technological Literacy Skill:				
<i>Select one per row.</i>				
	<i>Needs improvement - does not use information to solve the issue or problem at hand and/or does not attempt to use a wide variety of valid and relevant sources and/or does not apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information</i>	<i>Progressing - does not consistently use information accurately for the issue or problem at hand; does not consistently manage the flow of information from a wide variety of valid and relevant sources; does not apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information</i>	<i>Demonstrates mastery - uses information accurately and creatively for the issue or problem at hand; manages the flow of information from a wide variety of valid and relevant sources; applies a fundamental understanding of the ethical/legal issues surrounding the access and use of information</i>	<i>Did not observe</i>
Ability to use and manage information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Please rate the student on this Information, Media, and Technological Literacy Skill:

Select one per row.

	<i>Needs improvement - does not understand how media messages are constructed and for what purposes and/or does not examine how individuals interpret messages differently and/or how values and points of view are included or excluded and how media can influence beliefs and behaviors and/or does not apply a fundamental understanding of the ethical/legal issues surrounding the access and use of media</i>	<i>Progressing - does not consistently understand both how and why media messages are constructed and for what purposes; does not consistently examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors; does not apply a fundamental understanding of the ethical/legal issues surrounding the access and use of media</i>	<i>Demonstrates mastery - understands both how and why media messages are constructed and for what purposes; examines how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors; applies a fundamental understanding of the ethical/legal issues surrounding the access and use of media</i>	<i>Did not observe</i>
Ability to analyze media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Please rate the student on this Information, Media, and Technological Literacy Skill:

Select one per row.

	<i>Needs improvement - does not utilize the most appropriate media creation tools, characteristics, and conventions and/or does not understand and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments</i>	<i>Progressing - does not consistently utilize the most appropriate media creation tools, characteristics, and conventions; does not consistently understand and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments</i>	<i>Demonstrates mastery - understands and utilizes the most appropriate media creation tools, characteristics, and conventions; understands and effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments</i>	<i>Did not observe</i>
Ability to create media products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. Please rate the student on this Information, Media, and Technological Literacy Skill:

Select one per row.

	<i>Needs improvement - does not use technology as a tool to research, organize, evaluate, and communicate information and/or does not use digital technologies (computers, PDAs, media players, etc.) communication/networking tools and social networks appropriately to access, manage, integrate, evaluate, and create information to successfully function in a knowledge community and/or does not apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies</i>	<i>Progressing - does not use technology as a tool consistently to research, organize, evaluate, and communicate information; does not consistently use digital technologies (computers, PDAs, media players, etc.) communication/networking tools and social networks appropriately to access, manage, integrate, evaluate, and create information to successfully function in a knowledge community; does not consistently apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies</i>	<i>Demonstrates mastery - uses technology as a tool to research, organize, evaluate, and communicate information; uses digital technologies (computers, PDAs, media players, etc.) communication/networking tools and social networks appropriately to access, manage, integrate, evaluate, and create information to successfully function in a knowledge community; applies a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies</i>	<i>Did not observe</i>
Ability to apply technology effectively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Please rate the student on this Flexibility, Adaptability, Initiative, and Self-Direction Skill:				
Select one per row.				
	<i>Needs improvement - does not adapt to varied roles, job responsibilities, schedules and contexts and/or does not work effectively in a climate of ambiguity and changing priorities</i>	<i>Progressing - adapts to varied roles, job responsibilities, schedules and contexts OR works effectively in a climate of ambiguity and changing priorities</i>	<i>Demonstrates mastery - adapts to varied roles, job responsibilities, schedules and contexts AND works effectively in a climate of ambiguity and changing priorities</i>	<i>Did not observe</i>
Ability to adapt to change	○	○	○	○

20. Please rate the student on this Flexibility, Adaptability, Initiative, and Self-Direction Skill:				
Select one per row.				
	<i>Needs improvement - does not incorporate feedback effectively; does not deal positively with praise, setbacks, or criticism; does not understand, negotiate, and balance diverse views and beliefs to reach workable solutions, particularly in multi-cultural environments</i>	<i>Progressing - incorporates feedback effectively; deals positively with praise, setbacks, and criticism; does not understand, negotiate, and balance diverse views and beliefs to reach workable solutions, particularly in multi-cultural environments</i>	<i>Demonstrates mastery - incorporates feedback effectively; deals positively with praise, setbacks, and criticism; understands, negotiate, and balance diverse views and beliefs to reach workable solutions, particularly in multi-cultural environments</i>	<i>Did not observe</i>
Ability to be flexible	○	○	○	○

21. Please rate the student on this Flexibility, Adaptability, Initiative, and Self-Direction Skill:				
Select one per row.				
	<i>Needs improvement - does not set goals with tangible and intangible success criteria; does not balance tactical (short-term) and strategic (long-term) goals; does not utilize time and manage workload effectively</i>	<i>Progressing - does not set goals with tangible and intangible success criteria; does not balance tactical (short-term) and strategic (long-term) goals; utilizes time and manage workload effectively</i>	<i>Demonstrates mastery - sets goals with tangible and intangible success criteria; balances tactical (short-term) and strategic (long-term) goals; utilizes time and manage workload effectively</i>	<i>Did not observe</i>
Ability to manage goals and time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22. Please rate the student on this Flexibility, Adaptability, Initiative, and Self-Direction Skill:				
Select one per row.				
	<i>Needs improvement - does not monitor, define, or prioritize and does not complete tasks without direct oversight</i>	<i>Progressing - occasionally monitors, defines, prioritizes and completes tasks without direct oversight.</i>	<i>Demonstrates mastery - monitors, defines, prioritizes and completes tasks without direct oversight.</i>	<i>Did not observe</i>
Ability to work independently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23. Please rate the student on this Flexibility, Adaptability, Initiative, and Self-Direction Skill:

Select one per row.

	<i>Needs improvement - does not go beyond basic mastery of skills and curriculum to explore and expand one's own learning and opportunities; does not demonstrate initiative to advance skill levels toward a professional level; does not demonstrate commitment to learning as a lifelong process; does not reflect critically on past experiences in order to inform future progress</i>	<i>Progressing - goes beyond basic mastery of skills and curriculum to explore and expand one's own learning and opportunities; demonstrates initiative to advance skill levels toward a professional level; does not demonstrate commitment to learning as a lifelong process; does not reflect critically on past experiences in order to inform future progress</i>	<i>Demonstrates mastery - goes beyond basic mastery of skills and curriculum to explore and expand one's own learning and opportunities; demonstrates initiative to advance skill levels toward a professional level; demonstrates commitment to learning as a lifelong process; reflects critically on past experiences in order to inform future progress</i>	<i>Did not observe</i>
Ability to be self-directed learner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. Please rate the student on this Productivity, Accountability, Leadership, and Responsibility Skill:

Select one per row.

	<i>Needs improvement - does not set appropriate goals; no plan or management strategy is created to achieve the intended result</i>	<i>Progressing - sets goals, but does not complete them in a timely manner; manages work with an incomplete plan to achieve the intended result</i>	<i>Demonstrates mastery - sets and meets goals, even in the face of obstacles and competing pressures; prioritizes, plans and manages work to achieve the intended result</i>	<i>Did not observe</i>
Ability to manage projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

25. Please rate the student on this Productivity, Accountability, Leadership, and Responsibility Skill:

Select one per row.

	<i>Needs improvement - demonstrates less than half of the attributes associated with producing high quality products including abilities to: work positively and ethically; manage time and projects effectively; appropriately multi-task; participate actively; reliable and punctual; present oneself professionally with proper etiquette; collaborate and cooperate effectively with teams; respect and appreciate team diversity; be accountable for results.</i>	<i>Progressing - demonstrates more than half of the attributes associated with producing high quality products including abilities to: work positively and ethically; manage time and projects effectively; appropriately multi-task; participate actively; reliable and punctual; present oneself professionally with proper etiquette; collaborate and cooperate effectively with teams; respect and appreciate team diversity; be accountable for results.</i>	<i>Demonstrates mastery - demonstrates all of the attributes associated with producing high quality products including abilities to: work positively and ethically; manage time and projects effectively; appropriately multi-task; participate actively; reliable and punctual; present oneself professionally with proper etiquette; collaborate and cooperate effectively with teams; respect and appreciate team diversity; be accountable for results.</i>	<i>Did not observe</i>
Ability to produce results	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. Please rate the student on this Productivity, Accountability, Leadership, and Responsibility Skill:				
<i>Select one per row.</i>				
	<i>Needs improvement - shows no use of interpersonal skills and/or problem solving skills</i>	<i>Progressing - uses interpersonal and problem solving skills to work toward a goal; leverages strengths of others to accomplish a goal</i>	<i>Demonstrates mastery - uses interpersonal and problem solving skills to influence and guide others toward a goal; leverages strengths of others to accomplish a goal; inspires others to reach their very best via example and selflessness; demonstrates integrity and ethical behavior in using influence and power</i>	<i>Did not observe</i>
Ability to guide and lead others	○	○	○	○

27. Please rate the student on this Productivity, Accountability, Leadership, and Responsibility Skill:				
<i>Select one per row.</i>				
	<i>Needs improvement - does not act responsibly on a consistent basis</i>	<i>Progressing - acts responsibly with the interests of the group or project in mind</i>	<i>Demonstrates mastery - acts responsibly with the interests of the larger community in mind</i>	<i>Did not observe</i>
Ability to be responsible to others	○	○	○	○

7 | Appendix E – TSA’s Response to FY19 Evaluation Report

AEOP Priority: Broaden, deepen, and diversify the pool of STEM talent in support of our defense industry base

There were no recommendations for FY20, and therefore no response is required from TSA.

AEOP Priority: Support and empower educators with unique Army research and technology resources

A recommendation was made to TSA to refine the Unite RFP to show the importance of more hands-on experiences across the programs, perhaps with common experiences or a framework for required experiences.

TSA Response:

The 2020-2021 Unite RFP was released in October 2019. In this document, a focus on hands-on experiences was well documented. Also, once FY20 sites have been determined (in late January 2020), TSA will 1) pair university sites with the expectation that best practices will be shared, including about common hands on experiences; 2) conduct a webinar in spring 2020 – during which this same topic will be covered; and 3) note this topic in communication with FY20 site directors.

AEOP Priority: Develop and implement a cohesive, coordinated, and sustainable STEM education outreach infrastructure across the Army

A recommendation was made to TSA that Unite develop a centralized and required component of the program that includes activities that are specifically designed to introduce participants to the relevant AEOPs within their pipeline.

TSA Response:

In fall 2019, TSA organized a call with RIT, ARO, and NSTA consortium partners to discuss how TSA and these partners could collaborate to promote the AEOP pipeline to students. The result involved a request to Widmeyer to produce two videos, if feasible: 1) one for all high school students, and 2) a second specifically for underserved students. An update from Widmeyer is expected in early 2020.

In addition, TSA will extend efforts with FY20 site directors to emphasize the importance of highlighting the AEOP pipeline 1) with students and parents/guardians during recruitment of students for Unite, 2) at

opening and closing Unite events, and 3) throughout the program time frame with student participants. Examples and best practices for doing so will be provided through communication with site directors.