JROTC STEM LEADERSHIP ACADEMY

A STEM + Workforce Development Hybrid

JCLC

Department of Defense

DoDSTEM

Science · Technology · Engineering · Mathematics

NSF

Our Overall Goal Today

Inform DAIs of a DOD-funded scale out project to implement JROTC STEM Leadership Academies in their communities and to develop the local business, industry, and civic partners to sustain the program post funding.

2023-2025: 3 Sites

2024-2025: 3 Sites

2025: 4 Sites

10 Total Sites

Presentation Overview

Part 1 (10:30-10:45)

- Provide an overview of the JROTC STEM Leadership Academy model
- Feature the Academy STEM component

Part 2 (10:45-11:45)

- Share Cadet Impact Results
- Describe the DoD-STEM Grant
- Outline the benefits and requirements of becoming a partner replication site

Part 3 (12:15-1:00)

- Describe the selection process
- Review Information Form
- Q&A
- Conclude with resources and contacts

Academy Overview & Evolution

History of the JROTC STEM Leadership Academy

JROTC STEM LEADERSHIP ACADEMY

2014

Idea Launch

MCPSS JROTC, STEMWorks, USM

Formed an Advisory Board of community advocates

Not able to secure funds needed in time to execute the Academy

2015

1st Academy

Advisory Board helped design Academy and secure funding needed

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120 cadets

Curriculum was based on STEM across industries

2016

Refine Academy Model

140-160 cadets

Developed new curriculum

Beginning in 2017 each Academy curriculum was based on a specific STEM industry.

2018

NSF Research Study

$1M grant to MCPSS to research the short- and long-term impact of the Academy on cadets.

2021

DoD Scale Up Grant

$6M to replicate the Academy in at least 10 sites across the US

Academy Overview

- **Residential Academy for up to 160 Cadets on Campus of Spring Hill College**
  - 6 days/ 5 nights
  - 120-160 cadets (14 Mobile schools)
- **Incorporates Components of JROTC Cadet Leadership Camp (JCLC)**
  - Rappelling Training
  - Drown-Proofing Training
  - Map Reading / Land Navigation Training
  - Physical Fitness Training
  - Organized Sports
- **Immerses Students in STEM Learning and Workforce Experiences**
  - Engineering Design Challenges
  - Industry Site Visits
  - Guest Speakers

Academy Goals

- Better understand and value math and science and STEM workplace skills
- More aware of, interested in, and know preparation needed for STEM jobs in local area industries
- Know more about, and are more interested in, educational opportunities after high school
- Practice and improve 21st Century workforce skills including teamwork and leadership skills

Target Population

- 14 Public High Schools in Mobile County*
- 9th & 10th Graders are Primary Targets
- 11th Graders are Secondary Targets
- All enrolled in JROTC
- 160 Students Maximum

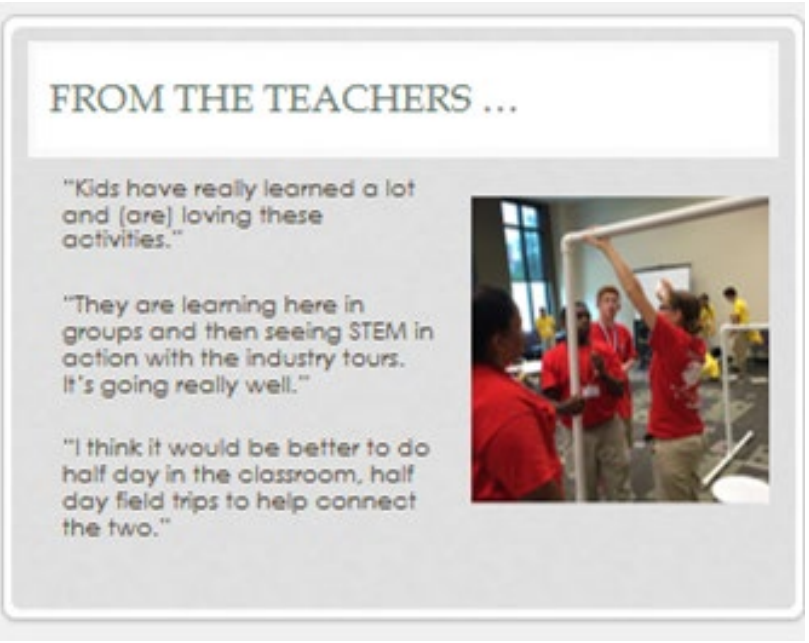
  (10 per school + 20)

*Majority of MCPSS High Schools are Title 1 Schools; Includes Satsuma and Chickasaw School Systems.

Two Years Preparation for 1st JROTC STEM Leadership Academy

- 2014 Forged critical partnerships
  - Business, Industry & Community Leaders
  - Spring Hill College
  - STEM professionals

- 2015 Developed & Launched 1st JROTC STEM Academy
  - Industry & Museum Site Visits
  - STEM Curriculum
  - Staff: JROTC, SHC, MCPSS & STEMWorks
  - Evaluated & reported results to stakeholders



For Academy Evaluation Reports, visit www.stemworksllc.com

2015-2016
USM Conducts External Evaluation

The evaluation found cadets made significant gains in understanding the connection between success in STEM and success in the workforce.

- "There are a wide range of good paying jobs available here in Mobile that involve STEM"
  - STRONGLY AGREE – 12% Pretest, 70% Posttest
- "Mathematics is useful for solving problems that improve people's lives."
  - STRONGLY AGREE – 24% Pretest, 49% Posttest

The Early Days of the Academy

JROTC STEM LEADERSHIP ACADEMY

Mobile County PUBLIC SCHOOLS

STEMWorks, LLC

U.S.ARMY

LEADERSHIP EXCELLENCE

SPRING HILL 1830 ihs COLLEGE

NSF

Incorporating STEM into a JCLC

Academy Objectives by Component

	STEM Learning ↓	JROTC Leadership ↓	Workforce Experiences ↓
Goals	**Enhance STEM Content Knowledge**	**Develop 21st Century Leadership Skills**	**Increase Interest in STEM Careers**
Objectives	Learn and apply mathematics and science content to real world problems.	Practice Discipline, Motivation, Persistence, Integrity, Trust, Belonging	Develop Knowledge of the Range of Good-Paying Jobs in local Area
	Value math and science and be motivated to take additional math and science courses.	Become better citizens.	Understand what it takes to get and keep those jobs.

Academy Week at a Glance

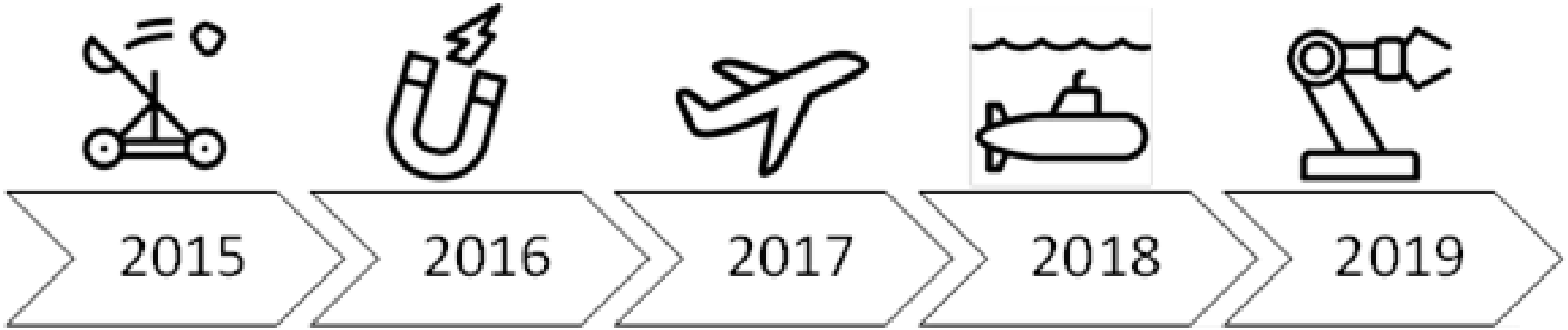
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	Wake up	Wake up			
	Physical Fitness Training	Physical Fitness Training	Wake up	Wake up	Wake up & Pack
	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
	Load Buses	Load Buses	Load Buses	Load Buses	
				Depart for Blakely	
Check-in/Registration; Set Up Dorm Rooms; Online Pre-Assesment (missing cadets only)			Bus 1 & 2 USA Shelby Hall College of Engineering STEM sessions and campus tour; Bus 3 & 4 Five Rivers Delta & Boat Tour		Photos- All Platoons
	Bus 1 & 2 Austal & Amazon; Bus 3 & 4 AL Port Authority & Gulf Quest	Bus 1 & 2 Rappelling & USCG Sector; Bus 3 & 4 Aker Solutions & TechNip		Land Navigation Class & Field Experience	Prepare & Practice STEM Presentations; Online post-assessment
Opening Assembly- Introductions, Expectations					
Pick up Snack					
STEM Teambuilding Exercises; Winning Colors					
			Lunch- Bus 3 & 4	Lunch- at Blakely	STEM Poster Sessions
	Load Buses	Load Buses			
Lunch	Lunch- Arlington Park Brookley	Lunch- Air Nat'l Guard at Brookley	Bus 1 & 2 Load bus to Five	Load Buses	
			Bus 3 & 4 load bus to USA		Lunch & Guest Speaker (Dr. Robert V. Barrow);
			Lunch-Bus 1 & 2		
Church Service (optional); Cadet puzzles in Ballrooms	Load Buses	Load Buses		Arrive at Spring Hill College; Collect Uniforms	
Teambuilding Activities with LEGO Build It Challenges; Bulach Character Assessment	Bus 1 & 2 AL Port Authority & Gulf Quest; Bus 3 & 4 Austal & Amazon	Bus 1 & 2 Aker Solutions & TechNip; Bus 3 & 4 Rappelling & USCG Sector	Bus 1 & 2 Five Rivers Delta & Boat Tour; Bus 3 & 4 USA Shelby Hall College of Engineering Sessions and campus tour		Awards Ceremony
					Academy Closeout
Launch STEM in the Water- Waterbotics Project Kickoff & Mission 1 Activities 1-4				After Action Review	
				Launch Final STEM Challenge- Mission 3 Activities 1, 4-5	
	Load Buses	Load Buses			
	After Action Review	Arrive at Spring Hill College	Bus 1 & 2 to SHC		
	Reflections (Journals/surveys)	After Action Review & STEM Challenge 2, Mission 2 Activity 1	Bus 3 & 4 Load bus to SHC		
Dinner & Guest Speaker (1Lt Mia Ancrum)	Dinner & Guest Speaker (Capt Helen Williamson)	Dinner & Guest Speaker (MAJ Brad Isreal-CEO 68 Ventures)	Reflections (Journal/Survey)	Dinner & Guest Speaker (Col. Robert Keyser, P.E., F. SAME)	
STEM Challenge 1 Mission 1 Activities 4-5	Load Buses		Dinner & Guest Speaker (Ms. Kellie Hope, Mobile Chamber)		
	Drown-proof Training	STEM Challenge Mission 2 Activities 2, 5-6	Sports Night	Complete Final STEM Challenge Mission 3, Activities 5-6	
Reflections (journals/surveys)					
Personal Time	Load Buses	Reflections (Journal/Survey)	Personal Time	Reflections (Journal/Survey)	
	Personal Time	Personal Time		Personal Time	
Lights Out	Lights Out	Lights Out	Lights Out	Lights Out	

Integration of Activities

- Spread STEM challenges over the course of the camp
- Connect industry visits to STEM challenges and objectives
- Practice Leadership, Teamwork, and Communication Skills Everywhere!

JROTC Time	16.5
STEM Time	25.0
Workforce Time	12.0
Reflection Time	3.5
Administrative Time	26.0
Total Academy Hours	83.0

Academy Workforce Themes



STEM Learning Objectives

STEM on the Ground

- Simple and Complex Machines
- Gears and Gear Ratios
- Inverse relationships

STEM in the Air

- Principles of Flight
- Force Vectors
- Proportional reasoning
- Aspect ratio

STEM on the Water

- Buoyancy
- Gears and Gear Ratios
- Proportional reasoning
- Center of Mass

STEM Design Challenges & the 4 C's

- Critical Thinking
- Creativity
- Collaboration
- Communication

MISSION 1
RESCUE!

GOAL: CREATE A ROBOT THAT CAN RESCUE A DISTRESSED SWIMMER

THE PROBLEM

A person is enjoying a nice day at the beach. However, while swimming in the ocean, this unlucky individual is caught in a riptide and carried far away from the shore and the lifeguard station. If help doesn't arrive soon, the person will be in danger of drowning due to exhaustion.

YOUR MISSION

Create a robot that will be able to go from the beach to somewhere near the swimmer. Once the swimmer grabs onto the robot, it should back up and return to the shore, all the while holding the swimmer securely.

REAL-LIFE ROBOT

EMILY (Emergency Integrated Lifesaving Lanyard) is a swimming robot that can rescue people faster than a human lifeguard. It can zoom along at 22 mph, provide flotation, deliver life jackets and even pull a person back to the shore.

For more info real rescue robots, check out: http://waterbotics.org/real-robots/rescue

PROCEDURE

A ping-pong ball will be used to simulate the drowning swimmer. It will be placed at one end of the pool, and your robot will be placed at the opposite end. The robot will go as straight as possible towards the swimmer, and when the robot reaches the other side and is somewhat close, the swimmer will be placed onto a holder or platform attached to the robot. This will simulate the person grabbing onto the robot. Finally, your robot will back up to the start, carrying the person with it to safety.

MISSION CONSTRAINTS

Robot must float on the surface of the water
Move forward and backward in a straight line
Use only 2 motors
Include as many small boat propellers as necessary
Allow each teammate to control the robot during the design, test, and improve cycle.

MISSION ACHIEVEMENTS

SUCCESSFUL SAVE (minimum criteria for success)
Perform a successful save

RAPID RESCUE

ROOM FOR MORE
Rescue 5 or more ping-pong balls in one trip

ALL ABOARD
Rescue 10 or more ping-pong balls in one trip

STEM Design Challenges & the 4 C's

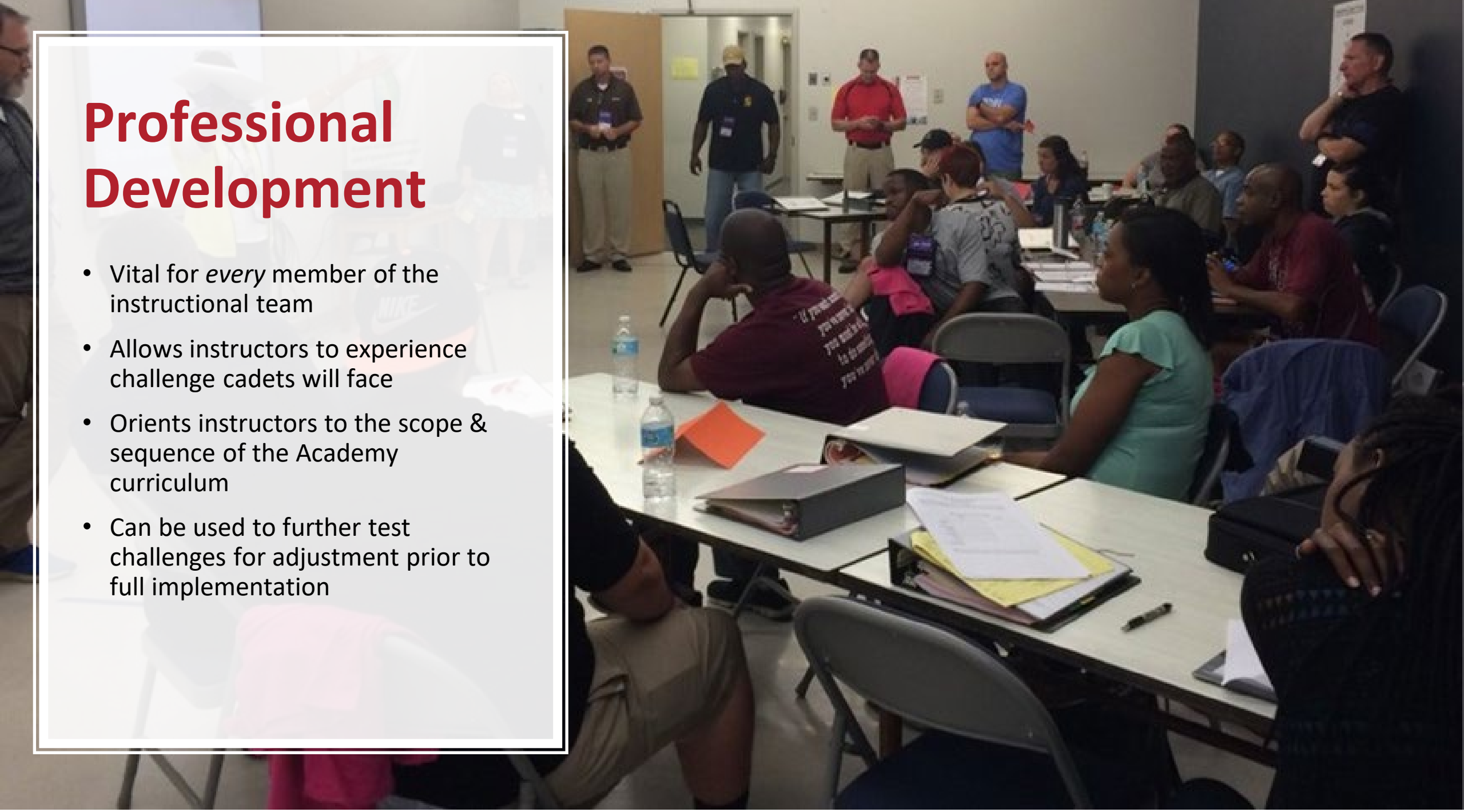
- Critical Thinking
- Creativity
- Collaboration
- Communication

A Multidisciplinary Instructional Team

- STEM Instructor (1 per platoon)
  - High level of content knowledge
  - Experienced in project-based learning
- JROTC Cadre (2 per platoon)
  - Actively Involved in STEM
  - Connectors JROTC + STEM
- Platoon Leader (1 per platoon)
  - Experience with camp settings
  - Personable
- Materials Manager (1 per platoon)
  - Organized
  - Takes initiative

Professional Development

- Vital for *every* member of the instructional team
- Allows instructors to experience challenge cadets will face
- Orients instructors to the scope & sequence of the Academy curriculum
- Can be used to further test challenges for adjustment prior to full implementation



Q & A

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NSF ITEST: 2018-2022

Leveraging the US Army Junior Reserve Officer Training Corps (JROTC) Program to Develop a Regional STEM Workforce

Research Questions

RQ1:

What are the unique and synergistic contributions of the (1) JROTC program, (2) STEM learning, and (3) workforce experiences, to broadening STEM career interest, preparation, and aspirations, especially for students from underrepresented populations?

RQ2:

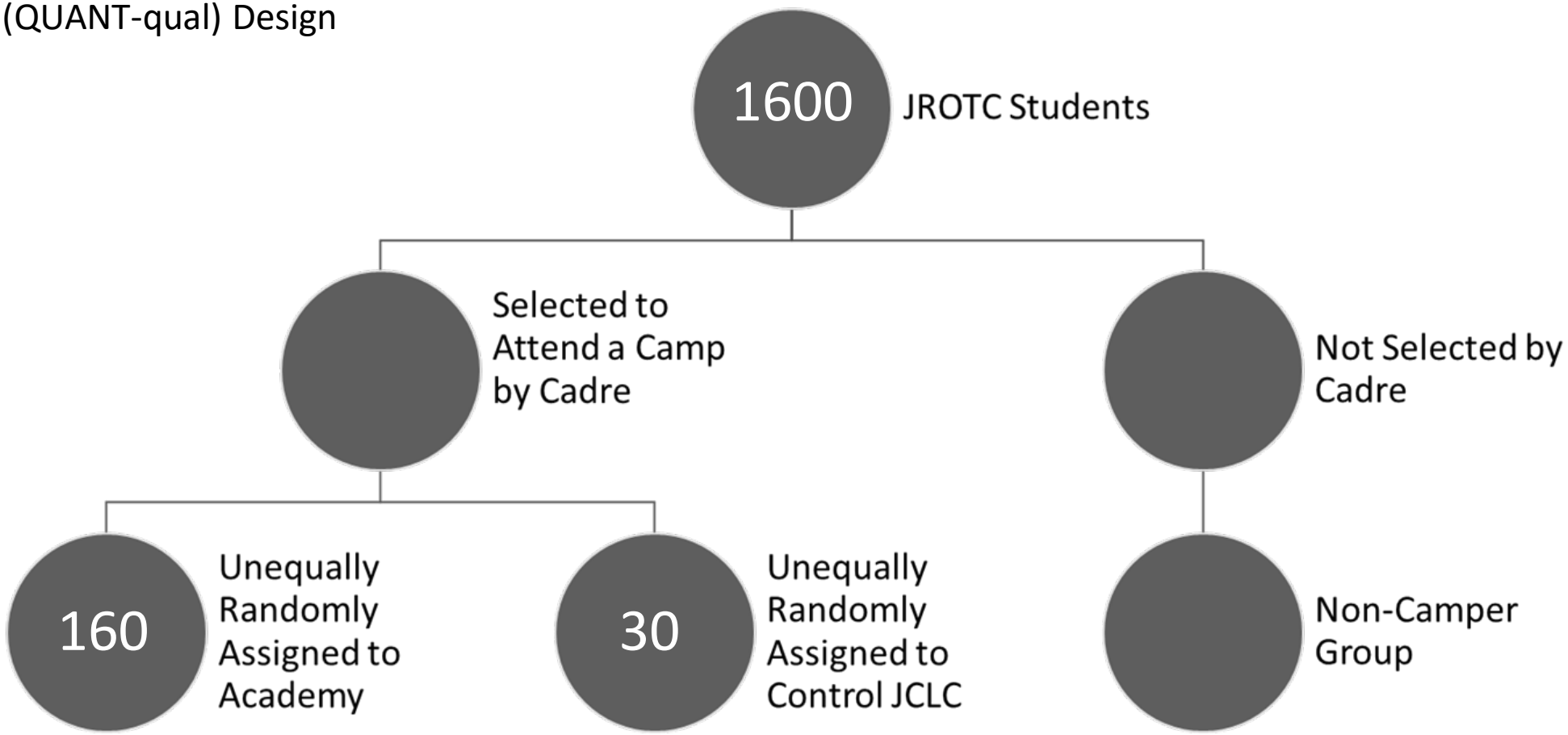
What are the short-term interest, preparation, and aspirational shifts that occur in cadets as the result of the blended JROTC and STEM intervention?

RQ3:

What are the long-term interest, preparation, and aspirational shifts that occur in student cadets as the result of the blended JROTC and STEM intervention?

Research Design

Randomized Mixed Methods
(QUANT-qual) Design



Academy Pre-Post Assessment

Workforce Skills	• Successfully Working on a Collaborative Challenge** • Persistence Working on a Collaborative Challenge* • 21st Century Workforce Skills Confidence*
STEM Competencies	• STEM Content Knowledge Test* • Confidence Describing Industries* • Beliefs about STEM Careers • STEM Semantics Survey • STEM Self-Efficacy*
Future Plans	• Taking a STEM-related School path • Interest in Job Types • Planned Career Area
Satisfaction	• Summer Experience Satisfaction

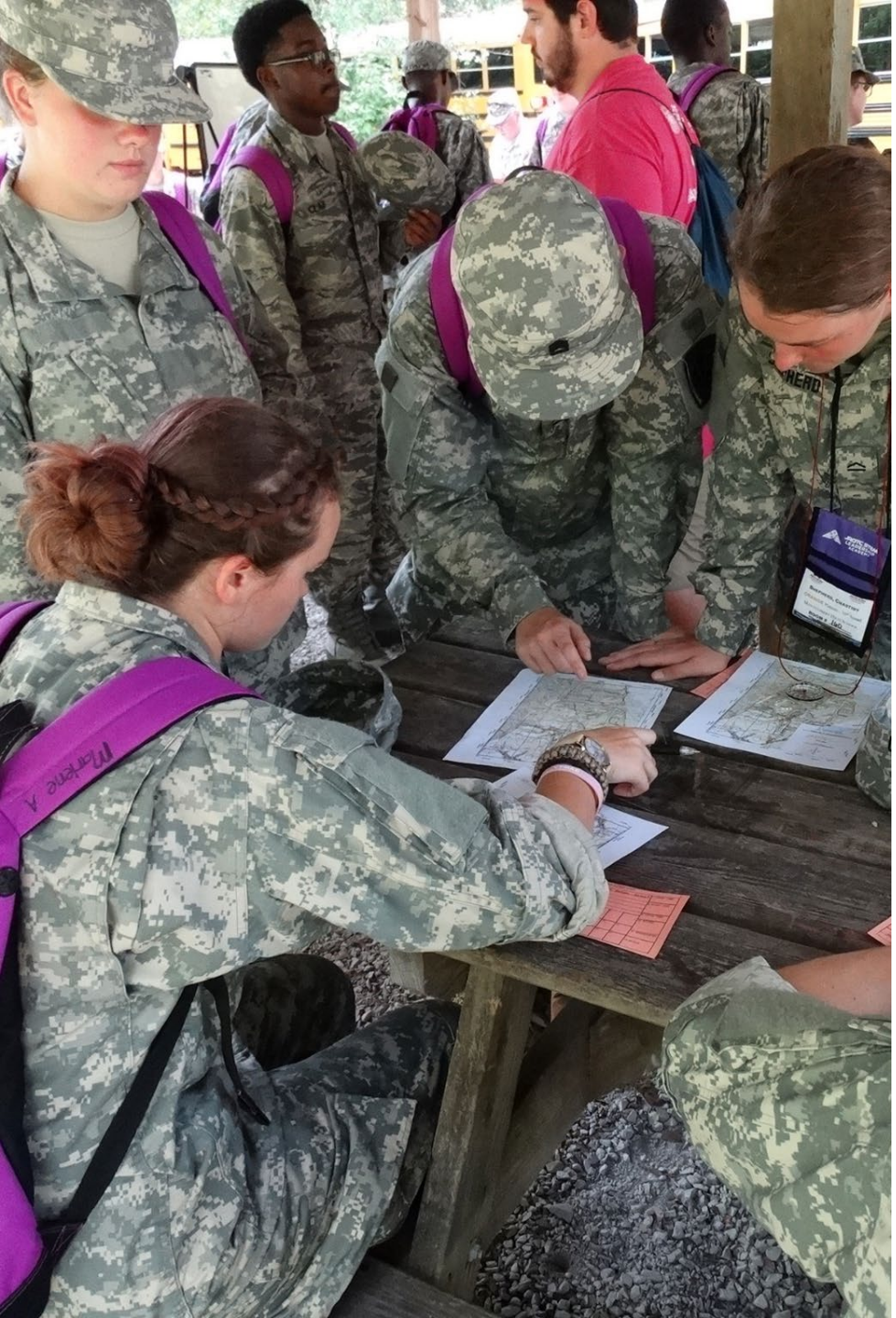
Short Term Impacts on Cadets

Replicated Results from 2018 & 2019

See the Academy in Action

Workforce Skills

- Successfully Working on a Collaborative Challenge
- Persistence Working on a Collaborative Challenge*
- 21st Century Workforce Skills Confidence*



Successfully Working on and Persistence with a Collaborative Challenge

4-item measure, e.g., *Faced with a challenge, I would be comfortable with my ability to work with a team to create a solution.*
3-item measure, e.g., *When challenges present themselves, I know failure is part of the path to success.*

No significant differences for two years between Academy Cadets, JCLC Cadets, and Non-Camper Cadets

Given the replication in finding no differences, we believe this is a *unique* characteristic of JROTC cadets since even the Non-Camper Cadets score similarly.

The most valuable thing I learned…was leadership and gained confidence in myself.

- *Summer, Green Platoon, 2018*

21st Century Workforce Skills Confidence

9-item measure, e.g., *I can apply knowledge of math, science, and technology to solve real world problems.*

In year 1 we found the STEM Academy Cadets had a slightly higher mean but was not statistically significant. In year 2, we found that the Academy Cadets significantly higher than JCLC Cadet means.

STEM Academy was significantly higher than JCLC group, $F(1, 147)= 8.27$, $p=.005$, Cohen's $d=0.46$.

We communicated much more than usual, and we made a success of a robot.

- Isis, Green Platoon

STEM Competencies

- STEM Content Knowledge Test*
- Confidence Describing Industries*
- Beliefs about STEM Careers*
- Math, Science & Engineering Self-Efficacy

* *Significant differences were found in favor of the STEM Academy cadets vs. the cadets participating in just the JCLC.*

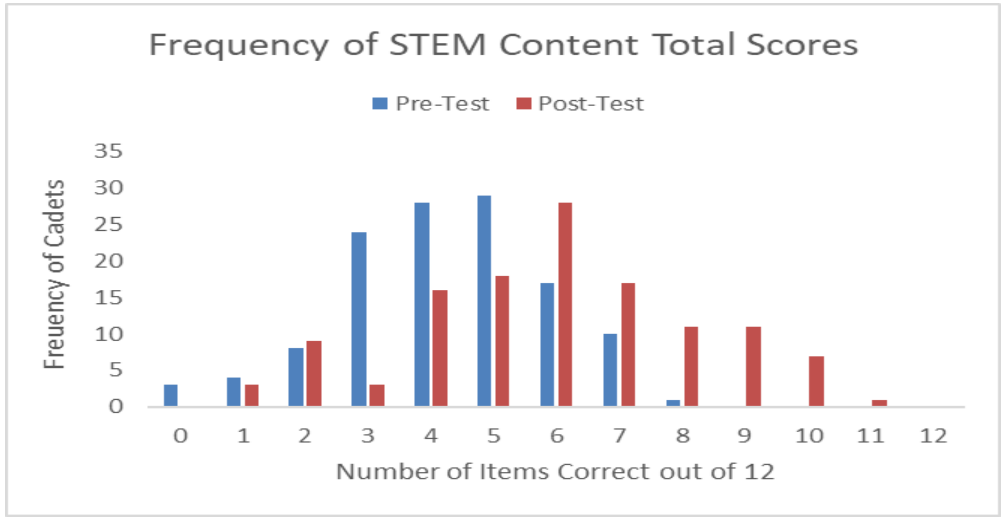
STEM Content Knowledge Test

12-item scale including science, mathematics, and engineering multiple choice questions.

Significant results were found in both years favoring the STEM Academy Cadets,

2018 $F(1, 184)= 3.35$, $p=.024$, Cohen's $d=0.48$

2019 $F(1, 150)= 7.30$, $p<.008$, Cohen's $d=0.53$



Confidence Describing Industries

2018 Academy cadets reported ability to explain more industries than the control group.

$F(1, 156)= 24.82, p<.0005$

2019 results were repeated with an itemized comparison

$F(1, 146)= 33.62, p<.0005, d=1.41$ (BASF)

$F(1, 147)= 59.12, p<.0005, d=1.76$ (SSAB)

$F(1, 145)= 51.04, p<.0005, d=1.05$ (Hyundai)

- Amazon
- Austal Shipbuilding
- Alabama Port Authority
- U.S. Coast Guard Aviation Training Center
- Technip & Aker Solutions Private Businesses
- Hyundai
- BASF Chemical
- SSAB Steel

Beliefs About STEM Careers

5-item scale, e.g., *There is a wide range of good paying jobs available here in Mobile that involve STEM*

2018 $F(1, 156)= 27.88$, $p<.0005$, $d=0.85$
2019 $F(1, 150)= 10.39$, $p<.002$, $d=0.74$

e.g., *It is important for me to do well in math and science courses to increase my chances of getting a good paying job in a STEM field.*

2018 $F(1, 156)= 14.28$, $p<.0005$, $d=0.53$
2019 $F (1, 150)= 8.61$, $p<.004$, $d= 0.51$

Math, Science & Engineering Self-Efficacy

2 4-item scales, e.g., *I can use what I know to design and build something mechanical that works.*

Engineering Self-Efficacy
$F(1, 148)= 14.40, p<.0005$

Math & Science Self-Efficacy
$F(1, 148)= 6.15, p= .014$

Results were found in the year 2 cohort only

The most valuable thing I heard during this academy was that women in stem fields were accepted and normalized even though these fields are male dominated, it was reassuring to know that while there would still be challenges to face as a woman in stem many employers and employees saw women as competent and equal to men.

Satisfaction

Post-test only items;
No significant differences.
Both camps were equally satisfactory.

One of the most valuable things I heard or saw at stem camp were all the job opportunities around mobile that include stem.-*Summer, 10th grader*

The guest speakers that used to be in ROTC and now they are successful so I look at them like it could be me one day-*Jennifer, 9th grader*

Future Plans

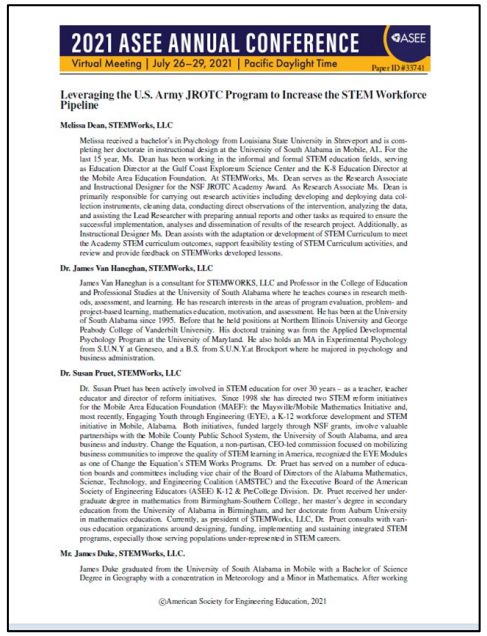
- Taking a STEM-related School path
- Interest in Job Types
- Planned Career Area

No significant short-term differences.
Study of long-term differences is underway.

The most valuable thing for me would have to be being apart of JROTC. It was the basis of my first real learning of community and leadership and a first look into my real options as a career.

-Micaela, Graduated High School 2020

JROTC STEM Leadership Academy Model



2021 ASEE ANNUAL CONFERENCE
Virtual Meeting | July 26–29, 2021 | Pacific Daylight Time
Paper ID #33741

Leveraging the U.S. Army JROTC Program to Increase the STEM Workforce Pipeline

Melissa Dean, STEMWorks, LLC

Melissa received a bachelor's in Psychology from Louisiana State University in Shreveport and is completing her doctorate in instructional design at the University of South Alabama in Mobile, AL. For the last 15 year, Ms. Dean has been working in the informal and formal STEM education fields, serving as Education Director at the Gulf Coast Exploreum Science Center and the K-8 Education Director at the Mobile Area Education Foundation. At STEMWorks, Ms. Dean serves as the Research Associate and Instructional Designer for the NSF JROTC Academy Award. As Research Associate Ms. Dean is primarily responsible for carrying out research activities including developing and deploying data collection instruments, cleaning data, conducting direct observations of the intervention, analyzing the data, and assisting the Lead Researcher with preparing annual reports and other tasks as required to ensure the successful implementation, analyses and dissemination of results of the research project. Additionally, as Instructional Designer Ms. Dean assists with the adaptation or development of STEM Curriculum to meet the Academy STEM curriculum outcomes, support feasibility testing of STEM Curriculum activities, and review and provide feedback on STEMWorks developed lessons.

Dr. James Van Haneghan, STEMWorks, LLC

James Van Haneghan is a consultant for STEMWORKS, LLC and Professor in the College of Education and Professional Studies at the University of South Alabama where he teaches courses in research methods, assessment, and learning. He has research interests in the areas of program evaluation, problem- and project-based learning, mathematics education, motivation, and assessment. He has been at the University of South Alabama since 1995. Before that he held positions at Northern Illinois University and George Peabody College of Vanderbilt University. His doctoral training was from the Applied Developmental Psychology Program at the University of Maryland. He also holds an MA in Experimental Psychology from S.U.N.Y at Geneseo, and a B.S. from S.U.N.Y.at Brockport where he majored in psychology and business administration.

Dr. Susan Pruet, STEMWorks, LLC

Dr. Susan Pruet has been actively involved in STEM education for over 30 years – as a teacher, teacher educator and director of reform initiatives. Since 1998 she has directed two STEM reform initiatives for the Mobile Area Education Foundation (MAEF): the Maywille/Mobile Mathematics Initiative and, most recently, Engaging Youth through Engineering (EYE), a K-12 workforce development and STEM initiative in Mobile, Alabama. Both initiatives, funded largely through NSF grants, involve valuable partnerships with the Mobile County Public School System, the University of South Alabama, and area business and industry. Change the Equation, a non-partisan, CEO-led commission focused on mobilizing business communities to improve the quality of STEM learning in America, recognized the EYE Modules as one of Change the Equation's STEM Works Programs. Dr. Pruet has served on a number of education boards and committees including vice chair of the Board of Directors of the Alabama Mathematics, Science, Technology, and Engineering Coalition (AMSTEC) and the Executive Board of the American Society of Engineering Educators (ASEE) K-12 & PreCollege Division. Dr. Pruet received her undergraduate degree in mathematics from Birmingham-Southern College, her master's degree in secondary education from the University of Alabama in Birmingham, and her doctorate from Auburn University in mathematics education. Currently, as president of STEMWorks, LLC, Dr. Pruet consults with various education organizations around designing, funding, implementing and sustaining integrated STEM programs, especially those serving populations under-represented in STEM careers.

Mr. James Duke, STEMWorks, LLC.

James Duke graduated from the University of South Alabama in Mobile with a Bachelor of Science Degree in Geography with a concentration in Meteorology and a Minor in Mathematics. After working

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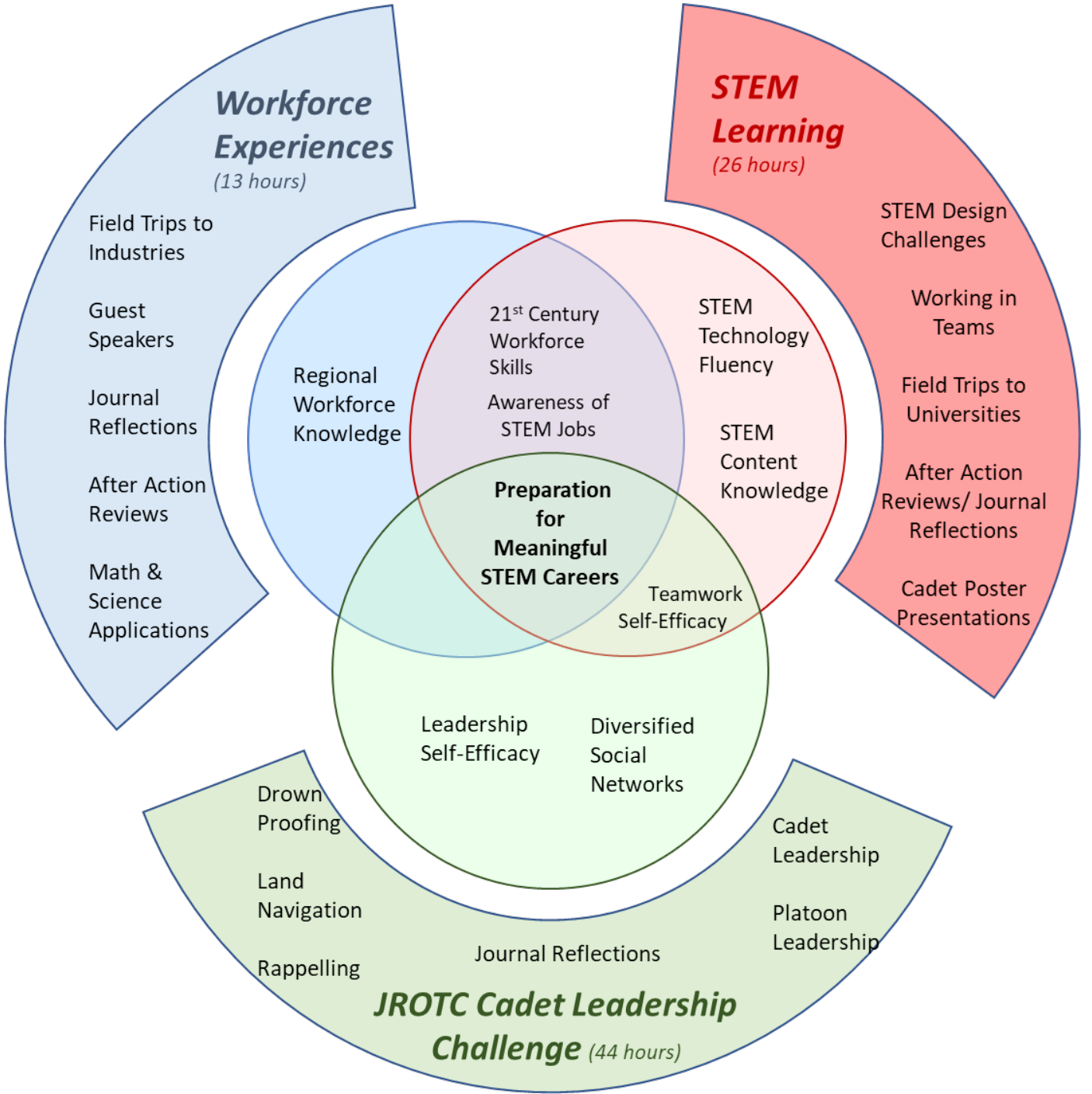

Next Steps for the ITEST Project

- Complete analysis of 2020 & 2021 graduating senior's data
- Publish final curriculum products
- Publish research findings in academic journals

Q & A

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NDEP's DoD-STEM: 2021-2025

Scaling Up the JROTC STEM Leadership Academy: Leveraging the JROTC Network to Increase the STEM Pipeline

DoD Project Objectives

- Scale the STEM Academy to 10 additional sites
  - 3 implement 2023-2025
  - 3 implement 2024-2025
  - 4 implement 2025
- Investigate how the Academy model is implemented with fidelity considering
  - Adaptations to different contexts
  - Resulting impacts on Cadets
  - Sustainability of the Academy post grant
- Provide a blended professional development and coaching model to support replication sites that leads to a sustainable model
- Develop site-based STEM leaders and web-based resources to facilitate future scaling of the Academy

Benefits for Replication Site Partners

- DoD funding
  - Up to $150,000 per year for up to 120 cadets
    - Personnel
    - Lodging & Subsistence
    - Materials and Equipment
    - Transportation
- Academy STEM curricula
  - 2023 Advanced Manufacturing and STEM on the Ground
  - 2024 Aviation and STEM in the Air
  - 2025 Maritime and STEM on the Water
- Impact Reports
  - Describe shifts in cadets' academic and workforce knowledge, and attitudes toward STEM careers

Benefits for Replication Site Partners

- Support for Site Leaders
  - Regularly scheduled meetings with DAIs and/or District Leaders
  - Coaching and consultation as they prepare, implement, and plan for sustainability of their local Academy
- Professional Development Workshops
  - Prepare the site's multidisciplinary instructional team to implement the Academy STEM curriculum
- Community Capacity Building Support
  - Advisory Board
  - Local Partners
  - Local Funders

Academy Implementation Requirements

- The Academy follows the JCLC framework
  - Residential Camp
  - 6 days and 5 nights
  - 10% of JROTC cadets
  - Platoons of 20-24 cadets
- The Academy consists of three components
  - JCLC Activities
  - Workforce Experiences
  - STEM Curriculum
- The Academy consists of multidisciplinary instructional teams
  - JROTC Cadre
  - Math, Science, and Career Tech Teachers
  - College Students
  - Provide daily STEM instruction, chaperone site visits, and facilitate journal reflections

Cadet Selection Requirements

- This Academy is intended to engage the same type of JROTC cadets who typically attend the summer JCLC.
  - Selection requirements for this Academy are the same as those outlined by the U.S. Army.
  - Cadets should not be selected based on their existing interest or success in STEM.
- Academy cadets should reflect the diversity of the district with equal representation of boys and girls

Academy Budget Details

- $150,000 to serve 120 cadets annually
  - $1250 per cadet
- Subaward from MCPSS
  - Custom budget based on local expenses and cadets served
  - Years of implementation
  - Supports and Requirements
- Anticipate additional expenses
  - Location vs Staff vs Cadets
  - Districts are responsible for securing additional funds
  - Look for local civic and business grant opportunities

Project Research Details

- Led by Dr. Julie Cwikla, Center for STEM Education, University of Southern Mississippi
- IRB approval has been secured with USM and is in process with DoD
- Ready to respond to any local review and approval

Project Research Details

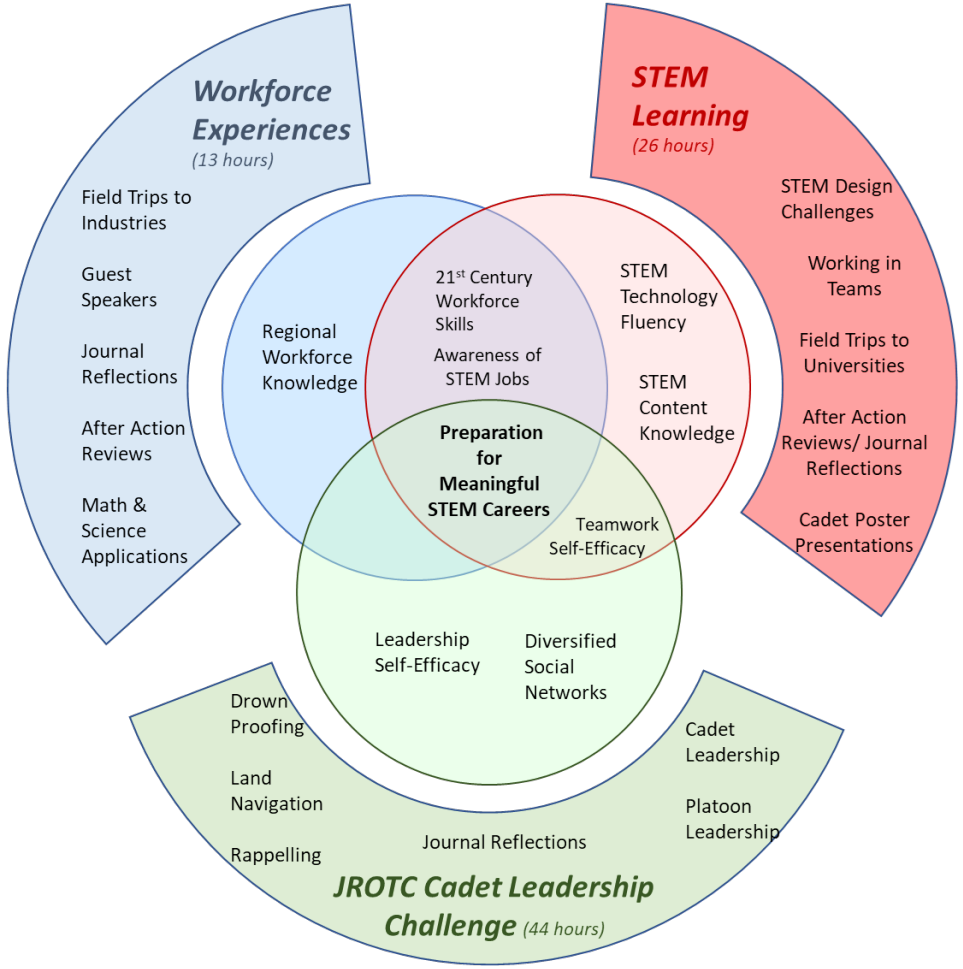
Research Questions & Instruments

Does the Academy model, when adapted to local contexts, replicate the NSF research results?

- Academy pre/posttest
- Academy Journals
- On-site observations

How is the Academy model adopted and then adapted to sustain the program with local funds post DoD grant?

- Interviews of DAI, District Leaders, and Academy Instructors
- Documentation of additional funders/supporters
- Other electronic and hard copy artifacts of planning and implementation (agenda, contract, etc.)



Q & A

How to Become a Partner Replication Site

Selection Process and Timeline

3 Phase Selection Process

- Interested DAI's and districts submit Information Form
- DAI's and District leaders participate in 1 hour information exchange meeting
- Sites launching Academies in 2023 & 2024 are identified

Phase 1: Site Recruitment

- District Leadership Teams attend Academy Planning Conference
- Secure host sites
- Develop draft budgets
- MCPSS & sites draft contracts

Phase 2: Replication Site Nuts and Bolts

- Finalize subaward contract
- Execute contract with school board approval
- Kick off the Academy in local communities

Phase 3: Make it Official

Phase 1: Site Recruitment

- Information Form
  - Due April 1, 2022
  - Go to Information Form
- One hour information exchange via videoconference
  - Will take place between April 4-22, 2022
  - Required Attendees:
    - DAI
    - District-level decision maker (Asst. Superintendent)
    - District-level grants specialist
    - District-level finance manager
- MCPSS and Project Leaders identify
  - Sites interested and ready for 2023 or 2024 implementation
  - Additional sites interested and ready for 2025 implementation

Phase 2: Academy Nuts & Bolts

- District Leadership Teams attend Academy Planning Conference
  - Registration deadline is May 15, 2022
  - On-site conference in Mobile, AL July 13-17, 2022
  - 4 person teams from the 2023 & 2024 replication sites
    - 1 DAI, 2 District Leaders, 1 STEM Education Subject Matter Expert
- Sites & MCPSS draft subaward contracts
  - Deadline August 15, 2022
  - Subaward annual budget
  - Benefits and Requirements
  - Academy dates
  - Host site, post-secondary & industry partners

Phase 3: Make it Official

- Confirm Replication Site Cohorts to begin in 2023 and in 2024.
  - Additional sites for 2025 will be added by August 15, 2023.
- Finalize subaward contracts for 2023 Cohort.
  - Contracts for 2024 Cohort will be finalized summer of 2023.
  - Contracts for 2025 Cohort will be finalized summer of 2024.
- Execute 2023 Cohort contracts with school board approval.
  - Approvals are required from both MCPSS and replication site.
  - No later than October 30, 2022
- Kick off the Academy in local communities.
  - No later than December 1, 2022

3 Phase Selection Process

- Interested DAI's and districts submit Information Form by **April 1, 2022**
- DAI's and District leaders participate in 1 hour information exchange meeting
- 2023 & 2024 Replication sites are identified by **May 15, 2022**

Phase 1: Site Recruitment

- District Leadership Teams attend Academy Planning Conference **July 13-17, 2022**
- Secure host sites
- Develop draft budgets
- MCPSS drafts contracts for 2023 cohort by **August 15, 2022**

Phase 2: Replication Site Nuts and Bolts

- Finalize 2023 Cohort subaward contracts
- Execute contract with school board approval no later than **October 30, 2022**
- Kick off the Academy in local communities no later than **December 1, 2022**

Phase 3: Make it Official

Q & A

Resources Available

- Academy logistic and planning tools
- Sample curricula
- Assessment & Evaluation instruments
- Academic publications

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