Envisioning the Else: An Evolving STEM Journey

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Setting the Context

How would you complete the sentence below?

*To this point, my STEM journey has been . . .*
Presentation Overview

• Defining Encounters in the Journey
• Why Mentoring Matters
• Why Mentoring in STEM is Critical
• Lessons Learned along the Journey
• Questions
Bridging the Gap
Partnering, Collaborating and Mentoring in our Digital Backyard

Program director
Project director
Programs coordinator
Programs assistant
Graduate assistant
Summer camp volunteer
Intended English major
A Hallway Conversation

Fitzgerald High School
Grow your mind. Grow your life.

Success begins at Ben Hill County Schools
• A seminar announcement
• An invitation to lunch
• A surprising conversation
• A still, small voice
An Interview Invitation Involving a Forgotten Application

Properly Ordered Priorities and a Grand Adventure
An Unexpected Opportunity

Louis Stokes Alliances for Minority Participation (LSAMP) Program

VALENCIA COLLEGE

Bridging the Gap
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SMILE is . . .

• A precollege program at Oregon State University

• A STEM enrichment program supporting minority, low-income, and first-generation-college students in 18 rural Oregon communities

• A statewide network of teachers and fourth through twelfth grade students involved in afterschool clubs

Bridging the Gap

Partnering, Collaborating and Mentoring in our Digital Backyard
Signature Elements of SMILE

- Teacher professional development
- Afterschool clubs
- Challenge and college connection events
- Developmental STEM pathway
SMILE Alumni

Meet Circe Verba, Ph.D.
From Participant to Mentor: NETL Researcher Aims to Inspire Next Generation of Scientists

https://www.orau.gov/netl/experiences/mentors/verba.html

Meet Our New CEO Nichole June Maher

https://grouphealthfoundation.org/meet-our-new-ceo-nichole-june-maher/
LSAMP is . . .

• A program authorized by Congress and established in 1991 to achieve greater diversity in STEM education and careers

• A model of student retention and achievement framed around academic integration, social integration, and career professionalization

• A national network of regional or statewide alliances working to meet goals of the program
Central Florida LSAMP is . . .

• An alliance of three state colleges in Central Florida

• Implementing its second grant from the National Science Foundation

• Recognized as 2015 Bright Spot in Hispanic Education

• Impacting institutionalized changes at one or more alliance colleges
Signature Elements of Central Florida LSAMP

- Dedicated STEM advising
- STEM-related student clubs
- Summer bridge program
- Assistantship/internship program
- Local student conference in STEM
- Travel to regional or national conferences in STEM
Central Florida LSAMP Participants

Life in Homeless Shelter Spurs Student to Attend College

https://today.ucf.edu/life-homeless-shelter-spurs-student-attend-college/

Valencia Student Lands Prestigious Summer Fellowship in Boston


Bridging the Gap

Partnering, Collaborating and Mentoring in our Digital Backyard
Mentoring in both programs is . . .

- A central engagement strategy
- Multi-tiered and cross-sectoral
- Designed and implemented with participant outcomes in view
- Supported through intentional preparation of mentors
Why Mentoring Matters

Reports\textsuperscript{1,2,3} of research on structured mentoring programs state positive outcomes in several youth development areas, including:

- Academic (increased high school graduation and college enrollment rates)
- Behavioral (improved behavior at school and home; healthier lifestyle choices)
- Emotional (enhanced self-esteem and self confidence)
- Social (healthier relationships; improved interpersonal skills)
Why Mentoring Matters

In *The Mentoring Effect* study, researchers compared findings from at-risk youth with mentors to those of at-risk youth without mentors. Data suggest mentored youth were:

- 36% more likely to state plans to enroll in and graduate from college
- 78% more likely to volunteer regularly in community
- 81% more likely to participate in sports team, club, or other extracurricular activity at school
- 131% more likely to hold a leadership position in a club, sports, team, school council, or another group
Why Mentoring in STEM is Critical

- Insufficient numbers to meet expected demand for STEM workers
- Innovation enhanced through diverse perspectives, backgrounds, and thinking
- Persistent barriers limit STEM participation of underrepresented minorities and women
- STEM skills are critical across disciplines and in citizenship

Bridging the Gap
Partnering, Collaborating and Mentoring in our Digital Backyard
In an email from a student . . .

“. . . I’d like to thank you and the LSAMP program for giving me an opportunity to work as a physics research assistant in the Fall semester . . . I was able to obtain a position as a physics research assistant in the Ultrafast Laser lab (physical science department at UCF) thanks to the experience I gained from participating in the LSAMP Scholars Program.”
Lessons Learned along the Journey

• Take time to become familiar with the context of the current work.

• Regular, intentional conversations promote sustained vision and efforts.

• Be prepared to move the work forward even if resistance persists.

• Be open to the suggestion of something else.
Lessons Learned along the Journey . . .

- Shared goals and diverse perspectives enhance system capacity.
- Clarify who is supporting the work.
- Time spent in building one’s team is time very well spent.
- Learn from positive and negative examples of leadership and become an intentional influencer.
1Centre for Addiction and Mental Health. (2013). Youth mentoring linked to many positive effects, new study shows. *ScienceDaily*. 
http://www.sciencedaily.com/releases/2013/01/130115143850.htm

http://doi.org/10.1016/j.jvb.2007.04.005


Other Resources


Other Resources


Closing the Conversation

How did you complete the sentence below?

To this point, my STEM journey has been . . .
Presenter’s Information

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QUESTIONS?