

Envisioning the Else: An Evolving STEM Journey

Eda Davis-Lowe
STEM Education and Diversity Consultant

Bridging the Gap

Partnering, Collaborating and Mentoring in our Digital Backyard

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

Program director

Project director

Program director

Programs coordinator

Programs assistant

Graduate assistant

Summer camp volunteer

Intended English major

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A Hallway Conversation



Fitzgerald High School
Grow your mind. Grow your life.

Success begins at Ben Hill County Schools

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- 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

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An Unexpected Opportunity

VALENCIA COLLEGE

Louis Stokes Alliances for Minority
Participation (LSAMP) Program

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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

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/>

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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

http://news.valenciacollege.edu/student-life/valencia-student-lands-prestigious-summer-fellowship-in-boston/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+valencia-college+%28Valencia+College+News%29

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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^{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*⁴ 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

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.

References

¹Centre for Addiction and Mental Health. (2013). Youth mentoring linked to many positive effects, new study shows. *ScienceDaily*.

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³Jekielek, S., Moore K. A., & Hair, E. C. (2002). Mentoring programs and youth development: A synthesis. Washington, DC: Child Trends.

<http://www.mentorwalk.org/documents/mentoring-synthesis.pdf>

⁴Bruce, M., & Bridgeland, J. (2014). The mentoring effect: Young people's perspectives on the outcomes and availability of mentoring. Boston, MA: MENTOR: The National Mentoring Partnership.

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Other Resources

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Closing the Conversation

How did you complete the sentence below?

To this point, my STEM journey has been . . .

Presenter's Information

Eda Davis-Lowe

STEM Education and Diversity Consultant

eda.davislowe@gmail.com

QUESTIONS?

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