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S-STEM Partnerships Supporting Low-Income Engineering Students: A Descriptive Case Study

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David Knight is a Professor in the Department of Engineering Education at Virginia Tech and also serves as Special Assistant to the Dean for Strategic Plan Implementation in the College of Engineering. His research tends to be at the macro-scale, focused on a systems-level perspective of how engineering education can become more effective, efficient, and inclusive, and considers the intersection between policy and organizational contexts. Knight currently serves as the co-Editor-in-Chief of the Journal of Engineering Education.

Dr. Sarah Rodriguez, Virginia Tech

Sarah L. Rodriguez is an Associate Professor of Engineering Education and an affiliate faculty member with the Higher Education Program at Virginia Tech. Her engineering education research agenda centers upon engineering and computing identity development of historically marginalized populations at higher education institutions. Currently, Dr. Rodriguez is involved with several large-scale interdisciplinary research projects focused on institutional environments and STEM identity development are sponsored by the National Science Foundation (NSF) and the Kapor Center. In recent years, she was selected as an Early Career Awardee and Faculty Fellow with the American Association of Hispanics in Higher Education (AAHHE) and a NASPA Emerging Faculty Leader. She also received the Barbara Townsend Early Career Scholar Award by the Council for the Study of Community Colleges (CSCC) and gave the distinguished ASHE-CAHEP Barbara Townsend Lecture. To learn more about her current projects, visit http://sarahlrodriguez.com/

Dr. Saundra Johnson Austin, Virginia Tech

Dr. Saundra Johnson Austin has dedicated her career to promoting diversity, equity, inclusion, and belonging of elementary, middle, and high school students in science, technology, engineering, and mathematics (STEM) education and careers. Her research is grounded in the effective implementation of STEM curricula in urban middle schools. She has published and presented on STEM education and organizational change. Dr. Johnson Austin earned a Bachelor of Science in Civil Engineering from The Pennsylvania State University, a Master's in Business Administration from the University of Notre Dame, and Doctor of Education in Organizational Change and Leadership from the University of Southern California.

At the University of South Florida (USF) she leads the project coordination for the National Science Foundation Florida Alliance for Graduate Education and the Professoriate (FL-AGEP), a $2.4M award to Florida A&M University (with a subaward to USF and Virginia Tech), Bethune-Cookman University, Florida International, and Florida Memorial University. Also, Dr. Johnson Austin is the project coordinator and Co-Principal Investigator for the USF Project Racism In School Exclusionary Suspensions (RISES), a $30k grant awarded to explore the suspensions of African American middle and high school students in Hillsborough and Pinellas County Florida.

Dr. Johnson Austin held positions as: math faculty at Academy Prep Center of Tampa; executive director of Curated PathwaysTM to Innovation; senior vice president for operations at the National Action Council for Minorities in Engineering, Inc.; president and CEO of St. Michael's High School; executive vice president of the Community Partnership for Lifelong Learning; executive director of the National Consortium for Graduate Degrees for Minorities in Engineering and Science; and Minority Engineering Program director at The Pennsylvania State University. She began her career as a cost engineering at Bechtel Power Corporation. In 2007 she founded Charis Consulting Group, LLC.

Dr. Johnson Austin was recognized by numerous organizations for her work in promoting equity and access to STEM education. Her most notable award is the 2015 Outstanding Engineering Alumnus in Civil and Environmental Engineering from The Pennsylvania State University. In addition, she was awarded the 2004-2005 Selected Professions Fellowship by the American Association of University Women (AAUW). Dr. Johnson Austin was awarded in 2007 the Strengthening Our Communities Inaugural Community Educational Leadership Award at the 2nd Annual Celebrate Literacy Conference. In 1998, she was recognized with the National Society of Black Engineers' (NSBE) Inaugural Golden Torch Award for Minority Engineering Program Director of the Year and the Outstanding Contribution by a Minority Engineering Program Administrator Award by the National Association of Multicultural Engineering Program Advocates (NAMEPA).

She is a member of various STEM organizations including the United States White House endorsed initiative under the Obama Administration, Algebra by 7th Grade, and advisory committee member for the Smithsonian Science Education Center's 'Zero Barriers in STEM Education.' Dr. Johnson Austin is currently the President of the American Association of University Women Tampa, Inc., consultant to the board for the Caribbean Community Association of Tampa, and Treasurer for the Northeast STEM Starter Academy of Mount Vernon, NY.

Dr. Johnson Austin is a member of the editorial review board for the Caribbean Educational Research Journal (CERJ). She also served as a reviewer for the National Science Foundation's CS for All Pathways, HBCU-Up, INCLUDES Conference and INCLUDES Launch Pilot.

She enjoys doing yoga, spending time on the beach, and mentoring young girls and women in STEM studies and careers.

Mr. Joseph Ronald Sturgess, Virginia Tech

Joseph Sturgess is a PhD student in the Department of Engineering Education at Virginia Polytechnic Institute and State University, where he also serves as a graduate research assistant contributing to various projects supporting low-income STEM students and minority-serving institutions. His research interests include community college-minority serving institution partnerships, transfer students, post-traditional students and broadening participation in engineering education. He received his B.S. in electrical engineering from Tuskegee University, a M.S in journalism from the University of Illinois-Urbana Champaign, a M.S. in physics from Fisk University, a M.S. in industrial engineering from the University of Central Florida and a M.Ed. in educational leadership from Texas Christian University.

Dr. Michelle D Klopfer, Virginia Tech Department of Engineering Education
Dr. Jacob R Grohs, Virginia Polytechnic Institute and State University

Jacob Grohs is an Assistant Professor in Engineering Education at Virginia Tech with Affiliate Faculty status in Biomedical Engineering and Mechanics and the Learning Sciences and Technologies at Virginia Tech. He holds degrees in Engineering Mechanics (

Dr. Amy Richardson, Virginia Tech Department of Engineering Education

Amy Richardson is a Postdoc researcher at Virginia Tech in the Department of Engineering Education studying engineering transfer students and inter-institutional partnerships. Amy has 15 years of experience at community colleges, including faculty and administrative positions. She is a licensed civil engineer with a Ph.D. in Engineering Education from Virginia Tech.

Dr. Dustin Grote, Weber State University

Dustin currently serves as an Assistant Professor in Teacher Education at Weber State University and leads the higher education leadership program. He holds a PhD from Virginia Tech in Higher Education.

James Nathaniel Newcomer, Virginia Polytechnic Institute and State University

S-STEM Partnerships Supporting Low-Income Engineering Students:

A Descriptive Case Study

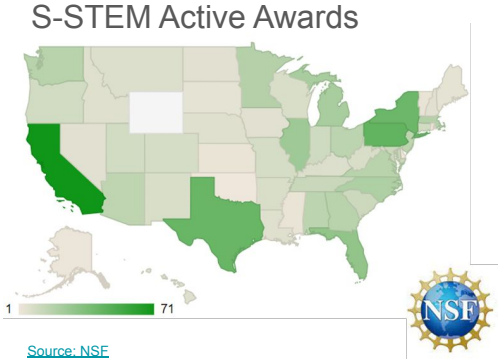
Walter C. Lee, David B. Knight, Sarah L. Rodriguez, Saundra J. Austin, Joseph R. Sturgess, Michelle D. Klopfer, Jacob R. Grohs, Amy Richardson, Dustin Grote, and James N. Newcomer

The purpose of this CoNECD presentation is to report on a single, descriptive case study as we describe a multi-stakeholder partnership between a large research-intensive university and two Virginia community colleges.

Funded through the NSF S-STEM program, the partnership was established to create a stronger engineering transfer pathway for low-income students who started their engineering education at a community college in Virginia by providing financial support and high-touch engagement with students.

Overview: S-STEM

S-STEM Active Awards



Source: NSF

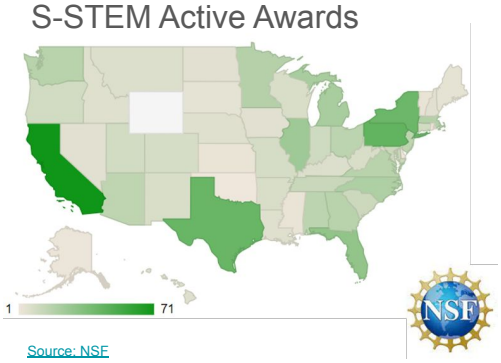
"The main goal of the S-STEM program is to enable low-income students with academic ability, talent or potential to pursue successful careers in promising STEM fields. Ultimately, the S-STEM program seeks to **increase the number of academically promising low-income students who graduate with a S-STEM eligible degree** and contribute to the American innovation economy with their STEM knowledge."

NSF 23-527

Scholarships in Science Technology Engineering and Mathematics (S-STEM) is a National Science Foundation program in the Directorate for STEM Education and the Division of Undergraduate Education.

Overview: S-STEM

S-STEM Active Awards



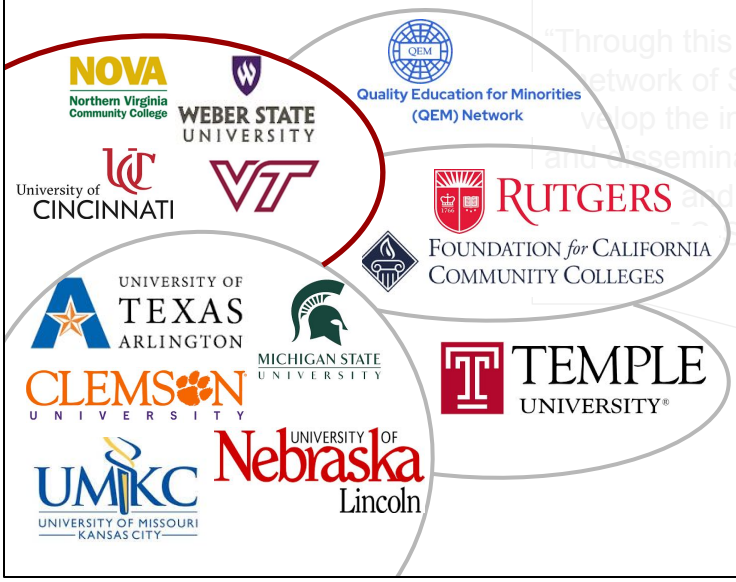
Source: NSF

S-STEM Research Hubs

"Through this solicitation, NSF seeks to foster a network of S-STEM stakeholders and further develop the infrastructure needed to generate and disseminate new knowledge, successful practices and effective design principles arising from NSF S-STEM projects nationwide."

NSF 23-536

Overview: S-STEM



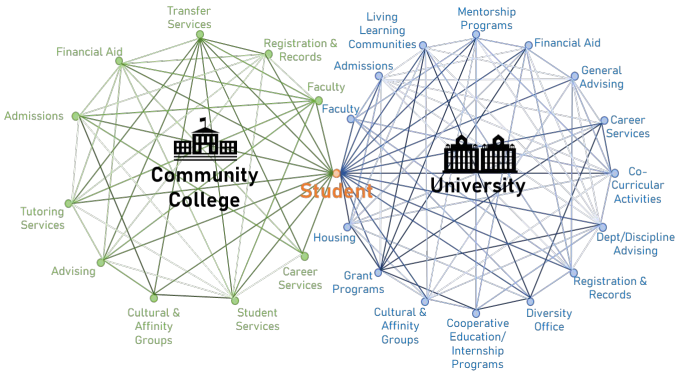
S-STEM Research Hubs

"Through this solicitation, NSF seeks to foster a network of S-STEM stakeholders and further develop the infrastructure needed to generate and disseminate new knowledge, successful and effective design principles arising from S-STEM projects nationwide."

NSF 23-536

Overview: S-STEM Research Hub

The objective of the ROPES* Hub is to advance understanding of **organizational partnerships** that support academic pathways for domestic low-income engineering students via the development of a new community of practice as well as focused research activities.



* ***R**esearch on **O**rganizational **P**artnership in **E**ducation in **S**TEM*

By focusing on partnerships, our goal is to reframe the many challenges faced by low-income students to be “organizational” challenges as opposed to “student-related” challenges.

This Hub’s rationale is grounded in a **process-focused theory** of collaboration that highlights how interorganizational relationships are dynamic, emergent, and mutable and embraces the ways in which coalitions of stakeholders form and change, as well as the ways in which collective action can, at least temporarily, bring together diverse interests.

Overview: S-STEM Research Hub

The objective of the ROPES* Hub is to advance understanding of **organizational partnerships** that support academic pathways for domestic low-income engineering students via the development of a new community of practice as well as focused research activities.

The purpose of this presentation is to discuss a descriptive case study aiming to explore the role of partnerships in a multi-institutional S-STEM program.

* ***R****esearch on* ***O****rganizational* ***P****artnership in* ***E****ducation in* ***S****TEM*

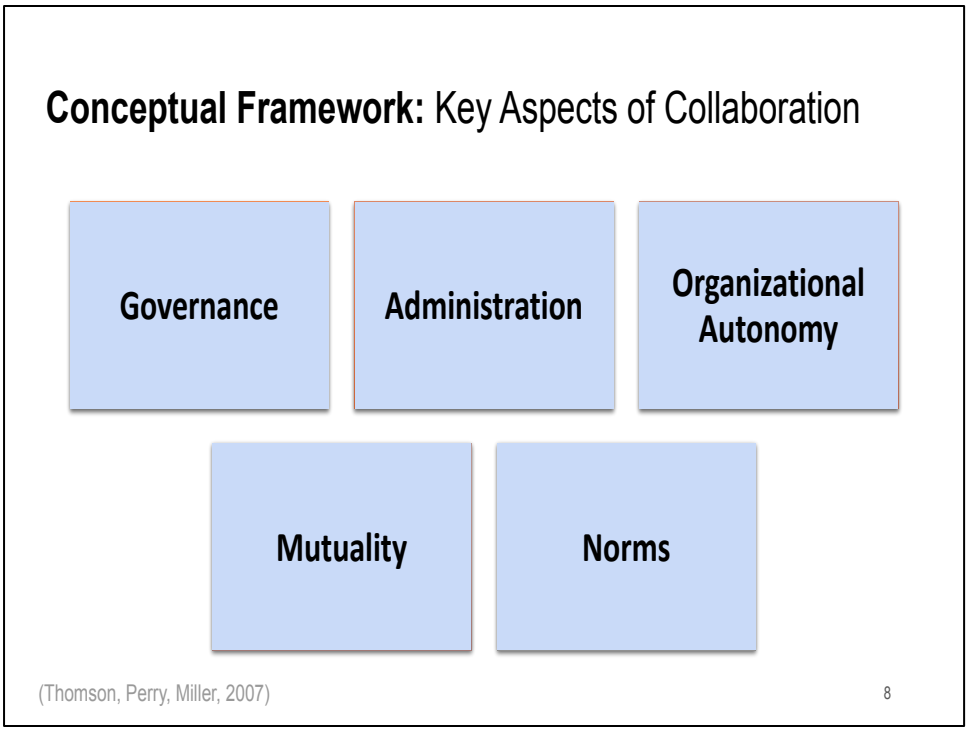
The objective of our current S-STEM Research Hub is to advance understanding of organizational partnerships that support academic pathways for domestic low-income engineering students via the development of a new community of practice as well as focused research activities.

We organized groups to conduct research focused on supporting low-income undergraduate engineering students in ways that are “congruent with the institutional context and resources” while going “beyond the direct impact on S-STEM Scholars” to impact departments and institutions involved.

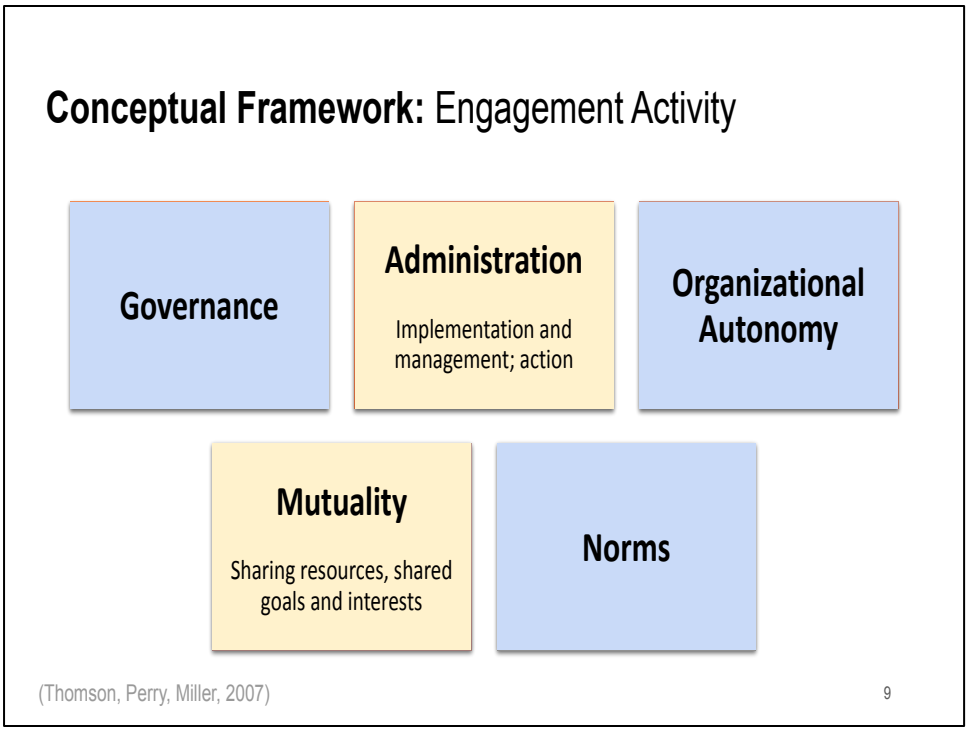
Conceptual Framework: Partnerships

Any relationship that involves sharing power, work, support, or information for the achievement of joint goals and/or mutual benefits.

More specifically, we aim to advance understanding of the efficacy of S-STEM partnership designs, processes, and structures. Illuminating how the complex web of student supports can work better will identify new efficiencies in the STEM education system so that limited resources can be more wisely spent and benefits can be extended.



Lens: (Thomson, Perry, Miller, 2007) (This definition emphasizes that collaboration is a multidimensional, variable construct composed of five key dimensions, two of which are structural in nature (governance and administration), two of which are social capital dimensions (mutuality and norms), and one of which involves agency (organizational autonomy).



Before we proceed, we want to pause and complete an audience engagement activity focused on two components of this model.

Conceptual Framework: Engagement Activity

You have decided to be the PI on a proposal that you are submitting to the NSF for an S-STEM project at your institution. Think about the steps it would take for you to form your own S-STEM project.

More specifically, **who would you invite to be partners?**

Discussion Questions

- ★ What strategies would you use to identify partners?
- ★ What goals and interest would you share with your partners?
- ★ What resources would you share?
- ★ What other information do you need?

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We present to you this (think-pair-share) activity where you are the PI on an S-STEM proposal that you are submitting to the NSF.

At this point in the process we need you to think about the steps it would take for you to form your own S-SEM project.

As you think about this process, prepare to answer these following questions:

1. What strategies would you use to identify partners?
2. What goals and interest would you share with your partners?
3. What resources would you share?
4. What other information do you need?

If you desire additional resources around reflecting about partnerships or with partners, please see Appendix B in this open access journal article: https://doi.org/10.1002/jee.20403

Research Methods: Descriptive Case Study

A **case study** is a research design method that involves collecting data from a specific subject.

A **descriptive case study** is a specific type of case study that provides a comprehensive and detailed description of the subject.

In terms of defining a descriptive case study, we first would like to share the definition of a case study, which is a research design method that involves collecting data from a specific subject.

We chose a descriptive case study for our research method because it aligned with this phase of research in achieving our objective of our track 3 S-STEM project.

Research Methods: Descriptive Case Study

A **case study** is a research design method that involves collecting data from a specific subject.

A **descriptive case study** is a specific type of case study that provides a comprehensive and detailed description of the subject.

Track 3 S-STEM
(Multi-Institutional)

Objective: To determine how a four-year institution can increase the success and efficiency of engineering transfer students following the community college -to-bachelor's degree pathway, resulting in an increase in the attainment of AS and BS degrees by students from underrepresented groups.

Research Methods: Descriptive Case Study

Track 3 S-STEM
(Multi-Institutional)

Objective: To determine how a four-year institution can increase the success and efficiency of engineering transfer students following the community college -to-bachelor's degree pathway, resulting in an increase in the attainment of AS and BS degrees by students from underrepresented groups.

This particular descriptive case study involves specific activities such as undergraduate research with like-minded faculty members, advisors who were sensitive to the transfer students, building a cohorts of students to impact student success, intentionally bringing the students to the four-year institution to begin their transfer experience, and providing a study abroad experience to begin building a cohort of students.

Research Methods: Data Collection

- **Primary Data:** Semi-structured Interviews
  - S-STEM Project Team (N=5)
  - S-STEM Partners (N=9)
  - Duration: 45-75 Minutes
- **Secondary Data:** Project Description

Sample Questions

- ❏ What is your role on the S-STEM project?
- ❏ How did this project team come together?
- ❏ In your own words, how would you describe the goals of this S-STEM project?
- ❏ What types of opportunities is your S-STEM project hoping to enable for students?
- ❏ In your opinion, what outcomes have you seen from this collaboration?

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Two researchers conducted semi-structured interviews as our primary source of data collected.

The interview of five S-STEM leaders and staff from the four-year institution, as well as nine S-STEM partners from the two-year and four-year institutions ranged from 45-75 minutes for a sample size of 14.

We also reviewed the project description associated with the project to make sure we understood the program context and intention before completing the interviews.

A sample of the questions that we asked were:

- What is your role on the S-STEM project?
- How did this project team come together?
- In your own words, how would you describe the goals of this S-STEM project?
- What types of opportunities is your S-STEM hoping to enable for students?
- In your own opinion, what outcomes have you seen from the collaboration?

Research Methods: Data Analysis

Thematic Analysis

Leadership and Agency		Partnerships	
Sub - codes	(1) Personal Agency	Sub - codes	(6) Partnership Evaluations
	(2) Personal Motive		(7) Partnership Formation
	(3) Project Champions		(8) Partnership Mutuality
	(4) Project Managing		(9) Project Norms
	(5) Project Roles		

A codebook was created from the recorded interviews that were transcribed using Rev.com.

The codes were organized by root (or parent) code and child code, which aligned with a specific construct.

Out of six the root codes from our codebook, we analyzed two root codes for today's presentation: (1) Leadership and Agency and (2) Partnerships

The yellow codes are the child codes for the root Leadership and Agency. For example the description used to code Project Champions was:

Description of project members that are described as being vital or central to project success, partnership functioning, or ensuring everyone is on board and on track.

The green highlighted codes are child codes for the root code for partnerships. For example the description used to code Partnership Formation was:

Describe and examine the development of individual or organizational relationships among S-STEM collaborators and partners

Although Partnership Norms was child code in our codebook, this particular child code was not used to describe the semi-structured interview responses for this phase of our descriptive case study.

Preliminary Findings:

Preliminary Findings: Partnership Formation

Partnerships Forms Based on Personal Connections

"So [the PI] reached out I think first to [Co-PI #1] to get some ideas going and I think [Co-PI #1] suggested that I ([Co-PI #2]) come on board because it was focused on transfer students and I was just finishing up a grant focused on transfer students.... And so I think one of the compelling elements of our proposal is that we could build upon what we had just learned in a research project focused on transfer students. And so it really built upon the programming side that [the PI] ran, but then also the research stuff that I ([Co-PI #2]) had just finished..."

Partnerships Changed Over Time as Opportunities Emerged

"So I was not around when they originally wrote the grant. I didn't work at [community college] at the time. So the dean that I had, I guess, worked with [university] to write the grant, but once it was awarded, he was my dean and I was the only engineering faculty on my campus. So he chose me and then asked me who I thought I would work well with across the college. So we chose other people at other campuses. We tried to space it out."

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The child code description for Partnership Formation is

Describe and examine the development of individual or organizational relationships among S-STEM collaborators and partners

For this presentation we have identified to prominent quotes representing the two root codes. In reading these quotes you can see that:

(1) There were personal connections that were formed by those leader and staff project members that we interviewed.

(2) As the project evolved we started to see in our findings how the partnerships changed over time as you can see from this quote.

Preliminary Findings: Personal Motivation

S-STEM Project Teams Were Motivated by Impact, Relationships, and Interests:

- ★ Ability to lead;
- ★ Opportunity to work with the project team members;
- ★ Improving the transfer process; and
- ★ Opportunity to learn more about students.

"Honestly, anytime [Name Removed] asks me, I say yes. I think she is a leader in the field. I think we have a really good working relationship research practice partnership space. So yeah, that was the draw."

S-STEM Partners Were Motivated by Impact and Relationships:

- ★ Desire to help students transfer and be successful.
- ★ Members of the team/relationships and collaboration
- ★ Project outcomes and relationships.
- ★ Opportunity to develop a stronger partnership with the lead institution.
- ★ Opportunity to award scholarships to students in need.

The child code description for the Personal Motivate is

Reason participants provide for joining the S-STEM project. Can be agentic (i.e., related to their ability to take action and exert control) or non-agentic reasons.

Note there were various reasons project members were motivated to join the project. What we have here are our findings for the two types of interviews that were conducted.

A particular quote that resonated with us was this quote displayed here.

Preliminary Findings: Partnership Mutuality

Partners Are Not Similarly Incentivized by External Funding.

"I think the challenges for community college folks to engage in grants like these is really hard, because you're not rewarded in the same way. XXX and XXX as faculty in engineering education are directly rewarded by having these grants. They get 5% of their pay has to be covered by these grants. They get additional money on top for summer and otherwise from these grants. Community college faculty, when you do a grant, it's extra work with very little extra benefit. That's a negative, I guess, in a sense. There's awareness of it, but I haven't figured out a solution."

Partners Must Sometimes Find Impact-Oriented Reasons to Engage

"So they have to be willing to say, I'm willing to do something different in the name of access for low income students or the name for access for students. And I think sometimes people are willing to do that and sometimes they're not."

"I have seen people genuinely change. I've seen people genuinely open their minds. I have seen a really robust prestigious college and program make adjustments in real meaningful ways that are better for transfer students. I have seen people have a light bulb moment and be like, "Oh, okay. This is a problem. We could solve it." And that all comes as a result of the grant forcing collaboration."

The child code description for the Pertnership Mutuality is

Reason participants provide for joining the S-STEM project. Can be agentic (i.e., related to their ability to take action and exert control) or non-agentic reasons.

Preliminary Findings: Project Managing

S-STEM Project Teams Noted PI Leadership:

- ★ The PI handling the day-to-day operations for all partners.
- ★ The project having to pivot during COVID-19

S-STEM Partners Noted Collaborative Efforts:

- ★ The project running as a team, although the PI was the lead.
- ★ The project being a learning experience, where hindsight was often 20/20.
- ★ Navigating issues for international students being unexpected.
- ★ Being open to opportunities that better supported student success
- ★ Learning how to manage the project that did not have many rules

"I think things that we could not do with the grant, we could not support students the way they needed to be supported through the pandemic. We had such great things, to cohort build, university visits, but when COVID hit, everything had to change."

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The child code description for Project Managing is

Administrative practices or processes (i.e., observable actions) that facilitate management of S-STEM project resources, both human and fiscal, in relation to one another; or boundary spanning functions, such as obtaining valuable information/connections from individuals and groups outside the S-STEM team.

A major reason that a research project of this size works so well can be summed up by this quote.

The leaders, staff, and partners shared with us these insights when asked questions that resulted in the project managing child code.

Preliminary Findings: Project Roles (1/2)

S-STEM Project Teams Noted People Occupying Distinct Project-Oriented Roles

- ★ Particular departments played specific project roles.
- ★ The PI strategically chose key people for project roles.
  - ○ Project roles included implementer, researcher (including curricular complexity), undergraduate research, and connector.
- ★ Project roles changed when PI at the community college left

S-STEM Partners Noted People Occupying Distinct Initiative-Oriented Roles

- ★ Each member of the project team had specific roles for program elements such as undergraduate research, study abroad, financial aid, advisors, scholarships, outreach, recruitment, enrollment, and evaluation
- ★ Advising played a critical role in the success of the project.

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The code description for project roles is:

Classifying collaborators and partners and their roles, including both individuals, organizations, and campus units;

The interviewees identified the roles played by each team member played on the project. It was very clear what their roles were on the onset of the project.

Preliminary Findings: Project Roles (2/2)

S-STEM Partners

"So, there was [Name Removed] who was the PI, [Name Removed], who was in charge of the [Program Name Removed] program, [Name Removed], who did undergraduate research. And then, we were put, our main contact changed often with [Institution Removed]. I think first it was a postdoc student, then it was someone with staff that would help us to coordinate university visits, help to collect data. So, we would hear from [Name Removed], I think her last name's [Name Removed], who would help do the data collection for students. Then we also had, early on, actually all the way through, it just changed, someone from general education's advising. We leaned on that person I would say most consistently throughout as we were always trying to advise students of what to take."

The code description for project roles is:

Classifying collaborators and partners and their roles, including both individuals, organizations, and campus units;

The interviewees identified the roles played by each team member played on the project. It was very clear what their roles were on the onset of the project.

Preliminary Findings: Project Champions

Project Champions (2) Were Important for Partnerships

- ★ The PI was a champion because of their years of experience and access to the decision makers in the college of engineering.
- ★ A particular champion at the community college "made it all happen." Without them the partnership and relationship would be non-existent.

"The reason it worked so well at [Institution Removed] is because of [Name Removed]. 100%."

The child code description for Project Champions is:

Description of project members that are described as being vital or central to project success, partnership functioning, or ensuring everyone is on board and on track.

Two champions emerged from our findings who were important for partnerships and are noted here.

What resonated most from all of our leader, staff, and partner interviews were quotes similar to this one regarding [Name Removed]

Preliminary Findings: Personal Agency

S-STEM Project Teams Noted the Importance of PI Experience

"And this is the thing that frustrates me, and maybe you can, and I believe they actually did change it for S-STEM, but S-STEM always required a faculty member, a teaching faculty member, to be the PI. And I argued against that a lot when I was up at NSF, because I told them, I said, the average teaching faculty member does not know how to run student programs. You can't do that."

S-STEM Partners Noted the Importance of PI Institutional Role

"Yeah, sure. So I think what sets our STEM apart from others is that we have an associate dean as our PI. And I think that's really helpful because I'm on an advisory board for a different S-STEM where that's not the case, and you can see a huge difference in institutional support policy space. I think their award will be helpful for the students who are in it, and that's probably about it. When the money goes away, what happens? I think ours has effectively changed policies. I think it puts it on just a different level of conversation at the institution in ways that things that are embedded within departments are hard or run by a regular faculty member and not an administrator. University wise, I have no idea if anybody at the university knows that we have this thing, which is crazy to me that we have one of the biggest grants there is certainly in terms of supporting students, and nobody at the university level seems plugged in or interested. And so that doesn't make sense to me."

The code description for Personal Agency is

Statements related to personal ability or inability to enact change, make decisions, external control, or generate action and outcomes.

Preliminary Findings: Partnership Evaluations

S-STEM Project Teams Noted Importance of Context/Timing

"The transfer pathway was kind of already established there, and so we didn't have as much things to sort out. But the second thing that was kind of interesting is around the same time the grant came in [city removed] and the counties right around it shifted to a free community college model where the county would fund it. And so the scholarship was actually not super enticing to get people into the program because students had access to a variety of ways to pay for the college. So recruitment was more of an issue there."

S-STEM Partners Noted Personal Relationships:

"The internal team really evolved into deep interpersonal and personal relationships beyond just the grant. And that was tremendous and valuable towards being successful as a team."

The child code description for partnership evaluation was

Mentions of examples of weak or strong individual or organizational relationships with S-STEM collaborators, partners, or partner institutions

Preliminary Findings: Summary

Leadership and Agency	Partnerships
(1) Personal Agency The experience and institutional role of the PI are vital to enacting change and programming	**(6) Partnership Evaluations** Project structure and initiatives can both be used to organize roles
(2) Personal Motive People joined the team based on personal relationship, desired impact, and personal interest	**(7) Partnership Formation** Partnerships formed based on personal connections and change as opportunities emerge
(3) Project Champions Institutional champions are vital to keeping everything together	**(8) Partnership Mutuality** External funding/grants are not always incentives so potential impact is important
(4) Project Managing PI leadership and collaboration efforts are key to managing the work	**(9) Project Norms** **Not used in this phase.*
(5) Project Roles Project structure and initiatives can both be used to organize roles	

Recall early in our presentation that our codebook includes six root codes and that for today's presentation we shared our findings from two root codes Leadership and Agency and Partnerships.

Future Work

Our plan is to:

- ➔ Updated the interview protocol based on preliminary insights
- ➔ Analyze the data from the other four codes relative to the S-STEM Project
- ➔ Expand sample to include more PIs and co-PIs from S-STEM Projects

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