

Working Group: Developing Effective STEM Education Partnerships

PRISM (10 yr+ grant built on partnerships)

Complete College GA

- Gov. Deal- increase post-secondary credentials in GA
- GA is in bottom third of USA and USA is 15th in world
- Partnerships—community and business leaders, also Gov't and USG officials

key elements

- reducing transferring remediation>> learning support post-secondary
- better use of data/analytics (ex. amazon computing)
- new models + pathways = competency based K-12
- accountability
- need to serve all students

*GA is a leader in completion... networks leveraged strategically

Vanderbilt Uni. - Education leader AND Neuroscience leader

Develop consortium from many areas to build: “Educational Neuroscience”

Everything was close together... literally across the street: **Synergy** and **Proximity**

Collaborating – bring people together to develop new strengths

Partnerships to Focus on STEM

“Race to the Top”... Support for new teachers... focus on Induction and Retention

Hire graduate students 20hrs/wk “teacher residents” ... with background in Sci/Math...

Residents are paired with a science teacher who mentors the new teacher

3 Goals

1. Build a pool of teachers
2. Build teacher leaders
3. Retain teachers

Athens Tech partners with ACCSD

Peach State- LSAMP

a National Science Foundation (NSF) sponsored program with the mission to significantly increase the number of underrepresented minorities pursuing degrees Science, Technology, Engineering, and Mathematics (STEM)... focus on increased enrollment, retention, graduation rates

also encourages undergraduate research and service learning... also reaches out to K-12 schools

Consortium of seven schools: The University of Georgia, Fort Valley State University, Georgia Institute of Technology, Georgia Perimeter College, Kennesaw State University, Savannah State University, Southern Polytechnic State University

Member institutions host an annual research conference

Athens Tech

Striving for seamless education for those who transfer from 2yr -> 4yr

50% students move to 4 year schools

50% students go directly to industry

Note: students generally from different demographic backgrounds than 4 yr school

Credit transfers well to other institutions... except to UGA

*Not trying to compete with other universities

Gwinnett Tech and Athens Tech

Georgia Bio – Biotech Companies [<http://www.gabio.org/>]

Dept of Labor Grant

Teach teachers to do labs and other associated skills... this program helped teachers learn skills, but also gave access to tools to use in class... could be checked out and brought into classrooms

Now collaborating with the Dept of Education

Board of Regents <--> Athens Tech

Boards, chancellor, and commissioner

TCSG and USG... Cross talk? Partnerships?

Gone from 10 courses to 27 courses which are transferable...

Theoretical Discussion-

- Build structures for partnerships so they have longevity
- The roots of partnerships are people at the individual levels
- What happens when the funding ends? How do you sustain these things?
- Scaling? Maria Navarro mentioned: Going to a class one at a time and that she has been told “you should not do that!”
- Incentivization of partnerships to maintain them
- Change of culture of promotion... STEM outreach work can be valuable but is often not considered as such... change is happening, but it’s a slow process
- Are there generational gaps... will this affect sustainability of initiatives

Scaling... there are isolated projects... need to scale and leverage partnerships... need to maximize and stretch return on investment... could use analytics to determine drop points (eg pre-calc) and focus resources there

Networks could develop as clearinghouses? Apparently they do... Office of Stem Education already exists... and is exactly that!? Responses to this revelation included: “Wow... I had no idea” –Leebens-Mack and “Why do none of us know about this?” –Anon

Capturing data on teachers in first 3 years to identify best practices to keep them in the system...

Teach teachers to take advantage of the scaling effect and capture a much larger student base

CIRTL network membership... 23 partner Universities... NSF-funded

Q: What is the basis of these partnerships? **A:** self-interest and shared stakes

*Note: when a student @ any school hits a STEM roadblock... it is a loss for the state of GA... everyone has something to bring to the table

Q: Are there opportunities to bring teachers into the lab? **A:** yes, GIFT

Major Themes (2)

1. Value of identifying best practices...

Q: Is this working? If yes, what are the working components?

2. Communicate best practices...

Q: Is there a systemic system in place to maintain communication?

A: STEM portal- online (forthcoming)

Q: We are on the supply side of STEM... what is on the demand side? **A:** soft skills

Q: Are STEM teaching goals in line with what industry needs from them?

Q: How involved is industry in crafting curriculum?

A(s): not USG, but TCSG does this and industry is involved...advisory boards include industry component

Inspiration is distinct from partnership, but inspiration is the key to self-motivating students

Q: How to inspire? **A:** example of ACC program "Adopt-a-Class" also "Project FOCUS"

Also... parents engaging children is a key to sparking inspiration... an individual spark

Next Steps:

- Communication improved to integrate people who want involvement in working systems...
- Scale up and down
- Communicating "Best Practices"
- Get people together to sustain partnerships... Continuity
- Identify a variety of media outlets to rigorously communicate STEM ideas and available opportunities.