RECRUITING TEACHERS FOR VOLSTEACH FOR APPALACHIA

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CENTER FOR ENHANCING EDUCATION IN MATHEMATICS & SCIENCES

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Project Overview

VolsTeach for Appalachia: Strengthening the STEM Teacher Pathway from Community College to a Four-Year University (VFA) is a multi-year project focusing on recruiting and retaining potential STEM teachers in high-needs areas in Rural Appalachian East Tennessee. VFA aims to recruit potential teachers from local community colleges in East Tennessee but primarily working with Pellissippi State Community College (PSCC).

In East Tennessee, as the 2017-2018 school year began, 21 out of 33 school districts (64%) reported at least one unfilled math or science teaching position. This workforce need reflects a growing national narrative about the insufficient supply of STEM teachers. American Association for Employment in Education (AAEE, 2016) data show considerable teacher shortages in the Southeast. In Tennessee, projections indicate that half of the more than 65,000 teachers in the state will leave or retire within the next decade (Aldrich, 2017). Nationally and in Tennessee, enrollment in teacher preparation programs has declined over the past few years, creating uncertainty about filling future positions (Flannery, 2016; Westervelt, 2015). Furthermore, ACT data show that only 37% of Tennessee high school students taking the ACT reach the math or science college readiness benchmark (American College Testing, 2016). In East Tennessee schools, only 30% of students attain this benchmark (American College Testing, 2016). These statistics emphasize the point that East Tennessee is in particular need of teachers who are prepared to support students' deep understanding of STEM.

The Context:
East Tennessee Appalachia is an area rich with cultural heritage and its own share of unique challenges. Its relative isolation, teacher shortages, student underachievement, and negative or indifferent dispositions toward STEM are some pressing challenges that make it a high-need area (Pollard & Jacobsen, 2017; Vance, 2016). Appalachia has been and continues to be marked by chronic poverty due to a lack of investment in individuals, families, and communities over a prolonged period of time (Duncan, 2005). For East Tennessee, poverty levels for the 33 counties range from 14.4% to 27.7% (Pollard & Jacobsen, 2017). Over half of the counties have a poverty level of 20% or above.

Rural Appalachian East Tennessee is a region of the United States rich with cultural heritage, natural beauty/resources, and its own share of unique challenges. Appalachia has been and continues to be marked by *chronic poverty* due to a lack of investment in individuals, families, and communities over a prolonged period of time (Duncan, 2005).

Background

Community College Students: An Untapped Resource for STEM Teacher Leaders. To address the needs of Appalachia in East Tennessee, VFA will recruit high potential PSCC students to become STEM teachers. National data show that community college students are far more likely to be underrepresented minorities, first-generation, and/or low-income students than those who go directly to four-year institutions (National Center for Education Statistics, 2014; Witham, Malcom-Piqueux, Dowd, & Bensimon, 2015). PSCC students are often first- generation and low-income students; for these reasons, they share the same struggles and experiences as K-12 students throughout Appalachia. These shared experiences make PSCC students the perfect candidates to become STEM teachers who can inspire and prepare underrepresented students in Appalachia to pursue STEM disciplines.

Guiding Questions

1. What were aspects of recruitment that were effective?
2. What were aspects that would have increased the effectiveness of recruitment?
3. What are other community partners/organizations that should be included as part of recruitment efforts?

Theoretical Framing

We draw on the idea of STEM teaching as a social practice (Lave, 1991; Wenger, 1998) with broader implications including providing K-12 students' access to STEM literacy.

Recruitment Plan

Strategy 1- Introduction to STEM Teaching and Learning course to be offered at PSCC.
Strategy 2- Four-Week Internship: Summer STEM 1 (SS1) that serves to inspire first year students' love of STEM teaching and learning.
Strategy 3- Revise recruitment materials: emphasize STEM teaching as a way to make a difference in changing our local community and world.
Strategy 4- Conduct face-to-face meetings at PSCC locations during scheduled informational sessions.
Strategy 5- University of Tennessee recruiters will provide an orientation to PSCC advisors about the VFA project and mission.
Strategy 6- Recruitment visits: Conduct recruiting visits in mathematics courses at PSCC locations.
Strategy 7- Contact local high schools in East Tennessee for potential graduating seniors attending community colleges who are interested in entering STEM majors or teaching.

Recruitment Efforts with Potential

1. Logo development.

VolsTeach for Appalachia
First Logo

VolsTeach for Appalachia
Final Logo

2. Visiting with community college partners directly. Using personal contacts as well as speaking at events that include multiple partners.

3. Messages that involve the overarching purpose of the project.

https://stemforall2019.videohall.com/presentations/1415

VFA Wesbite: https://sites.google.com/vols.utk.edu/volsteachforappalachia
Twitter: @AppVols

4. STEM Teaching Internship.

Participants: 15 college students majoring in STEM fields or interested in teaching STEM in East Tennessee. 9 Females, 6 Males
Week 1: Engaged in open STEM focused tasks to be implemented in KidsU Middle School camp.
Week 2: KidsU Hands-on Middle School STEM Camp
Week 3: Task design and MUSE Pre-K Camp
Week 4: STEM Teaching and Task Implementation

SS1 Cohort with KidsU and MUSE campers

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