

BOARD # 409: NSF LSAMP: 2-Year Institution STEM Faculty and Staff Perceptions of the KS-LSAMP Project

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LSAMP: 2-Year Institution STEM Faculty and Staff Perceptions of the KS-LSAMP Project Implementation

Introduction

The overarching goals of the Kansas Louis Stokes Alliance for Minority Participation (KS-LSAMP) project (EDU/EES) is to establish a sustainable pathway for underrepresented minority students (African American, Hispanic/Latinx, Native American/American, Pacific Islander and Alaskan Natives) in STEM disciplines in the state of Kansas and to significantly increase the number of underrepresented minority students graduating with STEM baccalaureate degrees in the state of Kansas [1]. The project is led by Kansas State University, a large land grant research institution. The alliance institutions included newly added Wichita State University and five community colleges, Barton Community College, Dodge City Community College, Donnelly College, Garden City Community College, and Seward County Community College, all of which are minority-serving institutions with two-year programs that are transferable into STEM majors at Kansas State University and/or Wichita State University.

As a well-established alliance, we have focused on working with two-year degree granting institutions to support pathways and developed new understanding of best practices for supporting successful transfer from two-year institutions to baccalaureate completion. Specifically, the current transfer system at the lead institution, Kansas State University (K-State), encourages students to transfer in at the time that is the best fit for the individual. Depending on the discipline, the most applicable time to transfer may be after 1 year, 1.5 years, or 2 years and is fully dependent upon coursework that is available at their transfer institution. Kansas State University works individually with each community college alliance institution to ensure the transferability of coursework that would apply to a student's specific degree. Because every community college alliance institution offers different courses, K-State creates pathways that are unique to every institution.

The current transfer system only requires a specific cumulative GPA for admission into K-State without a requirement of completing specific math or science coursework. The elimination of requiring students to complete coursework before admissions alleviates pressure and stress of a student feeling they are behind and can pursue a degree in STEM fields on their own time frame. In addition, the current transfer system provides a financial scholarship for students that is in addition to any transfer scholarships a student may receive at the institutional level. The requirements to receive a scholarship are once again based on cumulative GPA and are not tied to completing specific math or science courses to be eligible.

As a result, in the past six years K-State has been successful in increasing the percentage of students from Historically Excluded Ethnic Groups in STEM majors. The table below shows the total number of incoming transfer students in STEM majors at K-State and the number of transfer students from Historically Excluded Ethnic Groups (HEEGs) in the past six years.

Year	All	HEEG	HEEG as a percent
2019	385	67	17.4
2020	337	65	19.3
2021	358	66	18.4
2022	385	67	17.4
2023	393	86	21.9
2024	374	91	24.3

As this grant cycle comes to an end, our focus is primarily to understand the resources and the implementation of the KS-LSAMP program across all the alliance partner institutions. The purpose of this paper is to examine how STEM faculty and staff at the community college alliance institutions perceive the implementation of KS-LSAMP program. We specifically focused on the perceived strengths, obstacles, and possible solutions throughout the implementation phases, which offers insights as we aim to strengthen the institutionalization of the project across all partner institutions.

Method

A qualitative study was conducted with multi-site focus group interviews. In Spring 2024, a purposive sample of 21 STEM faculty and staff from three community college alliance institutions were selected. These faculty and staff were chosen as they have been heavily involved in the KS-LSAMP program by recruiting students into STEM fields, teaching core STEM courses, and offering STEM-specific extracurricular activities at their respective institutions.

Multiple members on the PI team visited three community college alliance institutions – Dodge City Community College, Donnelly College, and Garden City Community College, during Spring 2024 semester. At each site, a semi-structured focus group interview was conducted with the STEM faculty and staff. Each focus group interview lasted about an hour. The interview protocol was reviewed by the PI team before the site visits. Detailed notes were taken for all focus group interviews. The content analysis was conducted following the five-step process recommended by Creswell's [2] – organizing data; gaining a comprehensive understanding of the collected information; engaging in the coding process to identify patterns and recurring themes;

categorizing the identified themes; and interpreting the data within the context of the research purpose.

Results

There are three major themes from the findings. The first theme was related to the strengths in the existing programs. Participants acknowledged a variety of activities and programs (e.g., Science Café, STEM camp) that exist in their institutions for transfer students. A decent number of students are actively using tutoring services and STEM clubs at various alliance institutions. Participants also expressed the value of faculty in these programs as they build connections with students in and outside classrooms and encourage students to transfer to a 4-year institution.

The second theme was related to the barriers to students transferring from a 2-year institution to a 4-year institution. One common barrier repeatedly mentioned by the participants was the lack of or insufficient communication about the transfer process. Specifically, the students with the intention to transfer sometimes didn't learn the information about the transfer progress in time. Similarly, students often were not made aware of the services available to them which could potentially help them with the transfer process. Participants also addressed the barrier of differences across institutions' program offerings, which ranging from the lack of matching programs to different curricula and/or different levels of math preparation required across different institutions.

The third theme was related to potential solutions to the perceived barriers. Participants expressed the need to have a clear and well-articulated transfer process through documentations, such as developing transfer flowcharts and transfer agreements. Such information and documents need to be easy to understand for the future transfer students and shared with them early on. Participants also pointed out the importance of connecting 2-year students who intend to transfer with successful transfer students who are enrolled at 4-year institutions.

Discussion

This study examined how STEM faculty and staff at several community college alliance institutions perceived the implementation of the KS-LSAMP program. The findings suggested that as a well-established alliance, there are various institutionalized resources that support the KS-LSAMP program, which should continue to be implemented. Participants mentioned communication as a primary obstacle and offered different solutions. Both 2-year institutions and 4-year institutions need to work together to develop more effective communication strategies with the foci on a) communication contents (clear, well-articulated, and easy-to-understand information on the transfer process) and (b) delivery methods (early, frequent, and approachable

to future transfer students), so that students at 2-year institutions have the tools and the resources to successfully transfer to a 4-year institution.

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