Engineering Educators Bringing the World Together
2025 ASEE Annual Conference & Exposition
Palais des congrès de Montréal, Montréal, QC • June 22–25, 2025 ASEE
Paper ID #47382

BOARD # 434: Reflections from S-STEM Scholars: Relative Importance of Integrating Transfer Students into University Culture or College of Engineering Community

Dr. Christy Wheeler West, University of South Alabama

Christy Wheeler West is an associate professor in the Department of Chemical and Biomolecular Engineering at the University of South Alabama, where she also serves as Director of the Office of Undergraduate Research. She holds a Ph.D. from Georgia Institute of Technology and a B.S. from the University of Alabama.

Nicole Carr
Dr. Eric Steward P.E., University of South Alabama

Associate Professor in the Civil, Coastal, & Environmental Engineering Department at the University of South Alabama

Reflections from S-STEM Scholars: Relative Importance of Integrating Transfer Students into University Culture or College of Engineering Community

The LINK scholarship program supports low-income students transferring from community colleges to complete engineering degrees at the University of South Alabama, a regional four-year institution in the South. The program is in its sixth and final year, and has been successful in launching its scholars into engineering careers. Over the course of the S-STEM grant, a total of seventy-seven transfer students have been supported, and 90% of scholars have graduated or are on-track in their degree programs. Of the graduates, 91% have either obtained employment as engineers or entered graduate or professional degree programs.

For context on our student experience, our institution has a population of 14,000 students, with about 1,100 of those in engineering. Class sizes in engineering are in the range of 30-40 students. Within the College of Engineering, there are twenty-six active student organizations that meet regularly and are an important part of the college culture. These organizations include student chapters of professional institutes, honor societies, affinity groups, and interest-based clubs. Academic advising is done by faculty and is required every semester, and students meet with the same assigned faculty advisor throughout their enrollment. All of the engineering departments and classrooms are housed in a single building. These factors result in close-knit communities of students within each discipline.

In addition to financial support, the student experience includes a first-semester seminar to develop community and familiarize students with campus resources. The final assignment in the seminar is a three-minute presentation about how they got involved in the college or on campus. Scholars are also assigned faculty advisors in their degree program with specific expertise in mentoring transfer students. They meet with those advisors three times in a semester and are held accountable for engaging in student organizations, taking advantage of resources, editing resumes, and applying for opportunities. Generally, the scholar supports and expectations are built around extant practices in the college with the goal of integrating them into the environment on a quick timeline since as transfer students they will be on campus for a shorter period.

At the end of the first-semester seminar, the cohort of scholars meets in a focus group to evaluate what has supported their success through the transfer experience. Last year, in response to a question regarding sense of belonging at the institution, a student stated “We don’t go to South (the university), we go to Shelby (the engineering building).” The rest of the cohort agreed, but generally considered the sense of belonging in the College to be sufficient to meet their needs. This led us to revisit transfer student survey data from a previous year to evaluate trends in identity and belonging.[1] In that survey, nearly twice as many respondents reported feeling

connected to other students in the College than reported either a sense of connectedness to the University or a sense of belonging at the University. They also reported that the most important contributors to their academic success were the other students in their classes and their assigned engineering faculty advisors.

To further understand the relative importance of integration into our college of engineering and the sense of belonging at the larger educational institution, we convened three focus groups of transfer students, each group composed of students at a particular point in their educational journey, ranging from first-semester transfers to recent graduates. We listened to students' reflections on their progression from transfer toward degree completion, how they engaged within the college and with the greater university community, whether those were reasoned choices, and their perceptions of what role their integration played in their success. They were also asked for their opinion on the comment about going to Shelby, not to South.

When students in the focus groups discussed their engagement on campus, they centered their comments around the College of Engineering even if the question was about the university in general. They largely spoke about what engineering student organizations they were involved in, what roles they played there, and how they enjoyed them. They described their engagement with other engineering students in study groups and group projects. They called out specific faculty members who made them feel welcomed. Students also had positive reflections on attending football tailgates hosted by the College of Engineering and the networking opportunities those events offered.

A common theme that arose in the discussions was that students had not pursued opportunities to get involved on campus outside of the College of Engineering due to time constraints. Several mentioned circumstances outside of school that limited their time, such as long commutes, jobs, and family responsibilities. Students also mentioned that because they had completed their general, non-engineering coursework before transferring, they did not have opportunities for classes or interacting with students from other fields. A few of the students did report getting involved outside of the College of Engineering via one specific mechanism: intramural sports. While they had joined teams with other engineering students, it was a way that they interacted with students from across campus, and it made them feel more a part of the university culture as a whole.

Discussions with the groups of transfer students largely revealed that they are deeply focused on academics, and that their engagement was centered on coursework. Their most important campus connections are the other students in their classes. The first-year transfers noted even stronger connections with students in their classes who were also in their S-STEM cohort, but that importance seems to wane as they progress in their major. Supplemental instructors in engineering courses were also important, as were any faculty who were generous with office

hours. The relationships with faculty mentors associated with the S-STEM program were important to all of the students throughout their educational time.

Overall, the engineering transfer students in the focus groups conveyed that they are in college for the academic experience and the career opportunities it will afford them, and not for the social experience. Presumably, they might have started their higher education in a university setting instead of community college if the social college experience had been an aspiration. Nevertheless, they do desire to engage with other students and faculty in their academic and professional pursuits. This is consistent with the findings of Townsend and Wilson that transfer students look for their community within the classroom.[2]

Since the foundational work of Tinto on the role of academic and social integration on student persistence and success, university initiatives to inculcate first-time-first-year students have grown exponentially.[3, 4] Over time, efforts to integrate engineering students have come to focus more on Astin's model of student involvement, associating the social experience with academics and professional development. [5, 6] Lee et al. have developed a survey instrument on integration specific to engineering students that focuses more on engagement in academics than campus social culture, with the argument that engineering students sense integration differently from the general student population.[7] They suggest that for transfer students to engineering, the definition of integration might be different still. That is consistent with our findings.

In conclusion, most of the engineering transfer students described an engagement that was Shelby Hall-centric. Those who did not personally embrace the statement "I don't go to South, I go to Shelby" still agreed that they understood the sentiment and thought that it was true of most of their peers. At the same time, none of the students expressed concern that they were missing out. Their circumstances or preferences centered their time in our programs on academic and professional endeavors, and they were content with the social experience that comes from the classroom environment and out-of-class group work. Even those who wanted more involvement found it largely in engineering-focused student organizations.

While studies such as this one are inherently institution-specific, they do offer general direction on the design of programs to promote student success. For engineering transfer students, colleges would do well to consider their particular population of students and learn from them what they want from their experience. In designing S-STEM programming for transfer students, there is not necessarily a need to help those students "catch up" to the level of social engagement of the native students. Perhaps a more relevant effort would be educating the faculty in classes that are likely to have new transfer students on how to create a welcoming environment so that those students can feel as fully engaged in the classroom experience in their first term as the students who have been on campus longer.

This material is based upon work supported by the National Science Foundation under Award Number 1833985.

References

[1] C. W. West and E.J. Steward, "Engaging Transfer Students in a College of Engineering," in *ASEE Annual Conference and Exposition*, 2023.

[2] B. K. Townsend and K. Wilson, "" A hand hold for a little bit": Factors facilitating the success of community college transfer students to a large research university," *Journal of College Student Development,* vol. 47, no. 4, pp. 439-456, 2006.

[3] V. Tinto, "Dropout from Higher Education: A Theoretical Synthesis of Recent Research," *Review of Educational Research,* vol. 45, no. 1, pp. 89-125, 1975.

[4] V. Tinto, *Leaving college: rethinking the causes and cures of student attrition*, 2. ed., Chicago, Ill.: Univ. of Chicago Press, 2012, p. 296.

[5] A. W. Astin, "Student involvement: A developmental theory for higher education. A return to the academy. Student Personnel Monograph No. 16," 1984.

[6] N. L. Smith and E. M. Van Aken, "Systematic literature review of persistence of engineering transfer students," *J. of Engineering Edu,* vol. 109, no. 4, pp. 865-883, 2020.

[7] W. C. Lee, A. Godwin, and A. L. H. Nave, "Development of the Engineering Student Integration Instrument: Rethinking Measures of Integration," *J. of Engineering Edu,* vol. 107, no. 1, pp. 30-55, 2018.