

Knowing Your Assets

Navigating Best Practices Through an Exemplary Case Study Focused on an Automotive Technology Associate Degree Program

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Abstract

Community college literature frequently depicts community colleges from a deficit approach when compared to four-year institutions. Using Harper's (2010) Anti-Deficit Achievement Framework, we adopted an exemplary case study approach to examine best practices for community college student success, including retention, graduation, and workforce entry indicators. Specifically, we investigated four automotive technology programs noted as exemplary by the Ford Motor Company as the bounded case for this study. Preliminary findings indicated that student success was related to strong faculty programmatic involvement, curricular alignment and relevance between required courses and automotive technical interests, and reduction of financial burdens for students through paid internships. Implications for research and practice are discussed.

Purpose

This paper aims to profile stories that emerged during site visits from four exemplary automotive technology (AT) associate degree programs at community colleges. These degree programs require community college courses paired with an experiential learning curriculum - designed to teach students automotive technologies associated with Ford engines. We answer the question: *what are the consequential best practices that contributed to the success of these students who participated in this automotive technical program across these four colleges?*

Brief Literature Review

Research on workforce training and development at community colleges is vital for addressing labor market demands (Dikhtyar et al., 2021; Myran & Ivery, 2013; O'Banion, 2019). Community colleges, vocational schools, and automotive training programs play a critical role in preparing individuals for careers as automotive technicians (Haviland & Robbins, 2021). The demand for skilled automotive technicians has increased due to advancements in vehicle technology (Chigbu & Nekhwevha, 2021) and an aging workforce (Toossi, 2015). Collaboration between educational institutions, government agencies, and private sector organizations can lead to targeted workforce development initiatives with local and regional significance (Weissman, 2022).

Conceptual Framework

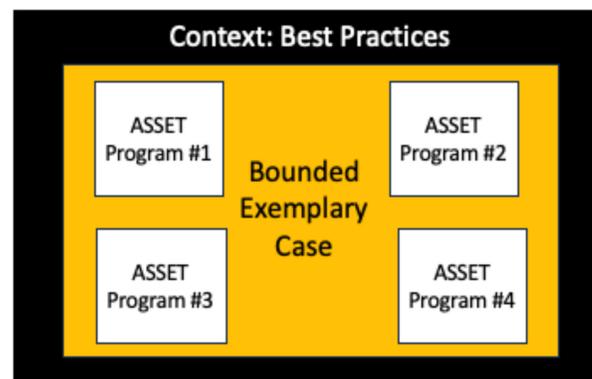
This paper is grounded in Harper's (2010) Anti-Deficit Achievement Framework. Social constructivism guided our understanding of how students and faculty extracted and created meaning from their experiences (Creswell & Poth, 2018).



College
Impact
Laboratory

Methods

This study used **case study methodology**: It was the most appropriate approach for producing a holistic understanding of the phenomenon that included best practices for student success in automotive technical programs at community colleges (Stake, 1995, 2005; Yin, 2018). We selected four Automotive Student Service Educational Training (ASSET) programs to function as a single exemplary case because



Adapted from Yin (2018)

Setting

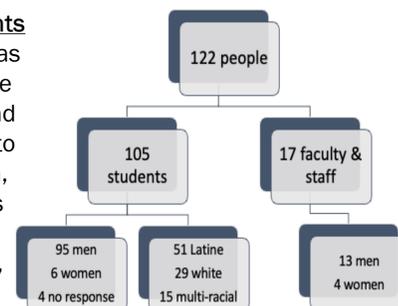
This study was conducted at four community colleges in the south-central part of the United States that offered the ASSET program. This program is a collaboration between community colleges, Ford Motor Company, and local dealerships - a synergy that allows students to complete an associate degree, earn 19 Ford certificates, and complete a one-year internship as a Ford technician (Ford Motor Company, 2021).

Data Collection

Data were collected during two-day site visits and included: (a) hour-long semi-structured interviews with faculty, staff, administration, and internship supervisors; (b) 30 to 60-minute focus groups with 12 to 20 students each, (c) observations of relevant activities (e.g., academic classes, labs, and internship experiences), and (d) a review of appropriate institutional documentation.

Sampling and Participants

Our sampling procedure was twofold: the selection of the cases (as stated above) and then purposeful sampling to recruit participants (Patton, 2015). Participants for this study included ASSET students as well as faculty, instructors, staff, and community college leadership.



Data Analysis

Guided by Stake (1995, 2005) and Yin (2005), we used an iterative and recursive process for ongoing analysis and interpretation of our data (Janesick, 1994). We also sought additional data (specifically via interviews) until we reached the point of saturation (Creswell & Poth, 2018). Using NVivo, we discussed our interpretations and perspectives during research team meetings. Best practices emerged from our collective meaning-making process, executed by understanding participants' experiences through triangulation and member checking, and subsequently, increasing our confidence in the robustness of our findings (Lincoln & Guba, 1986; Patton, 1999).

Thematic Findings

1. Strong faculty involvement

"[The instructor] has been very helpful...he has a really good attitude. He's someone who cares about the program. He's someone who'd been in the field and has experienced it and worked in it. He's trying to give us a good foundation. He's been a very integral part of this."



"When we were doing electrical, some of us came in here on a Friday, and [the instructor] was here to help us. I came last Friday, because I wanted to learn about the parts of some other engines that we weren't able to get to in this section."



2. Curricular alignment and relevance

We [faculty] encourage the cohorts to enroll in Intro to Psychology and think of it as a class to help them understand people's behaviors...other employees or their customers' [behaviors].



3. Reducing financial burdens for students through paid internships.

The reason why I enrolled - why most of did - was because of the paid internship at the dealership. I mean, we get a decent hourly rate to work on cars and work with technicians who do the work we want to be doing...what do I use my salary for? To pay rent, to live, to take my girlfriend out, to come to school.



Implications for Research and Practice

The Anti-Deficit Achievement Framework (Harper, 2010) utilized in this study provides a theoretical foundation that can be applied to other programs looking to understand better the factors contributing to student success from an asset-based approach.

The exemplary practices identified in this study can be used as a blueprint for other community college automotive technology programs seeking to improve their retention, graduation, and workplace employment outcomes.

Discussion

The **first emergent theme** related to best practices for the success of the ASSET students involved **faculty involvement**. A nuance of the ASSET program is that there are only one to two instructors who teach all the automotive technology courses. The instructors wear multiple hats (e.g., advisor, internship coordinator) to interact with the students. The ASSET instructor is acknowledged by students as a major source of support and credited for their success, retention, and graduation from the program. Although the effects of faculty-student relationships in community college literature have been credited as an important factor for student success and career preparation (Lancaster & Lundberg, 2019; Lundberg, 2014), the findings from this study **elevate** the importance of faculty in the lives of their community college students.

The **second theme** to emerge related to the **best practices** for the success of the ASSET students was on formative plans for curricular improvement based on the ASSET students' preferred learning style. Both faculty and students described the ASSET students as often kinesthetic learners, enjoying classes with hands-on activities where they can *do* rather than *listen* to lectures or *read* books. The AT courses in the ASSET curriculum reflect a theory-to-practice approach, where students spend much of their *classroom time* in an automotive shop (comparable to lab setting) to practice real-life problems on cars. The ever-evolving technology curriculum includes new advances, such as electric vehicles (EVs) and hybrid cars. However, the largest curricular challenge the ASSET students described was related to the general education courses (e.g., English, math) that were often disconnected from their academic program and conflicting schedule-wise with their ASSET coursework and internship. With this in mind, the ASSET faculty and instructors take a **proactive approach to finding courses and specific instructors that align with the ASSET students' learning styles and academic schedules**.

The **final best practice** that emerged involved **reducing the financial burden** of college through paid internships. All ASSET students must be enrolled full-time in their academic program and have an internship at a Ford or Lincoln dealership, where they are paid hourly. This collaboration between the public and private sectors results in the ASSET students graduating with over a year's worth of work experience. The hourly internship pay allows the students to invest that money back into their tuition and living expenses. Since the ASSET program requires a two-year commitment, the internship complements the academic curriculum by allowing students to practice what is learned in the classroom while providing financial stability and alleviating concerns over economic support.



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