NC ACCESS BEST PRACTICES

Office of Charter Schools
NC ACCESS PROGRAM
NC Department of Public Instruction

Marketing and Recruitment | Community Engagement

Oh, the Possibilities

Implementation Description

Sallie B. Howard School of Arts and Science (SBH) is located in rural Wilson, NC. With 80% of its students identified as Educational Disadvantaged (ED), the school strives to ensure all students graduate with a high-quality education and skills to prepare them for a better future. Because the biotechnology industry makes up a significant piece of the economy in Wilson County, school leadership decided to establish a Biotechnology Training Center (BTC) to prepare their high school students for a career or higher education in biotechnology. The availability of NC ACCESS funds allowed SBH to equip their existing labs and build an extensive biotechnology program.

The Biotechnology Training Center opened during the 2020-21 school year with 15 freshman students selecting biotechnology as their concentration. A 2016 study (Dougherty, p.10, 24-5) found that students who "*earned three or more credits in a single program of [career-focused] study*" were much more likely to graduate from high school, enroll in college, and make higher wages in their careers. Students who select the Biotechnology concentration at Sallie B. Howard participate in a four-year program, which involves two years of course work at SBH, two years of coursework in partnership with Wilson Community College (WCC), and internships with local biotechnology businesses. After completing the program, students may choose to continue their studies at the college level or obtain a laboratory technician certification

About This School

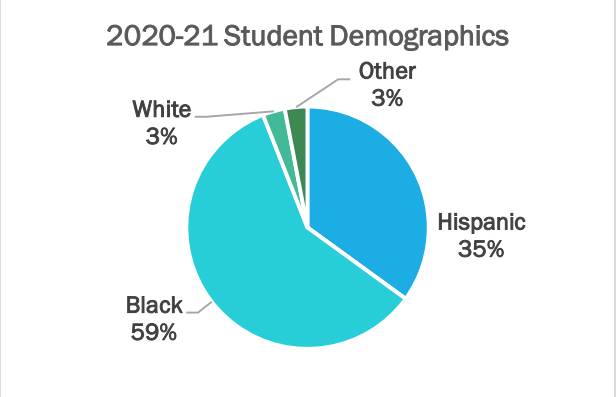
Sallie B. Howard School of Arts & Science

Sallie B. Howard School of Arts and Science (SBHS) is a Title I school unique in its financial and human investment in providing world class training and career opportunities to students in the fine arts and science. We consistently provide 3-week travel and study abroad opportunities for middle and high school students to countries worldwide, including China, India, Australia, South Africa, East Africa, Mexico, and Cuba. We employ an international faculty from India, the Philippines, Columbia, Mexico, the Caribbean, to further expose our students to a global world. We have a unique and explicit instructional model with strategies and practices which account for growing student success in the recent years. Providing pre professional biotech programs to HS students in eastern NC leading to community college certification and professional career opportunities in research and science is yet another unique asset of SBHS.

Year School Opened: 1997-98

Grant Awarded: 2020-21

Initial Grade Levels Served: K-8



% ED Student Population: 80%

Urbanicity: Rural / Wilson, NC

Persons in Poverty (Wilson County)[6]: 21.5%

from WCC and immediately enter the workforce in a local biotechnology business. Studies have shown that it is important for schools to prepare students for both college and the workforce, (Hanford, 2014) and employers prefer to hire candidates with internship experience. Often internships themselves can translate into full-time employment (NACE, 2017). With Sallie B. Howard's biotechnology program, students are prepared for further education or to go directly into the workforce as a laboratory assistant.

While the COVID-19 pandemic did somewhat restrict student access to the lab, SBH leadership adjusted their schedule so students were able to complete much of the coursework in a remote setting. This necessitated longer on-line sessions, 4-5 hours of live-instruction daily, to ensure that all students were able to successfully complete required course content. When students were not able to work in the school building, they were provided the necessary materials to complete the required lab work remotely with virtual guidance from the Program Director. SBH also created opportunities for small groups of students to work on-site and learn the hands-on lab techniques that are foundational to the program.

Sallie B. Howard's leadership attributes the successful launch of their biotechnology program to the program director's passion for biotechnology education. She has successfully recruited community partners and inspired students to enroll. Her real-world work experience enables her to network effectively with industry professionals and provide a high-quality education for students. The Program Director facilitated multiple virtual tours of the BTC, which resulted in a dramatic increase in student interest. Additionally, tours familiarized prospective community partners with the school's program and opened doors for internship opportunities during students' third and fourth years in the program. Since "*employer engagement [in] education may more adequately reflect the career preparation...needed for...local industries*" (Jimenez, 2020), these partnerships are foundational to the success of the biotechnology program at Sallie B. Howard. Finally, the school hosted a four-day biotech camp during Spring Break and two sessions in the summer to introduce incoming freshman and existing high school students to the basics of working in the lab.

Results

In 2020-21, 12 out of 45 freshman students chose to study biotechnology. And 20 students have elected to study biotechnology in 2021-22. School enrollment numbers overall have doubled from 53 to 117.

Challenges

COVID social distancing protocol's limited students' access to the school's biotechnology lab. Fortunately, SBH was able to provide students with the materials needed to complete their coursework virtually as well as opportunities for students to access the lab in small groups.

Future Modifications

Based on growing interest and the success of the biotechnology concentration this year, school leadership plans to continue offering the program to incoming high school students. They are also excited to see the program expand once students are able to complete their training fully in-person.

Critical Components

Getting Started

SBH leadership commented that it was essential to secure the funding necessary to update and expand their laboratory spaces to ensure a successful biotechnology program. They also found it critical to hire an instructor with knowledge, industry experience, and passion in order to direct the program and engage students. Finally, the school emphasized the importance of developing partnerships with Wilson Community College and local companies, specifically in the pharmaceutical industry, to create meaningful internship opportunities and pipelines for students to the workforce.

Ongoing Supports

The school plans to continue developing partnerships with four-year universities, such as NC Central, NCSU, and others in order to grow and sustain their biotechnology program.

Equity Connections

Career exploration in schools has been shown to provide students the knowledge and skills necessary to break the cycle of poverty (Richards-Farwell, 2019). SBH's school leadership found that many of their students faced cultural barriers which prevented them from being aware of careers in science. Having the biotechnology lab on the school's campus builds awareness and addresses accessibility issues for disadvantaged students. Additionally, providing high quality science education and internships addresses the underrepresentation of historically marginalized populations, such as minority women, in science careers.

Research

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6. United States Census Bureau, Quick Facts North Carolina, Retrieved from https://www.census.gov/quickfacts/fact/table/NC/PST045219