NEW BACCALAUREATE SERIES

The Community College Baccalaureate in Washington: Who Enrolls?

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When authorizing community colleges to offer baccalaureate degrees in 2007 the legislature intended for these degrees to serve students enrolled in professional-technical education. This report explores the extent to which programs serve the intended population, how demographics relate to program enrollment, and enrollment shifts over time. Students enrolled in community college baccalaureate programs overall look very similar to the student professional-technical population and programs are largely serving intended students, however, demographics are highly related to academic programs. STEM programs, growing rapidly in response to workforce needs, are serving younger students and fewer underserved students of color than other programs.

INTRODUCTION

Across the nation, half of states now authorize the conferral of baccalaureate degrees at institutions historically classified as community and technical colleges (Bragg, 2019). Washington State has one of the most comprehensive systems of community college baccalaureate programs in the country. Since the state legislature authorized community colleges to offer baccalaureate degrees in high-demand workforce programs in 2007, 27 (of 34) colleges have been authorized to offer 102 programs and have conferred over 3,500 Bachelor of Applied Science (BAS) degrees (Bragg, Love, McCarthy, & Soler, 2019). Like in Washington, other states limit community college baccalaureate (CCB) degrees to "applied" degrees. However, other states including Florida offer large numbers of Bachelor's of Science (BS) degrees. No states are known to authorize the conferral of BAS degrees in the form of Bachelor's of Arts (BA) at this time.

Looking at the most recent enrollment figures available, 3,203 students enrolled in BAS degrees at a community college in spring quarter 2018, and these degrees align with the state's emphasis on educational pathways for professional-technical associate graduates. By offering BAS degrees, Washington state has committed to enhancing access to a baccalaureate degree for students who have heretofore had limited ability to transfer and apply credits toward a baccalaureate. BAS degrees are also aligned with meeting the state goals for increasing the total number of baccalaureate degrees awarded and expanding the workforce mission of colleges to better meet the needs of local and state employers and employees.

Previous research on who enrolls in BAS programs conducted by the SBCTC in Washington describes the student population in community colleges obtaining these degrees (Kaikkonen, 2017). We build on this research by looking specifically at student demographics and program enrollments to explore the degree to which BAS programs at community colleges are enrolling their target audience. Specifically, these degrees are meant to provide access to a workforce-focused population "comprised of a large portion of people of color, older working adults and people (women) who are place bound with family responsibilities" (Washington SBCTC, 2018). A more in-depth understanding of BAS students is needed to

explicate the extent to which the foci of these programs actually do provide access to student populations otherwise marginalized from college-going opportunities (U.S. Department of Education, 2016).

Given a goal of BAS degrees is to meet the needs of students who are underserved in higher education in part by reducing the barriers associated with transfer (Bragg & Rudd, 2011; Meza, Bragg & Blume, 2018), we studied the student population enrolled in Washington's BAS degree programs attending community colleges. Some four-year public institutions in the state also offer BAS degrees but this data note is limited to the student population attending community colleges. This data note employs analysis of student-level data to examine the demographics of students who enroll in BAS degree programs to answer three research questions:

1) Do community college baccalaureate degrees serve people of color, non-traditional age adults, low income students, and women at similar rates as the associate degree-granting workforce (professional-technical education) programs offered in community colleges?

2) How are student demographics related to academic program enrollment?

3) How have student demographics and academic program enrollments changed over time?

DATA

The student-level data to complete this analysis was provided by the Washington SBCTC.[1] The data file contains information about 7,953 students who enrolled in any community college BAS program in Washington from 2009 through spring 2018. As of spring quarter 2018 3,560 (44.7%) of the students in the dataset had completed a BAS degree. Of these completers, 847 were still enrolled in a community or technical college. An additional 2,037 (25.6%) of students had not completed and were not enrolled in spring 2018, and we assumed these students were not retained in their degree program. The remaining 2,356 students (29.6%) were still enrolled without having attained a BAS degree as of yet. Variables included in this analysis are race, ethnicity, gender, age, whether the student is attending college using veteran's benefits, parental status, degree program, and a measure of economic circumstances that denotes whether the student received any form of need-based financial aid at any point during their enrollment.

FINDINGS

In the total data file of nearly 8,000 enrollees, 57% identified as female, 58% as White, 11% as Asian, 6% as African American, 1% as Alaska Natives or Native American, 1% as Hawaiian or Pacific Islander, 9% as Multi-Racial, 3% as "other," and 11% as Latinx. The average age of students at entry into a BAS program is 32 years old and 7% are veterans. Table 1 compares these BAS student demographics to students who enrolled in any workforce (i.e., professional-technical) education program in any community or technical college in the system between 2009-2018.

Table 1

Student Demographic Characteristics Since Community College BAS Program Inception (2009-2018)

Demographic Characteristic	BAS Students N=7953	Workforce Students N= 551,707
White	58%	56%
Asian	11%	9%
Latinx	11%	8%
African American	6%	6%
Alaska Native or Native American	1%	1%
Hawaiian or Pacific Islander	1%	1%
Two or more races	9%	8%
Other/Missing	4%	12%
Received need based FA	43%	N/A
Female	57%	54%
Veteran	7%	4%
Average age	32	N/A

We classified the 102 instructional programs offered at the present time according to six broad program categories that represent occupations in some of the fastest growing in the Washington state workforce (Employment Security Department, 2019). Over the nearly 10 years of data included in this analysis, the largest enrollments have

[1] We are grateful for the data-sharing agreement and research partnership between the Community College Research Initiatives (CCRI) group at University of Washington-Seattle and the Washington SBCTC that enabled this research to be conducted. We also thank our funders, the Joyce Foundation and Lumina Foundation, for the generous funding and support that made our work possible.

been in business programs, with programs in health and safety being very close behind (Table 2). These two areas account for two-thirds of the total enrollments in Washington BAS degree programs to date.

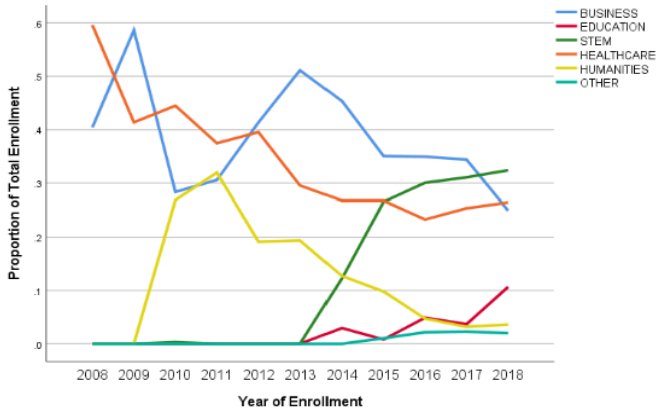
Table 2

Ten-Year Enrollment Totals

Instructional Program Area	Health & Safety	STEM	Arts & Humanities	Business	Education	Other
(Number Enrolled)	n=2256	n=185	n=656	n=2673	n=366	n=116
	28%	23%	8%	34%	5%	1%

However, over time, enrollments in Washington's BAS programs have shifted in ways that are important to understand. The types of BAS degree programs offered and enrollments of students in those programs have changed since the programs were first piloted in Washington in 2009. In particular, enrollments have shifted away from business and healthcare and towards science, technology, engineering and mathematics (STEM). The first BAS programs to enroll students at a handful of community and technical colleges were in healthcare, business, and interior design. However, as more BAS degree programs were added and enrollments increased, the number of STEM students has overtaken both business and healthcare. As Figure 1 shows, in 2018 STEM students made up more than one-third of the total BAS degree enrollments whereas business and healthcare each made up about 25%.

Figure 1. *Instructional program area students as a proportion of enrollments over time.*



Whereas more in-depth analysis of student demographics is planned, these results suggest the shift in program enrollments appears to be related to the student populations participating in these degree programs.

Looking more deeply at the demographic characteristics of community college baccalaureate students, we see that demographics are highly correlated with students' academic programs. Table 3 illustrates bivariate correlations between the student demographic groups and instructional program areas. Results show that health and safety programs as well as education programs attract higher proportions of BAS students who are female, African American, parents, and older than the students enrolled in other instructional programs. Business programs have significantly larger numbers of students who are Latinx as well as receiving need-based financial aid than the students in other instructional programs. And the fastest growing BAS degree area, STEM, enrolls students who are significantly more likely to be male, veterans, not African American or Latinx, not parents, and younger than other instructional programs. With respect to the question of whether BAS degree programs are serving their intended target population, Table 3 shows some academic programs enroll higher proportions of demographically diverse students than others.

Table 3

Bivariate Correlations between Student Demographics and Instructional Program Areas

Instructional Program Area	Health & Safety	STEM	Arts & Humanities	Business	Education	Other
	n=2256	n=185	n=656	n=2673	n=366	n=116
Female	.26 ***	-.38***	.09***	.01	.01***	-.09***
White	-.05***	.01	.04*	.03*	-.01	-.01
African American	.13***	-.04***	-.06***	-.06***	.03***	-.01
Latinx	-.04***	-.02*	-.04***	.08***	.02*	-.02
Asian	.01	.01	.08***	-.06***	-.04***	.02
Alaska Native or Native American	-.02	-.02	-.03	.05***	.00	.02
Hawaiian or PI	.01	.00	-.02	.00	.00	-.01
Multi-racial	-.0	.01	-.06***	.02	.02	.04***
Need-based FA	-.02	.00	-.07***	.06***	-.0	.01
Veteran	-.07***	.12***	-.07***	.01	-.02*	.02*
Parent or Guardian	.09***	-.12***	-.06***	.04*	.05***	-.01*
Age	.08***	-.09***	-.05***	.00	.10***	-.06***

*significant at p<.05, ***significant at p<.001

CONCLUSION

Overall community college BAS students are a demographically diverse group, and on par with the state's workforce (professional-technical) education student population in community and technical colleges, with these demographics also being predictive of program area. Business programs are correlated with Latinx students and students receiving need-based aid, and healthcare, safety and education programs show a correlation with female, African American, parents, and older students. These results suggest these programs tend to enroll students targeted for BAS degrees, and they have enrolled these targeted students over the full length of time they have been implemented. By comparison, in growing high-wage, high-demand STEM programs, students are less likely to be female, African American, Latinx, older, or parents compared to all BAS students. These STEM students resemble a more traditional college population than the students enrolling other BAS programs, and these programs are growing. As the number of STEM programs and students increases, it will be important to continue monitor access for underserved populations. This concern is important because the STEM sector has grown dramatically since 2013 (Washington State STEM Education Innovation Alliance, 2017), and higher education institutions in the state have been pressed to meet the demand for training at the baccalaureate level (Myers Twitchel, Poppe, Meza, Huizar & Zumeta; in press; Zumeta, 2018). As community and technical colleges in Washington step up to offer BAS degrees in STEM, it continues to be important to recruit underserved students into these programs if Washington's colleges are to continue providing access for students who would not otherwise enroll in baccalaureate programs.

In addition to these early findings, further analysis of this dataset will look at completion and employment of BAS degree students, including examining wage outcomes by instructional program area and demographic characteristics. Future research will also compare student demographics in BAS programs with students in similar programs at traditional four-year public campuses.

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The Community College Research Initiatives (CCRI) group at the University of Washington is partnering with New America's Center on Education and Skills (CESNA) to study AB and CCB degrees nationally.

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