Promising Practices to Support the Development of K–12 Manufacturing Programs: Spotlight on Rham High School's Data

Background

The Manufacturing Skills for Connecticut (MSforCT) project, funded by the U.S. Department of Commerce National Institute for Standards and Technology, aimed to establish a menu of effective educational best practices that Manufacturing Extension Partnerships (MEPs) throughout the country, and manufacturers and school systems across CT and beyond, can use to establish and advance effective career pathways. CONNSTEP, CT's MEP representative, was the lead organization partnering with ReadyCT, a statewide nonprofit focused on K–12 education and career-connected learning; CBIA, CT's largest business organization; the Connecticut Manufacturers' Collaborative, a statewide, policy-focused collective composed of the nine major manufacturing associations within CT; and WestEd, a non-partisan research, development, and service agency.

As part of the MSforCT project, WestEd executed a multistep process to identify 13 manufacturing programs with evidence of using promising practices intended to support high-quality programming. This process included developing a statewide survey; identifying all existing manufacturing programs across CT for survey administration; developing and using a rubric to rank manufacturing programs on their use of high-quality, high-impact practices; and considering site demographics and industry recommendations to choose the final 13 program sites. WestEd then conducted 13 program reviews which included interviews/focus groups with key program stakeholders and a review of student administrative data. Ultimately, the MSforCT project created numerous resources including The MFG Skills-CT website, a Promising Practices guide, and 13 program-specific reports, including Rham High School's manufacturing program.

Rham High School Manufacturing Program Data

The current summary of Rham High School's manufacturing program data supplements the site-specific report. This document summarizes data from CT's Statewide Longitudinal Data System (SLDS): the Preschool Through 20 Workforce Information Network (P20 WIN). The data included all students enrolled in the high school during the 2019-2020 and 2020-21 academic years. Manufacturing program students are defined as students taking at least one manufacturing program course. Manufacturing students are included in the overall school population.

Table 1: Student Demographics, Academic Year 2020-2021

Student Characteristics	Manufacturing Program Students (n = 13)		Overall School Population (n = 878)	
	n	%	n	%
American Indian or Alaska Native	*	*	*	*
Asian	*	*	20	2%
Black or African American	*	*		0%
Hispanic/Latino of any race	*	*	45	5%
Native Hawaiian or Other Pacific Islander	*	*	*	*
Two or More Races	*	*	*	*
White	13	100%	800	91%
Female	*	*	428	49%
English Language Learners	*	*	*	*
Students with Disabilities	*	*	103	11%
Free/Reduced Lunch Eligible	*	*	117	13%

Note: Cells with five or fewer students are restricted from reporting and are noted with an asterisk

In the academic year 2020-2021 the manufacturing program enrolled 13 students at Rham High School. All the cohort members in that year were White. As for the overall school population, White students made up 91%, with 5% Hispanic/Latino representatives of any race and 2% Black or African American students. Female students represented 49% of the school population, while students with disabilities made up 11% of the total school population.

Table 2: Student Demographics, Academic Years 2019-2020 & 2020-2021

Student Characteristics	Manufacturing Program Students (n = 29)		Overall School Population (n = 1,157)	
	n	%	n	%
American Indian or Alaska Native	*	*	*	*
Asian	*	*	24	2%
Black or African American	*	*	13	1%
Hispanic/Latino of any race	*	*	58	5%
Native Hawaiian or Other Pacific Islander	*	*	*	*
Two or More Races	*	*	6	1%
White	28	96%	1054	91%
Female	*	*	567	49%
English Language Learners	*	*	5	0%
Students with Disabilities	6	21%	133	11%
Free/Reduced Lunch Eligible	*	*	163	14%

Note: Cells with five or fewer students are noted with an asterisk and are restricted from reporting.

The demographic picture was similar in the case of the combined data from the academic years 2019-20 and 2020-21, there were in total 29 students in the manufacturing program, and 28 of them (96%) were White.

Table 3: Academic Characteristics, Academic Years 2019-2020 & 2020-2021

Metric	Manufacturing Program Students (n = 29)					Overall School Population (n = 1,812)				
	Mean	Median	SD	High	Low	Mean	Median	SD	High	Low
Attendance	136.3	165	26	176	102	140.7	120	30.6	178	2

Note: Attendance is defined at the total number of days attended in a given school year.

Manufacturing students across cohorts (2019-20 and 2020-21) attended school on average 136.3 days (SD 26). This figure is slightly lower the average overall school attendance, which was 140.7 days (SD 30.6).

Table 4: Standardized Assessment, Academic Years 2019-2020 & 2020-2021

Metric	Manufacturing Program Students (n = 16)					Overall School Population (n = 613)				
	Mean	Median	SD	High	Low	Mean	Median	SD	High	Low
English SAT	483.8	485	95.7	660	330	562.9	570	92.8	780	320
Math SAT	463.8	475	77.2	590	350	570.2	580	104	800	290

There were 16 manufacturing program students who took the SAT tests, the average scores were 483.8 (SD 95.7) on the English section and 463 (SD 77.2) on the math section. On average, the manufacturing program students' English and math scores were lower than the overall school population's average scores.

Table 5: Secondary Graduation Rate, Academic Years 2019-2020 & 2020-2021

Metric	Manufacturing Program Students		Overall School Population	
	n=29	%	n=751	%
Graduated	29	100%	722	96%

Across the manufacturing cohort, all students eligible for graduation (i.e., seniors) in both academic years graduated from Rham High School. The overall school-wide graduation rate for the same years combined was 96%.

Table 6: Post-Secondary Enrollment, Academic Years 2019-2020 & 2020-2021

	Manufacturing Students		Overall School Population	
	n=29	%	n=722	%
Enrolled in CT Postsecondary Program	*	*	99	13.7%
Enrolled in Out of State Postsecondary Program	*	*	94	13%
No Record of Postsecondary Enrollment	24	82.9%	529	73.2%

Note: Cells with five or fewer students are restricted from reporting and noted with an asterisk.

The numbers for the manufacturing cohort members' postsecondary enrollment were too small to report. For the overall school student population, 13.7% of the students who graduated from

high school entered postsecondary programs in Connecticut, and another 13% in out-of-state institutions.

Table 7: Post-Secondary Enrollment, By Institution Type, Academic Years 2019-2020 & 2020-2021

Institution Type	Overall School Population	
	n=193	%
4-Year Institution	162	84%
2-Year Institution	31	16%
<2-Year Institution	0	0

Note: There was not enough data to report postsecondary enrollment for manufacturing cohort students.

For the overall school population, 84% of students in postsecondary education were in 4-year programs and 16% in 2-year colleges. The numbers for the manufacturing cohort members were too small to report.