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Understanding the Academic Impact of COVID-19 on Delaware Public School Students: DeSSA Data Review

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UNDERSTANDING THE ACADEMIC IMPACT OF COVID-19 ON DELAWARE PUBLIC SCHOOL STUDENTS: DESSA DATA REVIEW

EXECUTIVE SUMMARY

This report is the second in a series of reports that serve to assist the Delaware Department of Education (DDOE) in understanding the changes that occurred in Delaware Public Schools during the COVID-19 pandemic and explore the impact those changes had on Delaware students. Findings in this report draw upon the instructional, attendance, and technology findings from the first report and consider the achievement data (Delaware System of Student Assessment and SAT data) from the end of the 2020/21 academic year.

For Delaware public school students in grades 3-8, Delaware System of Student Assessment (DeSSA) assessments are administered to estimate proficiency in English Language Arts (ELA) and Math. Delaware public school 11th-grade students are administered the Scholastic Aptitude Test (SAT) to estimate proficiency in ELA and Math. Delaware saw a significant drop in the number of DeSSA assessments completed in Academic Year (AY) 2020/21 (62%) as compared to AY 2018/19 (94.3%). The highest assessment participation rate occurred with 11th-grade students, with 70% completing the SAT assessment. Our analyses also demonstrate demographic differences in who did and did not complete the assessment, with unequal proportions of student assessment participation across race/ethnicity, special education, English Learners, and low-income groups. These unequal participation rates suggest that being identified in one of these categories may have influenced participation. Lastly, our analyses show that differences in achievement by instructional mode exist, but that assessment results should be interpreted with great care. Conclusions regarding instructional mode as related to assessment performance cannot be made on account of not having representative student samples across each instructional mode.

Analyses of the achievement results from students who participated in the assessment in both 2018/19 and 2020/21 show little progress in Mathematics performance level, with the majority of students either maintaining or regressing in their performance level: 92% of level 1 maintained, 63% of level 2 regressed, 78% of level 3 regressed, and 64% of level 4 regressed. Some progress in performance level was seen in English Language Arts. However, the majority of students also either maintained or regressed in performance: 75% of level 1 maintained, 37% of level 2 regressed, 46% of level 3 regressed, and 58% of level 4 regressed.

INTRODUCTION

During the 2020/21 academic year, the Center for Research in Education and Social Policy (CRESP) was approached by the Delaware Department of Education (DDOE) to assist in understanding the changes that occurred in Delaware Public Schools during the COVID-19 pandemic and explore the impact that those changes had on Delaware students. Throughout the winter of 2021, CRESP researchers, along with DDOE staff, developed a research plan with members of the Data Forum—a group of educators with various education-data responsibilities from local education agencies (LEAs) in the state of Delaware. After several group meetings and input from school district superintendents and charter leaders, a research plan was finalized.

To understand how schools operated during the 2020/21 academic year, CRESP first collected and analyzed LEA-supplied data on enrollment, attendance, instructional modes, and technology. The findings were summarized in a report entitled, "Understanding the Impact of COVID-19 on Delaware Public School Students" (CRESP, 2021).

This is a second report that serves to draw upon the findings from the first report and consider the achievement data (DeSSA and SAT data) from the end of the 2020/21 academic year. Of those students who participated in the assessment, 41% in grades 3-8 demonstrated proficiency in ELA and 26% demonstrated proficiency in Mathematics (DDOE, August 2021). Of those students who participated in taking the SAT, 49% scored as proficient on evidence-based reading and writing, 44% on the essay, and 28% on math (DDOE, August 2021). To examine the achievement data, two research questions were developed:

1. Which students took the DeSSA and SAT assessments during the 2020/21 academic year?
2. How did students who took the DeSSA assessment two years ago perform during the 2020/21 academic year?

Research question #1 addresses which students participated or did not participate in taking assessments and considers categories of students by instructional mode, race/ethnicity, gender, low income, English Learners, and special education groups. Research question #2 explores the past performance of those students who participated in the assessment during both AY 2018/19 and AY 2020/21.

QUESTION 1: WHICH STUDENTS TOOK THE DESSA AND SAT ASSESSMENTS DURING THE 2020/21 ACADEMIC YEAR?

BACKGROUND

A variety of assessments are mandated for students in Delaware Public Schools. Before high school, DeSSA assessments are administered to students in grades 3-8 to estimate proficiency in ELA and Math. During high school, the SAT is administered to 11th-graders to estimate proficiency in ELA and Math.

During the 2019/20 AY, the requirement to administer standards-based accountability assessments was waived by the U.S. Department of Education and tests were not administered (Delaware Department of Education, 2020). On February 22, 2021, the Office of Elementary and Secondary Education (OESE), U.S. Department of Education, invited states to request a waiver for reporting results as part of the accountability and school identification requirements for the 2020/21 AY (Rosenblum, February 2021). The waiver was intended to provide flexibility and to "explicitly include waiving the requirement that the Academic Achievement indicator be adjusted to account for a participation rate below 95 percent" (Rosenblum, February 2021). On April 6, 2021, the U.S. Department of Education granted a waiver to Delaware for provisions related to the 95% test participation rate (Rosenblum, April 2021). During AY 2020/21, Delaware schools administered the DeSSA and SAT tests between March and April 2021.

METHOD

In order to answer the research question, "Which students took the DeSSA and SAT tests during the 2021/21 AY?" CRESP first requested that the DDOE provide student enrollment rosters for the 2018/19 and 2020/21 AYs. Since students enrolled during the 2019/20 AY did not take the DeSSA assessment, this year was excluded from the analysis. It should be noted that the specific rosters reflected enrolled students that reflect the "Unit Count," which includes students who are enrolled at the beginning of the year. These rosters are verified by both LEAs and the state education agency (SEA) in order to provide funding for instructional staff for that given school year.

In Delaware, students in grades 3-8 typically take the DeSSA assessment, while all 11th-graders statewide take the SAT assessment during a school day. Assessment data related to both assessments were collected for the 2018/19 and 2020/21 AYs. Again, data for the 2019/20 AY was not analyzed since the DeSSA test was not administered owing to the COVID-19 outbreak.

These two datasets, reflecting student enrollment and assessment performance, were then combined in order to use the 2018/19 AY results as a baseline reflecting which students typically took the statewide assessments in a non-COVID-impacted year. These results were then compared to the test-taking patterns seen in the COVID-impacted, 2020/21 AY dataset.

In interpreting the results found in this report, it is important to note a few key important aspects to our methodology. First, our analyses and references to "participation rate" differ from the DDOE-reported DeSSA participation rates. While the DDOE utilizes those parameters for eligibility outlined by the U.S. Department of Education to calculate and report the participation rate for accountability purposes, our analyses of participation utilized unit counts representing enrollments at the beginning of the year. This difference, therefore, results in different numbers. As such, the DOE participation rate—as included in documents such as the **2018-2019 Delaware System of Student Assessments (DeSSA) Executive State Summary**—will differ from our participation rate as we included students from different times of year and under different eligibility parameters. Second, to ensure this report meets the information needs of stakeholders, we developed this methodology in consultation with the Data Forum and DDOE. Lastly, using our unit count-based approach has both allowed for timely analyses and kept our analyses consistent with our other Opportunity to Learn reports.

For the purpose of clarity, it is important to provide operational definitions for some of the terminology that will be utilized within the report. Table 1 provides the definitions of instructional modes that were utilized in the analysis of data and will be referred to in this report.

Table 1. Definitions of Instructional Modes

Virtual (VR)	LEAs used the terms "virtual," "remote," or "distance learning" as interchangeable labels to describe learning that occurs when students are not physically present in school and use a laptop, Chromebook, computer, or other personal device to access instruction. This report will utilize the term "virtual" to describe this learning modality. Virtual instruction can be "asynchronous" or "synchronous."
Hybrid (HYB)	A schedule in which students are assigned some days to attend school in-person and some days to attend school virtually. The groups to which students are assigned are typically referred to as "cohorts."
Fully In-Person (FIP)	5-day-a-week traditional instruction in which students physically attend school and receive instruction by teachers in a classroom-like setting, with no virtual instruction.

FINDINGS

FINDING #1: DELAWARE SAW AN EXTREMELY SIGNIFICANT DROP IN THE NUMBER OF DESSA ASSESSMENTS COMPLETED FROM AY 2018/19 TO AY 2020/21

Based on the unit count data, the number of students expected to complete assessments in AY 2018/19 and AY 2020/21 were 74,475 and 74,188, respectively. In both years, a portion of unit-count enrollees completed the proficiency assessment for their grade. Figure 1 shows that in AY 2018/19, the portion of students who completed an assessment was significantly higher (94.3%) than in AY 2020/21 (62%).

Figure 1. Completed Assessments: Proportion of Unit Count by AY

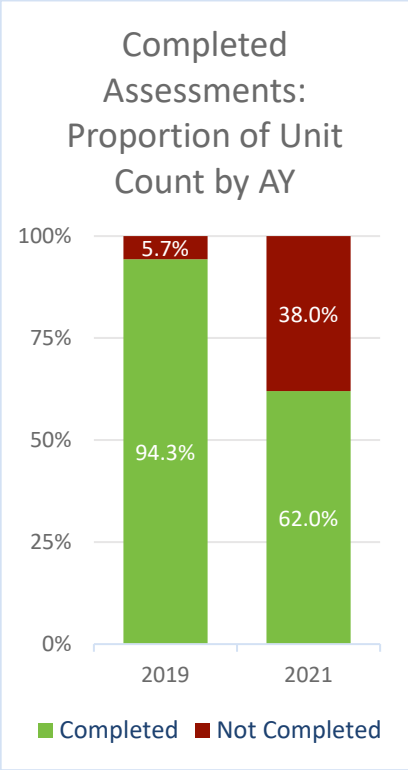
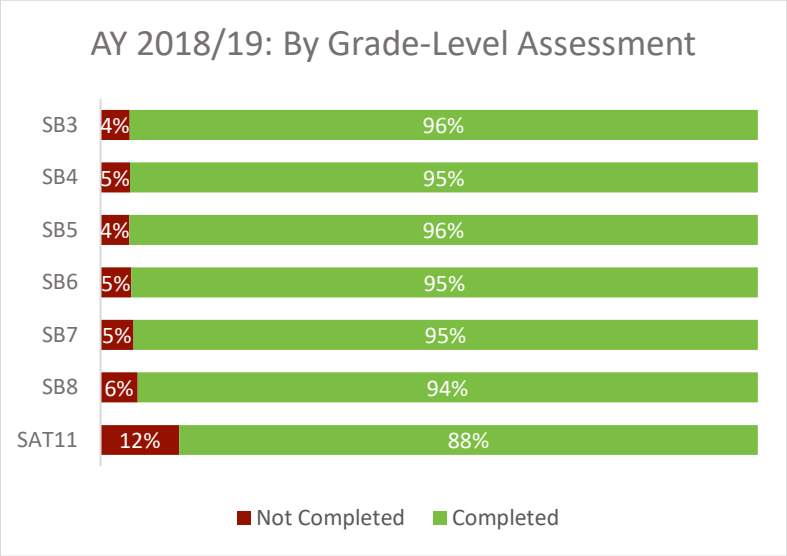


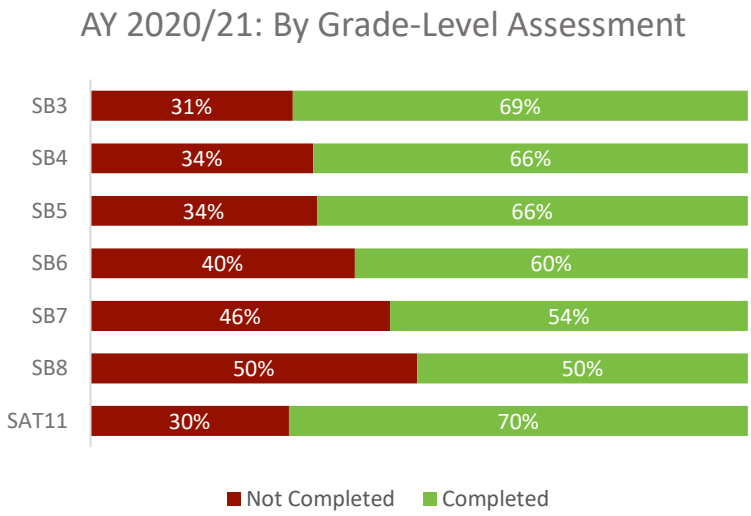
Figure 2 shows that between 94% to 96% in grades 3-8 completed the assessment in AY 2018/19.

Figure 2. AY 2018/19 Assessments Completed by Grade-Level



By comparison, in AY 2020/21 (Figure 3), 50% to 69% of students completed the assessment in grades 3-8. Grade 3 had the greatest percentage of participation (69%), with each subsequent grade-level showing decreasing participation through grade 8 (50%). The largest decrease in participation occurred in grade 8, where from AY 2018/19 to AY 2020/21, there was a 44% decrease in assessment participation. Although still a significant decrease, participation of 11th-graders in completing the SAT assessment showed the least change, with 18% less students participating in the assessment. In AY 2018/19, 88% of 11th-graders completed the assessment, whereas in AY 2019/20, 70% completed the assessment. This completion rate is notable because even though the vast majority of 11th-grade students were mostly assigned virtual (n=2647) and/or hybrid instruction (n=2029), 70% of 11th-graders elected to take the SAT.

Figure 3. AY 2020/21 Assessments Completed by Grade-Level



FINDING #2: THERE WERE SOME DEMOGRAPHIC DIFFERENCES IN WHO DID AND DID NOT TEST

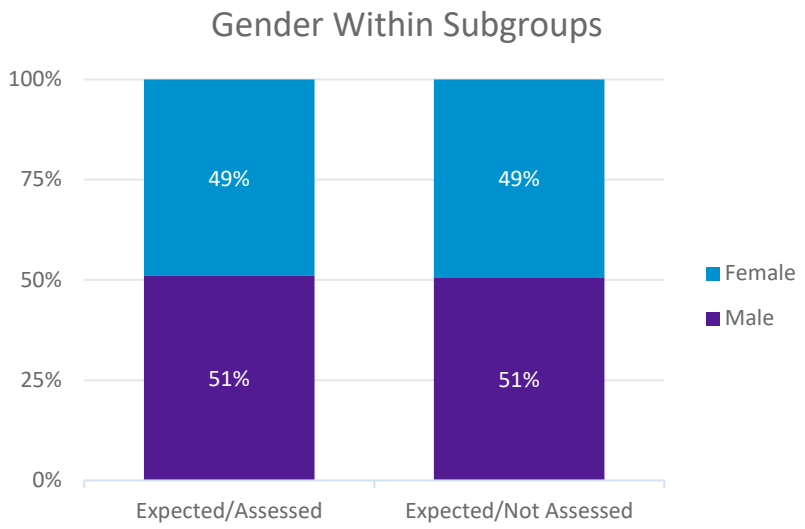
The data available for AY 2020/21 allow for comparison of assessment participation subgroups to explore the characteristics of students who were assessed and those who were not assessed.

Table 2. Assessment Participation Subgroups

Category	Number of students	Description
Assessed	45978	Students who (based on grade-level at unit count) were expected to complete and did complete a proficiency assessment
Not Assessed	28210	Students who (based on grade-level at unit count) were expected to complete but did not complete a proficiency assessment

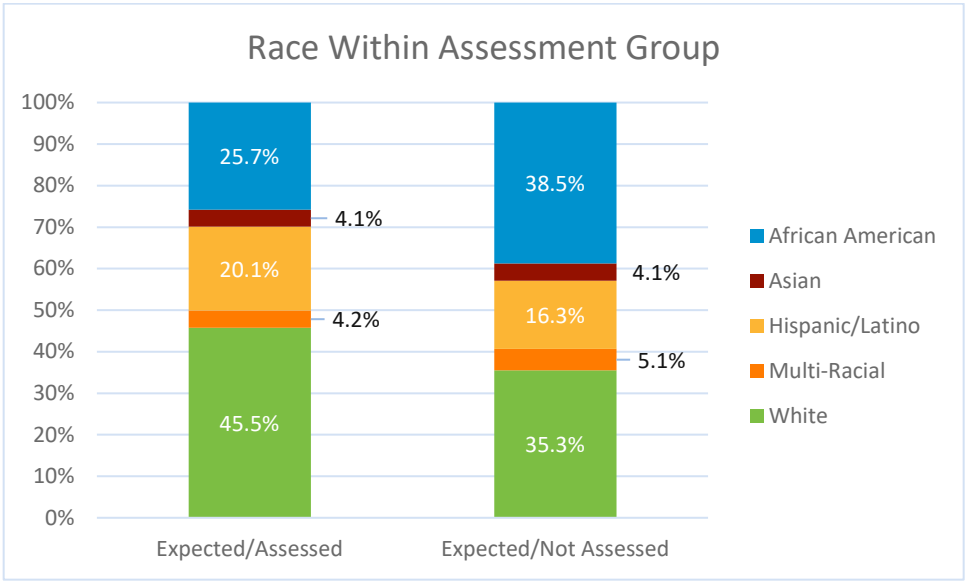
As Figure 4 illustrates, the ratio of males to females in each subgroup is similar. This similar ratio suggests that assessment participation was not related to gender.

Figure 4. AY 2020/21 Assessment Participation by Gender and Subgroup



When considering race/ethnic identity categories, the proportions of students differ across subgroups (Figure 5). This suggests that race/ethnicity may have influenced assessment participation. For example, the percentage of African American/ Black students was highest within the "not assessed" group. Results for students that identify as The American Indian/Alaskan Native and Native Hawaiian/Pacific Islander are not reported owing to data suppression rules related to small population sizes.

Figure 5. AY 2020/21 Assessment Participation by Race/Ethnicity and Subgroup



Figures 6-8 show unequal proportions of student assessment participation across special education, English Learners, and low-income groups. This unequal participation suggests that being identified in one of these categories may have influenced participation. Figures 6 and 7 show that a greater proportion of students who were not assessed identified as special education and low-income. In contrast, Figure 8 shows that a greater proportion of students who were assessed identified as English Language Learners versus those who did not test. With unequal proportions of student groups taking the assessment, this provides a strong indication that all assessment results from the 2020/21 AY should be interpreted with care because there are significant demographic differences in the groups of students who were assessed versus not assessed.

Figure 6. AY 2020/21 Proportion of Assessment Participation by Special Education

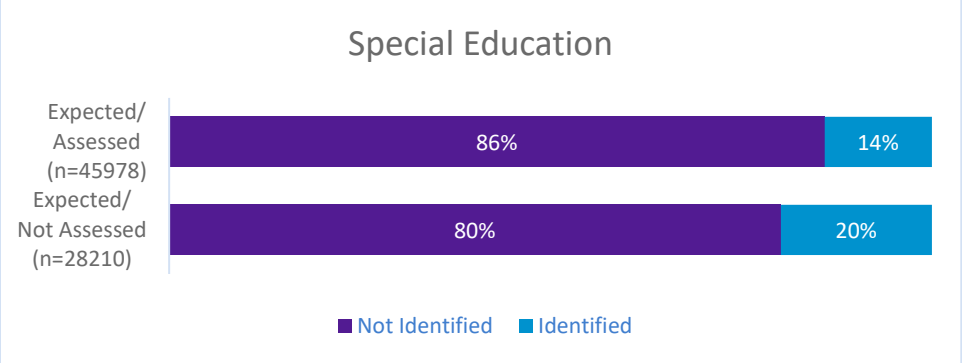


Figure 7. AY 2020/21 Proportion of Assessment Participation by Low Income

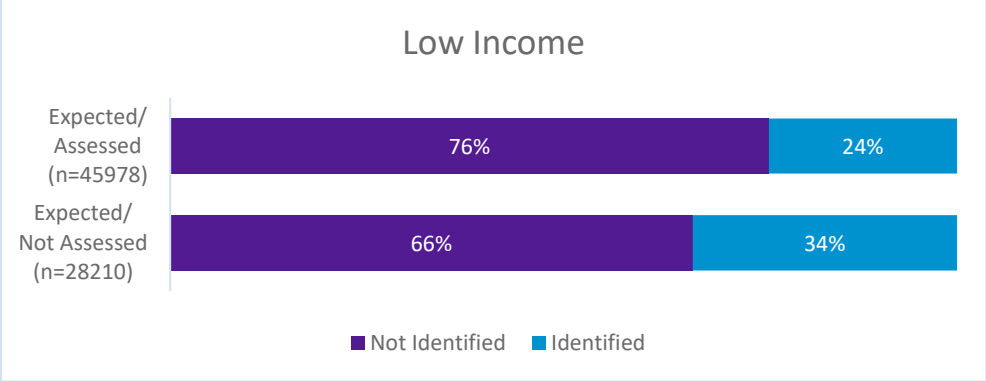
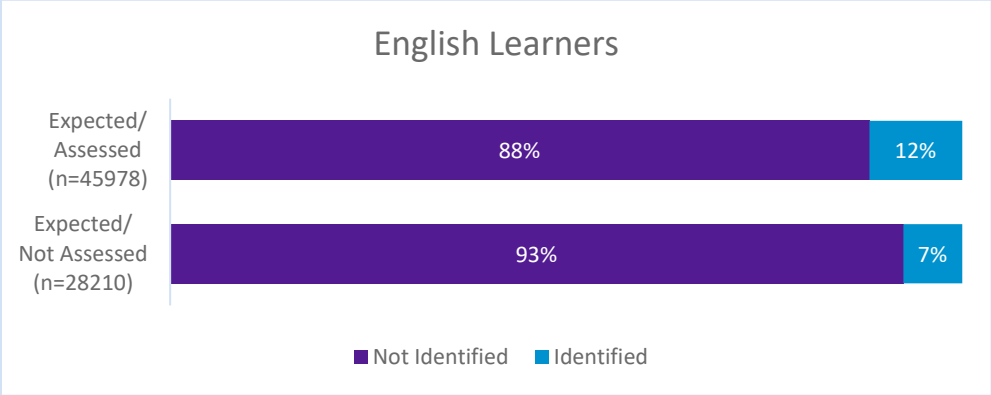


Figure 8. AY 2020/21 Proportion of Assessment Participation by English Language Learners



FINDING #3: STUDENTS WHOSE INSTRUCTIONAL MODE WAS MOSTLY VIRTUAL WERE LESS LIKELY TO TAKE THE DESSA ASSESSMENT

Table 3 summarizes basic statistics of all the available data, describing the number of days students experienced each of the three learning modes (Fully In-Person, Hybrid, and Virtual) by assessment subgroups. Note that the available data did not distinguish between those students who were not assigned to a learning mode (e.g., assigned to 0 days of hybrid learning) and missing data for a learning mode (e.g., no record of number of days assigned to hybrid learning). Additionally, it is important to note that throughout the course of the year, students may have been assigned more than one instructional mode. As documented in the first Opportunity to Learn report, the vast majority of students began the year in a fully virtual instructional mode (VR), with increasing participation in hybrid learning (HYB) across AY 2020/21 (CRESP, 2021).

The column with "% Available Data" may be interpreted as the percentage of students who experienced at least one day of the corresponding instructional mode. The "% Missing Data" is the percentage of students within the subgroup who were excluded from the calculation of the minimum, maximum, median, mean, and standard deviation. The measures of central tendency are calculated based on the available data. They are, therefore, best interpreted as estimates of the number of days that a student experienced an instructional mode given an assignment of at least one day regarding that instructional mode.

Among students in the Assessed subgroup, the most commonly experienced instructional mode was hybrid. Among the 68% who experienced hybrid instruction, the average number of days in that mode was 111. Among students in the Not Assessed

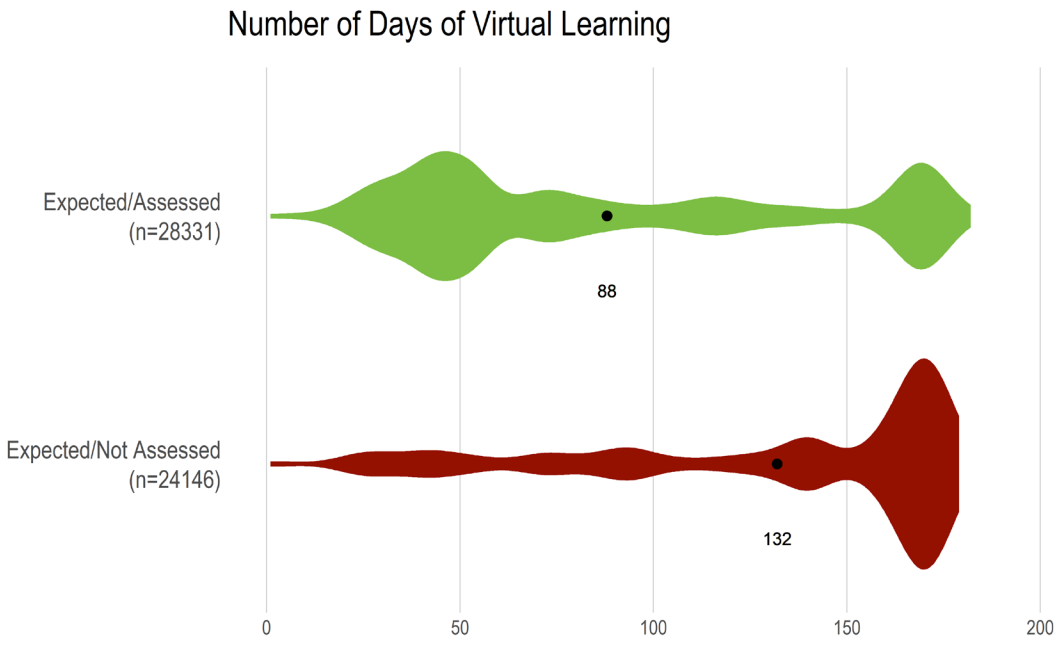
subgroup, the most commonly experienced instructional mode was virtual. Among the 86% who experienced virtual instruction, the average number of days in that mode was 132.

Table 3. Number of Days in Instructional Mode by Subgroup

Assessment Subgroup	Instructional Mode	n	% Available Data	% Missing Data	Min # of Days	Max # of Days	Median # of Days	Mean # of Days	SD
Assessed	FIP	8898	19%	81%	1	219	115	97.9	55.7
(n=45978)	HYB	31149	68%	32%	1	183	124	111.2	45.6
	VR	28331	62%	38%	1	182	72	88.1	52.8
Not Assessed	FIP	1238	4%	96%	1	176	71	88.8	57.9
(n=28210)	HYB	8267	29%	71%	1	174	84	88.5	48.9
	VR	24146	86%	14%	1	309	160	131.7	50.0

The violin graph in Figure 9 shows the majority of students who did not take the assessment spent the most days in virtual learning (over 150 days). For those students who took the assessment, however, the majority spent fewer than 100 days in virtual learning.

Figure 9. Number of Days of Virtual Learning by Subgroup



FINDING #4: DIFFERENCES IN ACHIEVEMENT BY INSTRUCTIONAL MODE EXIST, BUT HAVE IMPORTANT CAVEATS

Among the students in the full-year dataset, a total of 25,946 students were in grades 3-8 and completed DeSSA ELA proficiency assessments. In addition, 4,710 students were in 11th grade and completed the school day SAT11 assessment. Tables 4 and 5 show the mean scores of students by primary mode of instruction within grade-level along with the mean difference from the benchmark for ELA proficiency.

As described in the first report from this Opportunity to Learn series, content analyses of LEA documentation on instructional modes during the AY 2020/21 revealed that almost 40% of LEAs noted prioritization of return of in-person instruction for students with special or complex needs, English Language Learners (ELLs), or circumstances such as student network connectivity issues (CRESP, 2021). This prioritization may help to offer possible explanations for the significant mean difference from the benchmark at the secondary level (grades 6, 7, 8, and 11) for students whose primary instructional mode was fully in-person (FIP). Additionally, given the differences between proportions of student groups who were or were not assessed (as discussed in Finding #2) and the qualitative data provided about LEA prioritization of FIP instruction for students with particular educational needs, it is safe to assume that the instructional mode groups are not representative student samples, and conclusions as they relate to the impact of instructional mode on learning cannot and should not be drawn from this dataset.

Table 4. Summary Statistics of DeSSA ELA Assessment Scores by Grade-Level and Instructional Mode

DeSSA-ELA Grade-Level	Proficiency Benchmark Score	Primary Instructional Mode	n	Min	Max	Mean	SD	Mean Difference from Benchmark
3	2432	FIP	1222	2077	2691	2404.1	97.2	−27.9
		HYB	2415	1973	2726	2403.0	86.9	−29.0
		VR	1245	2094	2693	2396.5	91.0	−35.5
4	2473	FIP	1195	2123	2739	2446.2	97.7	−26.8
		HYB	2265	2104	2765	2448.7	86.8	−24.3
		VR	1214	2040	2710	2438.6	92.4	−34.4
5	2502	FIP	1259	2112	2777	2495.6	100.6	−6.4
		HYB	2418	2039	2785	2491.5	89.7	−10.5
		VR	1189	2120	2776	2484.9	96.6	−17.1
6	2531	FIP	383	1976	2702	2463.1	106.8	−67.9
		HYB	2537	2171	2809	2510.0	92.8	−21.0
		VR	1160	2165	2856	2501.6	99.3	−29.4
7	2552	FIP	303	2203	2758	2493.7	103.9	−58.3
		HYB	2551	2157	2970	2545.2	98.8	−6.8
		VR	1077	2167	2904	2540.8	100.9	−11.2
8	2567	FIP	294	2181	2814	2511.4	112.7	−55.6
		HYB	2173	2179	2850	2554.7	102.2	−12.3
		VR	1046	2217	2871	2555.7	100.4	−11.3

Table 5. Summary Statistics of SAT-ELA Assessment Scores by Grade-Level and Instructional Mode

SAT-ELA Grade-Level	Proficiency Benchmark Score	Primary Instructional Mode	n	Min	Max	Mean	SD	Mean Difference from Benchmark
11	480	FIP	34	330	680	409.7	72.2	−70.2941
		HYB	2029	200	800	480.7	92.4	0.7146
		VR	2647	200	800	483.4	94.6	3.4303

Among the students in the full-year dataset, a total of 25,946 students were in grades 3-8 and completed DeSSA Math proficiency assessments. In addition, 4,710 students were in 11th grade and completed the school day SAT11 assessment. Table 6 shows the mean scores of students by primary mode of instruction within grade-level and shows the mean difference from the benchmark for proficiency. The same cautions as discussed for ELA assessment results should be applied to the interpretation of the Math assessment results.

Table 6. Summary Statistics of DeSSA-MATH Assessment Scores by Grade-Level and Instructional Mode

DeSSA-MATH Grade-Level	Proficiency Benchmark Score	Primary Instructional Mode	n	Min	Max	Mean	SD	Mean Difference from Benchmark
3	2436	FIP	1222	1972	2694	2402.4	94.9	−33.6
		HYB	2415	2036	2638	2402.0	78.8	−34.0
		VR	1245	1989	2961	2393.4	88.4	−42.6
4	2485	FIP	1195	2093	2722	2442.7	87.4	−42.3
		HYB	2265	2097	2765	2444.1	79.9	−40.9
		VR	1214	2047	2784	2428.1	87.3	v56.9
5	2528	FIP	1259	2098	2820	2466.7	98.1	−61.3
		HYB	2418	2067	2809	2465.6	87.2	−62.4
		VR	1189	2037	2918	2449.4	96.3	−78.6
6	2552	FIP	383	2000	2663	2425.2	103.8	−126.8
		HYB	2537	2070	2950	2481.9	97.9	−70.1
		VR	1160	2023	3326	2470.7	115.3	−81.3
7	2567	FIP	303	1990	2693	2447.9	106.1	−119.1
		HYB	2551	2033	2862	2506.1	111.2	−60.9
		VR	1077	1963	2889	2499.3	114.8	−67.7
8	2586	FIP	294	2062	2814	2451.7	117.8	−134.3
		HYB	2173	1792	2925	2510.5	116.1	−75.5
		VR	1046	2086	3113	2506.1	118.2	−79.9

Table 7. Summary Statistics of SAT-MATH Assessment Scores by Grade-Level and Instructional Mode

SAT-MATH Grade-Level	Proficiency Benchmark Score	Primary Instructional Mode	n	Min	Max	Mean	SD	Mean Difference from Benchmark
11	530	IP	34	320	740	419.1	75.7	−110.9
		HYB	2029	200	800	472.0	89.2	−58.0
		VR	2647	200	800	470.1	93.2	−59.9

CONCLUSIONS

For Delaware Public School students in grades 3-8, DeSSA assessments are administered to estimate proficiency in ELA and Math. Delaware Public School 11th-grade students are administered the SAT to estimate proficiency in ELA and Math. Delaware saw a significant drop in the number of DeSSA assessments completed in AY 2020/21 (62%) as compared to AY 2018/19 (94.3%). The highest assessment participation rate occurred

with 11th grade students, with 70% completing the SAT assessment. Of grades 3-8, grade 3 had the greatest percentage of participation (69%), with each subsequent grade-level showing decreasing participation through grade 8 (50%). Our analyses also demonstrate demographic differences in who did and did not complete the assessment, with unequal proportions of student assessment participation across race/ethnicity, special education, English Language Learners, and low-income groups. These unequal participation rates suggest that being identified in one of these categories may have influenced participation. Lastly, our analyses show that differences in achievement by instructional mode exist, but assessment results should be interpreted with great care. Conclusions regarding instructional mode as related to assessment performance cannot be drawn on account of not having representative student samples across each instructional mode.

In summary, the sizable changes in test-taking patterns from AY 2018/19 to AY 2020/21 make any comparisons in student achievement between the two academic years extremely difficult, with the recent school year seeing a 30% drop in the number of students that we have assessment data for. Additionally, the lack of complete data also makes it difficult to determine whether the pandemic had any disparate impact on specific student demographic groups or students receiving one type of instructional model over another. While difficult, it is not impossible to conduct such an analysis, however. In order to combat these deficits in knowledge, further inquiry should be made into performing more advanced modeling of COVID-19 impacts using the current dataset in order to account for the incomplete assessment data.

QUESTION 2: HOW DID STUDENTS WHO TOOK THE DESSA ASSESSMENT TWO YEARS AGO PERFORM DURING THE 2020/21 ACADEMIC YEAR?

BACKGROUND

Delaware's results on the DeSSA assessment for the 2020/21 AY were lower than pre-pandemic achievement scores (DDOE, 2019; DDOE, 2021). While it has been established that Delaware students performed worse on the DeSSA assessment compared to two years ago, it was also noted in this report that the test-taking patterns varied widely compared to previous DeSSA and SAT administrations. This large amount of missing data makes it difficult to make comparisons with data of previous years. This also adds to the difficulty in assessing the impact of the COVID-19 pandemic on students.

METHOD

In order to determine the impact of the pandemic on students, while simultaneously accounting for the large number of students who did not take the DeSSA assessment during AY 2020/21, CRESP matched the data of just the students who took the DeSSA assessment both in 2018/19 and in 2020/21. Doing this restricted the analysis to students who were in grades 5-8 in 2020/21. Grades 3 and 4 were not included in the analysis because those students did not take the DeSSA in 2018/19, as they would have been in untested grades (grades 1 and 2) during that year. Once these datasets were matched, we were able to assess changes in performance with this subset of students who tested in both years.

FINDINGS

FINDING #1: LITTLE PROGRESS IN PERFORMANCE LEVEL WAS SEEN IN MATHEMATICS; MAJORITY OF STUDENTS EITHER MAINTAINED OR REGRESSED IN PERFORMANCE

A total of 21,782 students completed Mathematics proficiency assessments in both AY 2018/19 and AY 2020/21. The gradient highlights the most common combinations of pre- to post-proficiency ratings. For example, of the 5012 students who received a rating of 1 in AY 2018/19, the majority (92%) did not show evidence of progression in AY 2020/21. Also, of the 5549 students who received a rating of 4 in AY 2018/19, less than half (36%) maintained that level of achievement.

Table 8. Proficiency Rating Frequencies for Mathematics: AY 2018/19 to AY 2020/21 Comparison

		AY21					Achievement Paths		
		1	2	3	4	Sum	Maintained	Regressed	Progressed
AY19	1	4635	354	20	3	5012	92%		8%
	2	3582	1825	248	21	5676	32%	63%	5%
	3	1688	2621	1032	204	5545	19%	78%	4%
	4	297	1355	1894	2003	5549	36%	64%	
	Sum	10202	6155	3194	2231	21782			

FINDING #2: SOME PROGRESS IN PERFORMANCE LEVEL WAS SEEN IN ENGLISH LANGUAGE ARTS, BUT THE MAJORITY EITHER MAINTAINED OR REGRESSED IN PERFORMANCE

A total of 22,071 students completed ELA proficiency assessments in both AY 2018/19 and AY 2020/21. Compared to Mathematics, a larger percentage of the students with a rating of 1 in ELA for AY 2018/19 showed evidence of progression (25%) to higher achievement in AY 2020/21. Also, a larger percentage of higher-proficiency students (ratings of 3 and 4) maintained their proficiency level from AY 2018/19 to AY 2020/21. Our finding of greater regression in mathematics over ELA was also observed in Northwest Evaluation Association (NWEA) analyses of MAP® Growth™ assessment data, where students across the country had greater percentile drops in Math over ELA as compared to 2018/19 data (Lewis, et al., 2021).

Table 9. Proficiency Rating Frequencies for ELA: AY 2018/19 to AY 2020/21 Comparison

		AY21					Achievement Paths		
		1	2	3	4	Sum	Maintained	Regressed	Progressed
AY19	1	3773	1057	197	8	5035	75%		25%
	2	1753	2017	918	53	4741	43%	37%	20%
	3	760	2154	2901	505	6320	46%	46%	8%
	4	99	677	2703	2496	5975	42%	58%	
	Sum	6385	5905	6719	3062	22071			

CONCLUSIONS

Analyses of the achievement results from students who participated in the assessment in both AY 2018/19 and AY 2020/21 show little progress in Mathematics performance level, with the majority of students either maintaining or regressing their performance level: 92% of level 1 maintained, 63% of level 2 regressed, 78% of level 3 regressed, and 64% of level 4 regressed. Some progress in performance level was seen in English Language Arts. However, the majority of students also either maintained or regressed in performance: 75% of level 1 maintained, 37% of level 2 regressed, 46% of level 3 regressed, and 58% of level 4 regressed.

These matched results indicate that a large number of students regressed in regard to performance level as compared to where they were two years before, with both Math and ELA performance impacted. Further studies could determine how much this deviates from previous matched years of data and whether any student subgroup has been impacted more than others. Overall, regardless of the difficulties related to the number of students who did not take the DeSSA assessment last year, these results strongly suggest that the many students who did take the assessment last school year saw a drop in their performance level compared to where they were two years before.

It is important to note that these results are mirrored nationally. Results from the spring 2021 NWEA MAP® GrowthTM assessment—a nationally administered assessment to over 4 million students in grades 3-8—showed 3- to 6-percentile point declines in reading achievement, and 8- to 12-percentile point declines in math achievement as compared to pre-pandemic performance (Lewis, et al., 2021). The Curriculum Associates' i-Ready assessment results of over 9 million students showed similar results: fewer students in grades 1-8 were on expected grade-level in reading and math in 2021 as compared to previous years (Curriculum Associates, 2021).

This report captures a point in time regarding student achievement on the DeSSA during spring 2021 and helps to provide one view of achievement during 2020/21 as compared to 2018/19. As previously stated, there are limits to interpreting this data given the lower-than-normal participation rate. Therefore, subsequent years of data will help to paint a more complete picture of the impact of the pandemic on student achievement in Delaware Public Schools. As LEAs continue to explore ways to address student achievement declines and seek to make instructional, curricular, and programmatic

decisions, the use of formative data, such as targeted assessments, will also be a timely and valuable tool for school leaders' decision-making.

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