Wisconsin School District Learning Plans and Enrollment in the 2020-21 School Year

Region 10 Comprehensive Center

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Introduction

In Spring 2020, as the COVID-19 public health pandemic forced schools across Wisconsin to go fully virtual, the Wisconsin Evaluation Collaborative (WEC), housed within the Wisconsin Center for Education Research (WCER) at the University of Wisconsin-Madison, conducted an analysis of learning plans in districts across the state. A summary of the analysis was presented to the Wisconsin Department of Public Instruction (DPI) in June 2020 and can be viewed on the Resources tab of the Wisconsin-Minnesota Comprehensive Center website (wmcc10.org).

As the 2020-21 school year neared, cases of COVID-19 were on the rise both nationwide and in Wisconsin, making the return to school uncertain for Wisconsin's children. To help alleviate some of this ambiguity, school districts created learning plans for pandemic instruction. WEC, with guidance from the DPI, analyzed these learning plans and associated data in Wisconsin's school districts. This report is a summary of that analysis.

To assess the state of remote learning throughout Wisconsin in 2020-21, WEC reviewed remote learning plans from a sample of 59 districts (please see the June 2020 report in the Resources tab on the Wisconsin-Minnesota Comprehensive Center website, wmcc10.org, for a description of the sampling process). At the start of the school year, based on information found on district websites, plans were categorized as one of four types: 1) fully face-to-face, 2) fully virtual, 3) hybrid (a mix of face-to-face and virtual instruction), and 4) other. We also looked at the extent to which districts were assisting students with hardware and internet access.

As the school year came to a close, these districts were contacted again for data on their learning plans, for the purpose of exploring how plans had changed as the year progressed. By the end of the year, none of the districts in our sample were still fully virtual; instead, some districts offered families the choice of a face-to-face or virtual option, so the four types of plans changed to 1) fully face-to-face, 2) hybrid, 3) face-to-face OR virtual, and 4) other.

As districts and schools embark upon yet another year of pandemic education in 2021-22, WEC presents the following overview of districts' remote learning plans from the 2020-21 school year. This report seeks to answer the following questions:

- What types of learning plans were present in Wisconsin in the 2020-21 school year, how did they vary by location, and how did they change from the beginning to the end of the year?
- What were the demographic characteristics of districts with different types of learning plans?
- What did trends in enrollment look like among districts with different types of learning plans?
- What patterns exist in hardware provision and internet access?
- What were the relationships between learning plans and other measures such as per-pupil funding and DPI categorical aids?

Researchers have already sought to discern the reasons districts chose certain learning plans (see, for example, Hartney & Finger 2020) and have begun to research the types of students who attended school in person compared to those who attended virtually (Calarco et al., 2021). Through this report, we intend to provide Wisconsin-specific context through the patterns we observe in our findings.

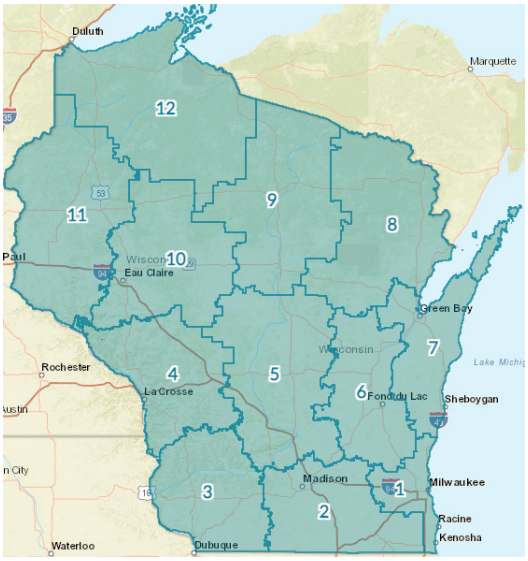
Sample Characteristics

WEC's sample included 59 districts from across the state. Table 1 and Figure 1 below feature the number of sampled districts within each of Wisconsin's 12 Cooperative Education Service Agencies (CESAs). While the southeastern and south-central parts of the state had the highest representation, at least three districts from each CESA were present in our sample.

Table 1: CESAs represented in learning plan review

CESA	Number of districts
1	10
2	10
3	3
4	3
5	5
6	6
7	5
8	3
9	4
10	3
11	3
12	4

Figure 1: Map of Wisconsin CESAs



Data from Wisconsin DPI ArcGIS: https://data-wi-dpi.opendata.arcgis.com/apps/WI-DPI::education-boundaries-wisconsin/explore

The level of urbanicity in Wisconsin varied substantially by CESA (see Table 2), so we also reviewed the characteristics of our sample across the four primary locale codes (City, Suburban, Town, Rural), developed by the U.S. Department of Education's National Center for Education Statistics (Geverdt, 2015) . Though the sample is spread relatively evenly across locale types (with the exception of towns), there are many more rural districts in Wisconsin than other locale types and only 17 districts designated as cities. Therefore, rural districts are proportionately underrepresented in our sample, while nearly all of the cities in the state are represented. Note that only 55 districts have locale descriptors. Please also note that throughout this report, the total number of districts included in the analysis of particular item is based on data availability.

Table 2: Locales of sample districts

Locale	Number of districts
City	16
Suburb	14
Town	7
Rural	18

Findings

Prevalence of learning plan types

We reviewed learning plans at two times: at the beginning of the year (Quarter 1) using district websites, and at the end of the year (Quarter 4) by contacting districts directly. We also classified plans based on whether they applied to Elementary (grades K-8) or Secondary (grades 9-12) students within each district. By the end of the year, none of the districts was fully virtual; however, some allowed students to choose whether to attend either face-to-face or virtually. We label these Quarter 4 plans as "both" throughout this report.

Table 3 presents the number and percentage of schools with each type of learning plan. During both periods, more elementary plans were face-to-face than secondary plans, though the prevalence of face-to-face secondary plans approached 50 percent by the end of the year. Secondary plans were more likely to be hybrid at the beginning of the year, with more than double the number of districts with hybrid secondary plans than with hybrid elementary plans. Further, by the end of the year, fewer districts had "other" configurations – most fit into the three designated categories.[1]

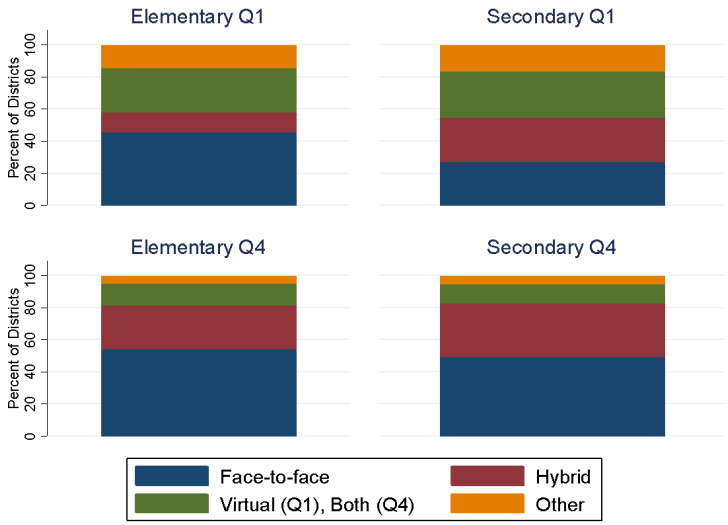
Table 3: Types of learning plans by grade level and time period

Beginning of Year (Q1)	Elementary		Secondary		End of Year (Q4)	Elementary		Secondary	
	n	%	n	%		n	%	n	%
Face-to-face	25	45.5%	15	27.3%	Face-to-Face	32	54.2%	28	49.1%
Hybrid	7	12.7%	15	27.3%	Hybrid	16	27.1%	19	33.3%
Virtual	15	27.3%	16	29.1%	Face-to-face *or* Virtual ("Both")	8	13.6%	7	12.3%
Other	8	14.6%	9	16.4%	Other	3	5.1%	3	5.3%
Total	55		55		Total	59		57	

Figure 2 presents the data in Table 3 graphically, showing the growth in face-to-face and hybrid plans from the beginning of the year to the end.

[1] One example of an "other" configuration is a district that offered in-person, hybrid, and virtual plans.

Figure 2: Types of learning plans by grade level and time period



District learning plans varied by locale, as shown in Figure 3 (elementary) and Figure 4 (secondary). City districts tended to start the year virtually, while Rural districts tended to remain face-to-face. By Quarter 4, most districts across City, Town, and Rural locales were face-to-face, while the majority of suburban districts offered hybrid instruction. Additionally, at the end of the year, districts in cities offered the "both" face-to-face and virtual option to a greater extent than districts in other locales. Patterns were similar at the elementary and secondary levels.

Figure 3: Learning plan types in elementary grades

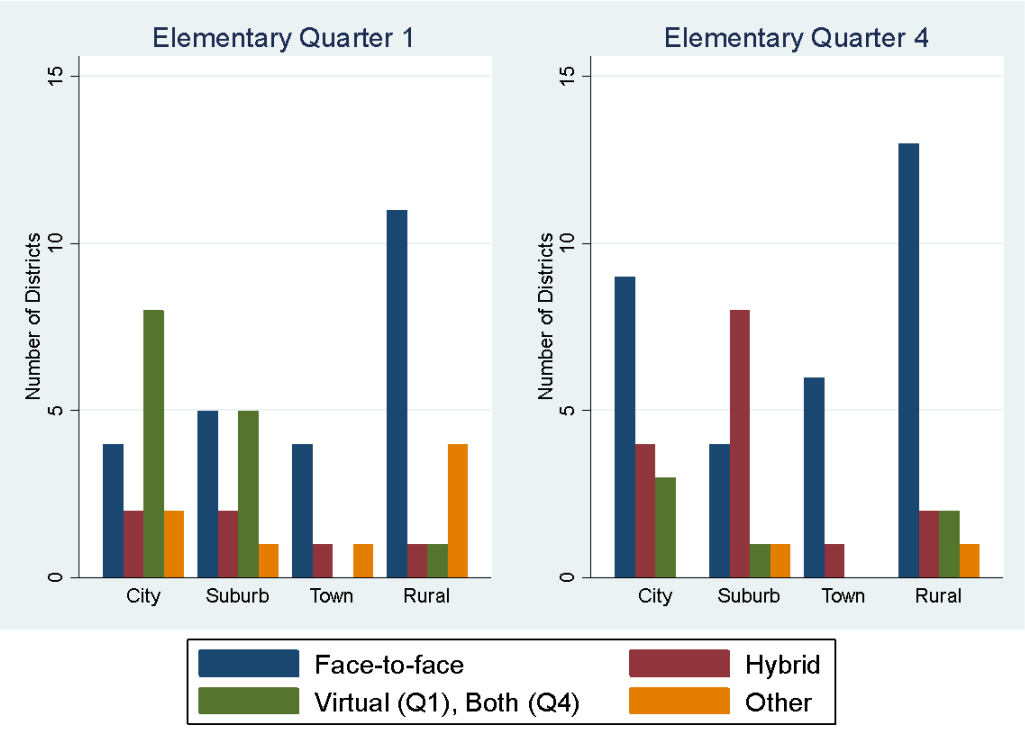
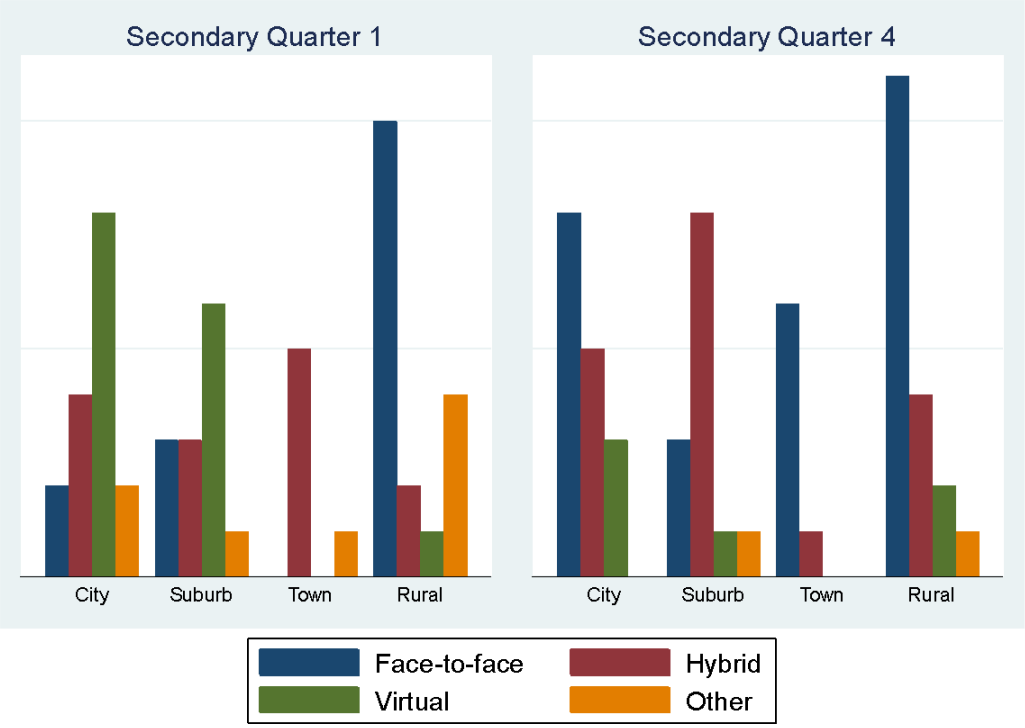


Figure 4: Learning plan types in secondary grades



We also reviewed changes in learning plans from the beginning to the end of the year at the individual district level (Table 4). In Elementary grades, 17 of 55 districts kept the same arrangement, with 3 providing a virtual option if originally face-to-face and 2 providing a face-to-face option if originally virtual. In Secondary grades, 15 of 54 districts kept the same arrangement, with 2 providing a virtual option if originally face-to-face and 2 providing a face-to-face option if previously only virtual.

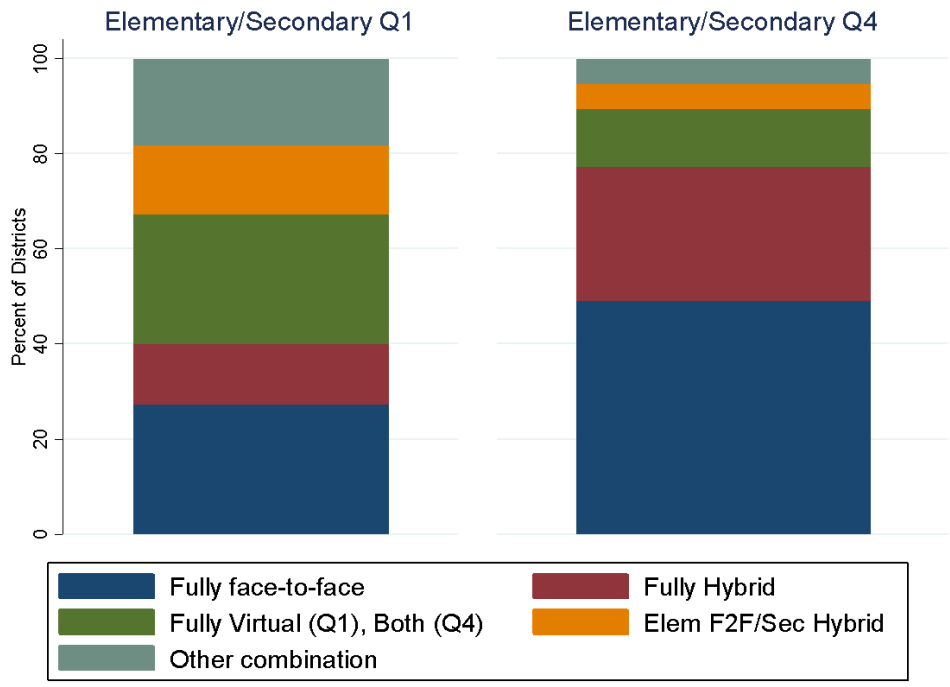
Table 4: Changes in learning plans from beginning to end of year

		Elementary (n=55)					Secondary (n=54)			
		Quarter 4					Quarter 4			
		Face-to-face	Hybrid	Both	Other		Face-to-face	Hybrid	Both	Other
Quarter 1	Face-to-face	15	6	3	1	Quarter 1	9	3	2	1
	Hybrid	3	2	2	0		7	6	2	0
	Virtual	7	4	2	2		6	6	2	2
	Other	5	3	0	0		5	3	0	0

Further, we investigated whether plans were the same at both the elementary and secondary level within each district, as presented in Figure 5. While about a quarter of districts were face-to-face at both the elementary and secondary levels at the beginning of the year, about half remained face-to-face at the end of the year. The number of fully hybrid districts also increased from Quarter 1 to Quarter 4.

When taken together elementary/secondary plans show the same trend toward face-to-face and hybrid as they did when separated by grade level.

Figure 5: Combined elementary/secondary plans from beginning to end of year



Demographic Characteristics

Next, we explored the demographics of districts with each learning plan type using the following categories designated by the DPI: economically disadvantaged, students with disabilities, English Learners, and various racialized categories. Table 5 shows these district demographics as compared to their learning plan at the beginning of the year. We also provide statewide data for comparison purposes. Because Milwaukee Public Schools (MPS) is so large relative to the other districts in the state, we have separated their categories (virtual in Quarter 1, face-to-face in Quarter 4) into MPS and non-MPS percentages. For instance, without MPS, we see that percentages of economically disadvantaged students did not vary much across learning types or grade levels. Even when including MPS, the percentages of students with disabilities were similar across plans; the percentages of economically disadvantaged students were between 40 and 50 percent, and students with disabilities were between 13 and 17 percent. On the other hand, we see more variation among English Learners at the elementary level and a higher proportion of English Learners in the "other" category.[2]

[2] For English Learners, we have also excluded data from Madison Metropolitan School District, the second-largest in the state, as it appears its data for English Learners is incomplete – DPI data show that the district had only 11 English Learners in 2019-20 after having approximately 20 *percent* in 2019-20.

With respect to race/ethnicity, Black students made up a larger proportion of virtual students even outside of MPS (ranging from about 13 to 28 percent) than their proportions in face-to-face environments (between 5 and 8 percent). There were smaller proportions of Asian students in face-to-face environments (2 to 5 percent) than in others (over 6 percent) and of Hispanic students in hybrid districts (under 11 percent, versus over 15 percent elsewhere). White students made up a larger proportion of face-to-face and hybrid configurations (66 to 74 percent) than virtual or other (37 to 55 percent). These findings could have equity implications if students who receive at least some face time with teachers (i.e., in face-to-face or hybrid environments) are shown to have higher performance, which will be an important area for future study.

Table 5: Demographics by beginning-of-year learning plan

	Face-to-face		**Hybrid**		**Virtual**				**Other***		**State-wide ****
					Elem (n=15)		**Sec (n=16)**				
	Elem (n=25)	**Sec (n=15)**	**Elem (n=7)**	**Sec (n=15)**	With MPS	*No MPS*	With MPS	*No MPS*	**Elem (n=8)**	**Sec (n=9)**	
Economically Disadvantaged	45.2%	47.9%	40.0%	42.6%	63.5%	*48.9%*	62.5%	*47.9%*	49.1%		43.7%
Students with Disabilities	13.7%	13.3%	14.8%	14.8%	16.8%	*15.0%*	16.6%	*14.7%*	14.8%		14.2%
English Learners	7.6%	6.2%	3.5%	6.3%	10.1%	*8.1%*	10.2%	*8.4%*	13.4%		5.3%
American Indian	0.7%	0.4%	0.6%	0.9%	0.4%	*0.4%*	0.4%	*0.4%*	3.0%		1.1%
Asian	5.2%	2.1%	6.5%	7.6%	8.0%	*8.0%*	7.9%	*7.9%*	8.2%		4.2%
Black	5.5%	7.6%	6.8%	4.8%	27.5%	*12.9%*	26.9%	*12.6%*	7.2%		8.9%
Hispanic	15.8%	17.6%	6.3%	10.5%	21.3%	*17.2%*	21.2%	*17.3%*	21.0%		12.8%
Pacific Islander	0.1%	0.1%	0.1%	0.1%	0.1%	*0.1%*	0.1%	*0.1%*	0.1%		0.1%
Two or More Races	5.6%	6.0%	5.7%	5.3%	5.8%	*7.3%*	5.9%	*7.3%*	6.2%		4.6%
White	67.2%	66.6%	74.0%	70.8%	36.9%	*54.1%*	37.6%	*54.5%*	54.5%		68.3%

*We did not have enrollment data for all districts, so even if a learning plan type had different n's at the elementary and secondary levels, the percentages of subgroups may have been the same.
**Data collected from WISEdash (DPI data portal). https://wisedash.dpi.wi.gov/Dashboard/

Table 6 shows the same information as Table 5, but for the end of the year (and with the both face-to-face and virtual category as opposed to virtual only). There were similar trends as with Quarter 1 among economically disadvantaged students and students with disabilities, but less disparity with English Learners among learning plan types. Additionally, there were higher proportions of Black and Hispanic students in hybrid environments in Quarter 4 than in Quarter 1, and relatively large percentages in districts where they could choose whether to be face-to-face or virtual. The proportions of Asian students were similar across learning plans, whereas White students outside of MPS made up a much larger share of face-to-face districts than those with non-face-to-face learning plans.

Table 6: Demographics by end-of-year learning plan

	Face-to-face				**Hybrid**		**Both**		**Other**		**State-wide***
	Elem (n=32)		**Sec (n=28)**		**Elem (n=16)**	**Sec (n=19)**	**Elem (n=8)**	**Sec (n=7)**	**Elem (n=3)**	**Sec (n=3)**	
	With MPS	*No MPS*	With MPS	*No MPS*							
Economically Disadvantaged	61.2%	*44.7%*	63.3%	*45.2%*	47.1%	46.6%	52.2%		33.2%		43.7%
Students with Disabilities	17.1%	*15.4%*	17.2%	*15.3%*	13.6%	13.9%	15.1%		12.9%		14.2%

English Learners	8.8%	*6.3%*	8.9%	*5.9%*	9.7%	7.6%	8.1%	7.2%	5.3%
American Indian	0.7%	*0.9%*	0.7%	*1.0%*	1.4%	1.3%	0.3%	0.4%	1.1%
Asian	7.2%	*6.8%*	6.8%	*6.0%*	7.1%	7.6%	5.4%	9.9%	4.2%
Black	22.9%	*4.6%*	24.9%	*4.6%*	10.4%	9.7%	14.4%	10.9%	8.9%
Hispanic	18.0%	*11.7%*	18.8%	*11.8%*	19.1%	18.2%	17.5%	11.0%	12.8%
Pacific Islander	0.1%	*0.1%*	0.1%	*0.1%*	0.1%	0.1%	0.0%	0.1%	0.1%
Two or More Races	4.7%	*5.5%*	4.8%	*5.7%*	6.9%	6.6%	6.6%	8.5%	4.6%
White	46.6%	*70.7%*	44.3%	*71.1%*	54.9%	56.5%	55.7%	59.2%	68.3%

*Data collected from WISEdash (DPI data portal). https://wisedash.dpi.wi.gov/Dashboard/

Enrollment

Another area of exploration was enrollment trends as a whole. According to DPI data, statewide enrollment dropped by approximately 2.9% in 2021. We see larger drops across our sample (4.3%), regardless of learning plan. Districts with hybrid elementary school plans and face-to-face high school plans at the start of the school year show the largest drops from 2019-20 to 2020-21.

Table 7: Enrollment change from previous school year by beginning-of-year learning plan

	Elementary	**Secondary**
Face to Face	-4.1%	-4.9%
Hybrid	-5.4%	-3.9%
Virtual	-4.1%	-4.0%
Virtual, No MPS	-3.9%	-3.8%
Other	-4.3%	-5.3%
Full Sample	-4.3%	
Statewide*	-2.9%	

*Data collected from WISEdash (DPI data portal). https://wisedash.dpi.wi.gov/Dashboard/

From there, we hypothesized that a district's learning plan could have an effect on enrollment by subgroup, with parents possibly pulling their children out of their district based on the learning plan offered. To find out, we reviewed beginning-of-year enrollment data for the ten demographic subgroups listed above, but we found no deviation from prior year trend for the sample as a whole. We then explored enrollment changes in MPS and Madison Metropolitan School District (MMSD), the two largest school districts in the state. Both districts began with fully virtual instruction, so the goal was to investigate any patterns of subgroups leaving the districts, ostensibly to districts that may have had more face-to-face instruction time. Overall, from 2019-20 to 2020-21, MPS's enrollment dropped by 4.2 percent, similar to other districts in our sample, while MMSD's dropped by only 2.6 percent, closer to the statewide rate. To assess changes in subgroups, we compared the proportion of each subgroup in 2020-21 to its proportion in 2019-20. (As noted above, we excluded English Learners in MMSD because of a concern with the reported data.) As illustrated in Table 8, we did not observe substantial changes in any subgroup except for economically disadvantaged students, who made up an increased share of students in both districts in 2020-21. This finding suggests that it is possible some families of means did in fact move their students out of the districts to seek non-virtual options.

Table 8: Demographic changes by subgroup

	MPS		MMSD	
	2019-20	2020-21	2019-20	2020-21
Economically Disadvantaged	83.8%	86.5%	45.6%	50.7%
Students with Disabilities	19.8%	19.6%	14.2%	14.8%
English Learners	12.4%	12.6%	n/a	n/a
American Indian	0.5%	0.4%	0.3%	0.3%
Asian	7.6%	7.9%	8.6%	8.4%
Black	51.0%	50.4%	17.8%	18.1%
Hispanic	27.4%	27.7%	22.3%	23.0%
Pacific Islander	0.1%	0.1%	0.1%	0.1%
Two or More Races	3.3%	3.6%	9.3%	9.3%
White	10.1%	9.9%	41.7%	41.0%

Based on these data, we expanded our view to examine trends in economically disadvantaged students attendance for the sampled districts. Rather than aggregating students across districts by learning plan type, we looked at the change in share of economically disadvantaged students in each individual district, exploring whether their enrollment increased, decreased, or stayed within one percentage point (Table 9). While a slight majority of virtual districts (8 of 14, 57 percent) saw a rise in their share of economically disadvantaged students, this was similar to districts overall, *except* for those that were fully face-to-face. (To further demonstrate this contrast, Table 9 also combines all of the plans that were not fully face-to-face). This second finding provides more evidence for the possibility that families who were not economically disadvantaged were moving their children out of environments that were not fully face-to-face – an example of opportunity gaps in action if face-to-face learning is shown to improve student performance more than other types.

Table 9: Difference in share of economically disadvantaged students from 2019-20 to 2020-21, by combined elementary/secondary learning plan type

Change		Hybrid	Virtual	Elem: F2F Sec: Hybrid	Other	All non-face-to-face	Face-to-face	Total
Higher share	n	4	8	5	4	21	6	27
	%	66.7%	57.1%	62.5%	44.4%	56.8%	40.0%	51.9%
Within 1 percentage pt	n	1	3	1	3	8	4	12
	%	16.7%	21.4%	12.5%	33.3%	21.6%	26.7%	23.1%
Lower share	n	1	3	2	2	8	5	13
	%	16.7%	21.4%	25.0%	22.2%	21.6%	33.3%	25.0%
Total	n	6	14	8	9	37	15	52

Hardware availability and internet access

As part of our beginning-of-year scan of learning plan data, we collected information regarding whether school districts provided hardware (such as laptops) to students, as well as the extent to which districts assisted families with internet accessibility. We start by reviewing hardware availability by locale and learning plan type (Table 10). (Because this information was not always easy to find, we rated our level of confidence in our findings and omitted data on districts about whom we were not confident or for which

data was not available.) Overall, 31 districts provided hardware to all of their students, and 14 provided hardware to some of their students. By locale, nearly all city and suburban districts provided hardware to all students, while town and rural districts were more likely to provide hardware only to some students. Perhaps because town and rural districts tended to have face-to-face instruction, this finding made sense. Indeed, Table 8 shows that providing hardware to all students was more common in schools with hybrid, virtual, or other plans. At the bottom of the table, we show that districts providing hardware to all students had higher average enrollment than districts that did not, which again aligns with locale and learning plan type.

Table 10: Provision of hardware by locale and grade level

		Some Provided (n=14)	**All Provided (n=31)**
Locale	City	3	12
	Suburb	2	11
	Town	3	3
	Rural	6	3
Elementary Plan	Face-to-face	8	13
	Hybrid	2	5
	Virtual	3	9
	Other	0	4
Secondary Plan	Face-to-face	5	6
	Hybrid	5	10
	Virtual	3	10
	Other	0	5
Average Enrollment (*No MPS*)		3497.5	9763.2 (*7558.0)*

In our review of internet accessibility, we identified whether districts:

a) Explicitly mentioned that internet is provided to any student who needed it (“all provided” in the subsequent tables and figures)

b) Attempted to provide students in need with internet, but may not have been able to do so due to limited resources or availability (“attempt to help”)

If information was limited such that we could not determine whether all students were provided with internet, these districts were identified as making an “attempt to help.”

Table 11 shows the extent to which districts helped students access the internet. Most districts across all locales and learning plan types fell into the “attempt to help” category (n=21), which also represented districts with higher average enrollment. As with hardware provision, districts with virtual or other plans tended to provide more assistance than face-to-face or hybrid district.

Table 11: Assistance with internet access by locale and grade level

		No help (n=12)	Attempt to help (n=21)	All provided (n=5)
Locale	City	4	9	1
	Suburb	2	6	2
	Town	1	3	2
	Rural	2	3	0
Elementary	Face to Face	8	7	1
	Hybrid	2	4	0
	Virtual	1	7	2
	Other	0	3	1
Secondary	Face to Face	3	4	0
	Hybrid	6	6	1
	Virtual	1	8	2
	Other	1	3	1
Average Enrollment (*no MPS*)		6530.3	11142.3 (*8123.9)*	3842

Table 12 presents the demographic breakdown of the levels of hardware availability and internet access among student populations. After removing MPS from analysis (given how much it weights the statewide analysis), economically disadvantaged students and students with disabilities were present in similar proportions across learning plan types. English Learners made up a higher proportion of students in districts that provided hardware to all students, but a lower percentage of students in districts that provided all internet access (though as Table 11 shows, there are only 5 such districts). There were higher proportions of American Indian students, Asian students, and students of Two or More Races in the districts that provided all internet access. In the two largest categories of districts (those that provided hardware to all students and attempted to help with internet access), there were higher proportions of Black and Hispanic students. Finally, higher proportions of White students were present in districts that provided some students versus all students with hardware, and no help versus some help with internet access.

Table 12: Hardware provision and assistance with internet access by subgroup

	Hardware			Internet				State-wide*
	Some Provided	All Provided		No help	Attempt to help		All provided	
		With MPS	*No MPS*		With MPS	*No MPS*		
Economically Disadvantaged	43.5%	56.1%	*45.9%*	44.2%	59.2%	*47.2%*	38.4%	43.7%
Students with Disabilities	14.7%	15.6%	*14.2%*	14.5%	16.0%	*14.4%*	13.4%	14.2%
English Learners	4.6%	9.8%	*8.6%*	7.8%	10.2%	*8.9%*	4.1%	5.3%
American Indian	1.5%	0.7%	*0.8%*	0.4%	0.7%	*0.8%*	4.5%	1.1%
Asian	7.1%	7.5%	*7.3%*	7.9%	7.3%	*7.1%*	10.2%	4.2%
Black	6.3%	18.9%	*8.2%*	4.9%	21.4%	*8.7%*	6.8%	8.9%
Hispanic	9.6%	19.3%	*16.4%*	14.0%	20.1%	*16.7%*	5.9%	12.8%
Pacific Islander	0.1%	0.1%	*0.1%*	0.1%	0.1%	*0.1%*	0.1%	0.1%
Two or More Races	6.0%	5.8%	*6.5%*	5.8%	5.6%	*6.5%*	8.1%	4.6%
White	69.7%	47.8%	*60.6%*	66.9%	44.8%	*60.2%*	64.5%	68.3%

*Data collected from WISEdash (DPI data portal). https://wisedash.dpi.wi.gov/Dashboard/

Other Areas of Interest

In consultation with the DPI, we identified some other areas of interest worth exploring based on our findings. For instance, Figure 6 and Figure 7 show the level of per pupil funding by elementary and secondary learning plans, respectively. In both cases, districts with hybrid plans had lower levels of average per pupil funding than did districts with face-to-face, virtual, or other learning plan configurations.

Figure 6: Average per pupil funding by elementary learning plan

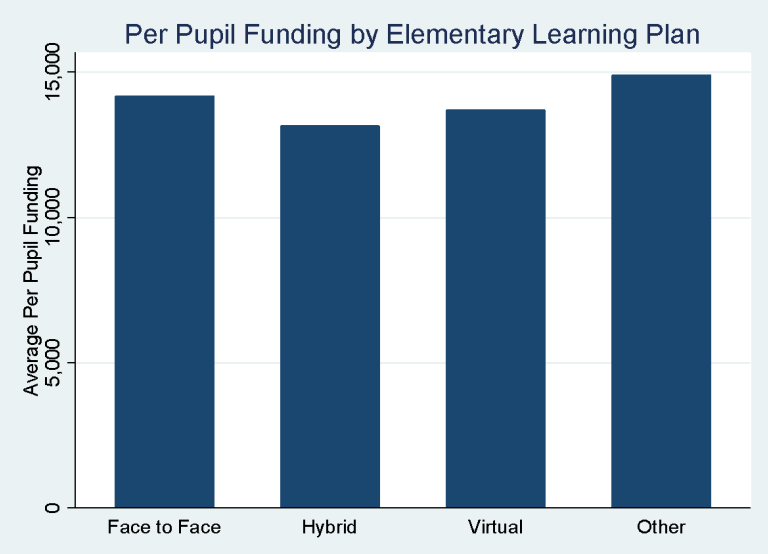


Figure 7: Average per pupil funding by secondary learning plan

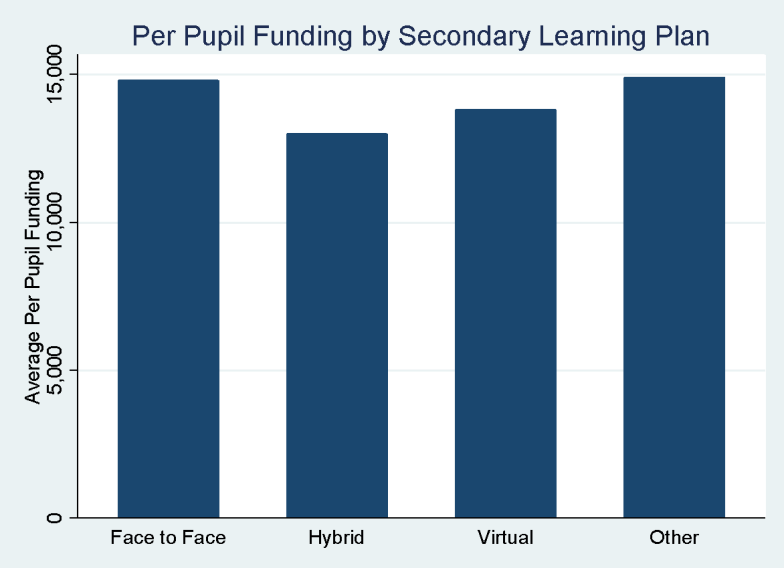


Figure 8 shows average per pupil funding by hardware availability, and Figure 9 shows the same by internet accessibility. Districts that provided hardware to all had slightly less per pupil funding, on average, than districts that only provided hardware to some. The opposite pattern is evident with internet accessibility, where the higher average funding correlated with the level of assistance provided.

Figure 8: Average per pupil funding by hardware availability

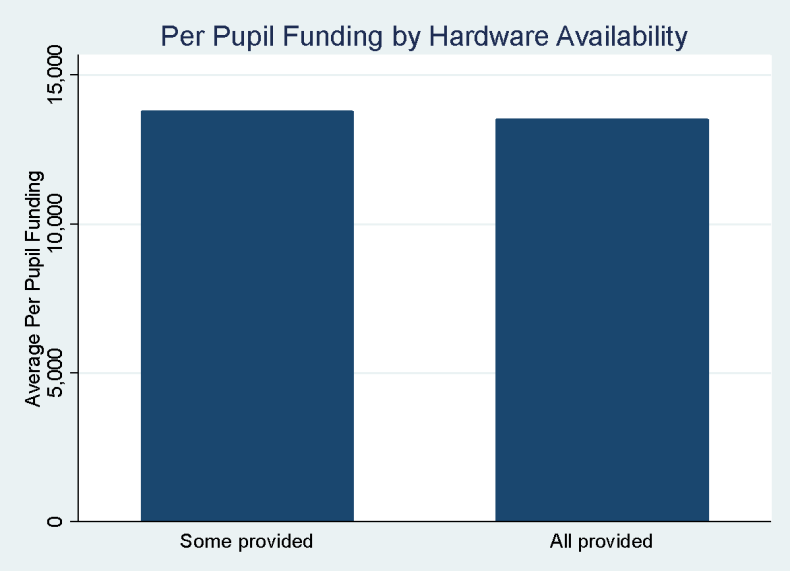
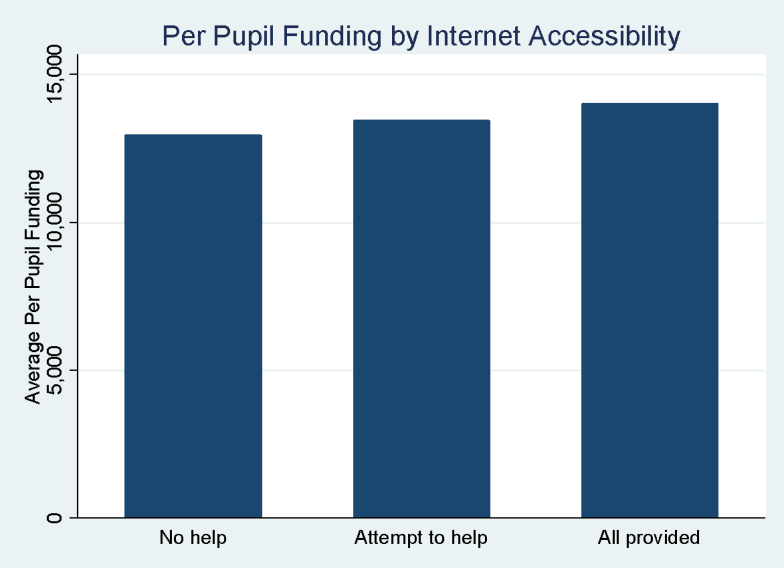


Figure 9: Average per pupil funding by internet accessibility



Finally, we reviewed the relationship of remote learning plans to two other DPI categorical aids: high-poverty and sparsity. Broadly speaking, districts are eligible for high-poverty aid if over half of their students are economically disadvantaged.[3] Small, rural districts are eligible for sparsity aid.[4]

Table 12 shows high-poverty aid eligibility by learning plan. Both at the beginning and end of the school year, about half of the districts eligible for high-poverty aid had face-to-face learning plans, while several more had hybrid plans at the end of the year than at the beginning.

Table 12: High-poverty aid eligibility by learning plan

		Beginning of Year (n=52)		End of Year (Elem n=55) (Sec n=54)	
		Not eligible (n=33)	Eligible (n=19)	Not eligible (Elem n=35, Sec n=34)	Eligible (n=20)
Elementary	Face to Face	13	11	22	10
	Hybrid	6	0	8	7
	Virtual	9	5	4	2
	Other	5	3	1	1
Secondary	Face to Face	6	9	18	10
	Hybrid	12	2	11	7
	Virtual	10	5	4	2
	Other	5	3	1	1

Table 13 shows the relationship between learning plans and sparsity aid. At both the elementary and secondary levels, and both at the beginning and end of the year, a high proportion of the districts in our sample that were eligible for sparsity aid had face-to-face learning plans.

[3] https://dpi.wi.gov/sfs/aid/categorical/aid-high-poverty-districts
[4] https://dpi.wi.gov/sfs/aid/categorical/sparsity-aid-program

Table 13: Sparsity aid eligibility by learning plan

		Beginning of Year (n=52)		End of Year (Elem n=55) (Sec n=54)	
		Not eligible (n=36)	Eligible (n=16)	Not eligible (Elem n=39, Sec n=38)	Eligible (n=16)
Elementary	Face to Face	14	10	19	13
	Hybrid	5	1	13	2
	Virtual	13	1	6	0
	Other	4	4	1	1
Secondary	Face to Face	6	9	17	11
	Hybrid	12	2	14	4
	Virtual	14	1	6	0
	Other	4	4	1	1

Conclusion

To summarize our findings, we revisit the questions we sought to answer in this brief.

What types of learning plans were present in Wisconsin in the 2020-21 school year, how did they vary by location, and how did they change from the beginning to the end of the year?
We categorized four types of learning plans in our sample of districts: face-to-face, hybrid, virtual (beginning of year), either face-to-face or virtual (end of year), and other, and we examined a sample of districts at both the beginning and end of the 2020-21 school year. At the start of the year, rural districts were more likely to choose face-to-face plans than districts in other locale types. y the end of the year, districts in cities and towns were also largely face-to-face, while many suburban districts employed hybrid plans. Additionally, as the pandemic's effects began to ease toward the end of the school year, much more learning was taking place in-person, with around half of all districts in our sample fully face-to-face.

What were the demographic characteristics of districts with different types of learning plans?
Economically disadvantaged students and students with disabilities were represented similarly across learning plan types, while English Learners showed more variation. Proportions of race/ethnicity subgroups varied considerably across learning plan type, though students of color were present in higher proportions in districts that started the year virtually than in districts with non-virtual learning plans.

What did trends in enrollment look like among districts with different types of learning plans?
Districts in our sample declined in enrollment at a rate greater than the state as a whole, and enrollment decreases did not appear to vary much by learning plan type. One area for potential future research wasthe growth in the share of economically disadvantaged students in non-face-to-face districts. This finding could imply that some families of means moved their students out of districts that did not have fully in-person learning, which could exacerbate existing opportunity gaps if it is shown that the academic performance of students in face-to-face environments is stronger than that of students in other settings.

What patterns exist in hardware provision and internet access?

In general, districts that were not face-to-face more frequently provided hardware to all of their students and at least attempted to assist their students with internet access.

What were the relationships between learning plans and other measures such as per-pupil funding and DPI categorical aids?

Average per-pupil funding varied by learning plan; face-to-face districts had higher per-pupil funding, on average, than did hybrid or virtual districts. Districts that provided hardware to some students had higher average per-pupil funding than those providing hardware to all. Conversely, districts that provided "all" internet accessibility had higher average per-pupil funding than those who "attempted to help," who in turn had higher per-pupil funding than districts that provided "no assistance." Finally, about half of the districts eligible for high-poverty aid, and a majority of districts eligible for sparsity aid, had face-to-face learning plans.

It is our hope that this review of the environments in which Wisconsin's districts chose to educate their students will be a valuable resource in current and future efforts to educate Wisconsin learners.

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