Statistics Related to the First Semester 2020-2021 Student Schedules

Technical Report

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Overview

The Knox County Schools (KCS) department of Curriculum and Instruction has expressed interest in studying various aspects of virtual learning during the 2020-2021 school year (SY2021). This document was compiled by the department of Research, Evaluation, and Assessment (REA) to serve as a reference for later analysis. The intended audience for this study are researchers seeking to better understand some contextual factors that may impact KCS virtual learning outcomes or future enrollment patterns.

Students could be enrolled in four different learning environments during SY2021.

- In-person: All instruction is delivered in the traditional classroom setting. 40,347 KCS students were scheduled solely for in-person instruction in the first semester of SY2021.
- Base-school virtual: At least one first semester course is delivered in a virtual setting. Instruction is provided by a teacher based in a student's zoned school and the students in the course are all members of the same zoned KCS school. 18,070 KCS students were scheduled for at least one section of base-school virtual instruction in the first semester of SY2021.
- Quality Education for Students Using Technology (QuEST) virtual: Instruction is delivered in a virtual setting. Instruction is provided by a teacher hired specifically to teach within the district's QuEST program or another KCS teacher during the teacher's plan period. A QuEST course may include students from multiple KCS schools. 4,564 students were scheduled for at least one QuEST course during the first semester of SY2021. A student who receives QuEST instruction is still considered enrolled at their zoned school.
- Florida Virtual School (FLVS): Instruction is delivered in a virtual setting. Instruction is provided by a third-party, the Florida Virtual School. FLVS courses are limited to a few subject areas that could not be staffed with KCS employees. 125 students were scheduled for at least one FLVS course during the first semester of SY2021. A student who receives FLVS instruction is still considered enrolled at their zoned school.

There are differences in how elementary and secondary students experience virtual learning. Direct instruction at the elementary level is generally delivered in real-time (synchronously) for core-content (Math, Reading, Science, and Social Studies). Asynchronous instruction in elementary classes typically occurs for centers activities and related arts classes. Virtual elementary students are placed entirely within a single environment, either base-school or QuEST. Middle and high school virtual learning is generally delivered asynchronously (exceptions are specialized courses such as International Baccalaureate). The secondary virtual learning environment is associated with a specific course, so secondary students may be scheduled for a mixture of base-school virtual, QuEST virtual, and FLVS courses.

The reasons why a family opts for virtual learning are myriad. KCS families may opt for virtual learning due to health and safety concerns, cultural concerns, flexibility, convenience, increased parental oversight, or access to expanded course catalogs, among other reasons. The ultimate success of the KCS virtual program may be related more closely to these contextual factors rather than the characteristics that have traditionally correlated to student outcomes. Nevertheless, discovering and understanding observable differences among the populations opting for in-person or virtual learning may still benefit KCS makers and researchers.

Methodology

Student-level data such as race/ethnicity, economically disadvantaged (ED) status, English language learner (ELL) status, Special Education (SPED) status, and discipline incidents were extracted from the KCS student information system (ASPEN) on September 21, 2020. Schedule data was extracted from ASPEN on October 5, 2020. This analysis only includes courses scheduled during the first semester (Quarter 1 and 2, Semester 1, and Full-Year). The elementary students' instructional environment was determined by a virtual learning and/or QuEST indicator in ASPEN. Students were assumed to be assigned to the base virtual option if they were defined as virtual students but not QuEST students. Elementary students without a virtual learning indicator were assumed to be in-person students. At the secondary level, the instructional environment is associated with a course. Schedule data was used to determine which secondary students were associated with in-person, base-school virtual, QuEST virtual, and/or FLVS environments. Secondary students could be enrolled in multiple virtual environments simultaneously. All ASPEN extractions were accomplished with Microsoft SQL Server version 18.2.

Scheduled teacher name, course code, and scheduled meeting time were concatenated within student-level schedules. Class size estimates were derived from the number of students linked to each unique concatenation.

Various external data sources were also used in this analysis. The Tennessee Value-Added Assessment System (TVAAS) projections were used as proxies for past state test performance (TVAAS projections use prior state test data to generate expected results on the SY2021 state assessment). This analysis uses projections for math courses because previous research by REA suggests that math projections are more accurate than other subjects. TVAAS projections were only available for SY2021 students enrolled in grades 5 through 12. The source for SY1920 attendance data was the Tennessee Department of Education's (TDOE) chronically absent source file. All school-type designations were defined by the National Center for Education Statistics (NCES).

All percentages were rounded to the ones place to reflect uncertainty in the data. Readers are reminded that enrollment, class schedules, and student demographics are not static.

Results: Student Enrollment

KCS enrollment trends from SY1415 through SY2021 are contained in Figure 1. The enrollment totals in Figure 1 represent the number of students enrolled in KCS on the twentieth day of each school year. Anecdotally, REA staff have been told that students were opting into homeschooling during SY2021. Figure 1 does show a decrease in SY2021 enrollment, but the decrease may be part of a trend that began in SY1920.
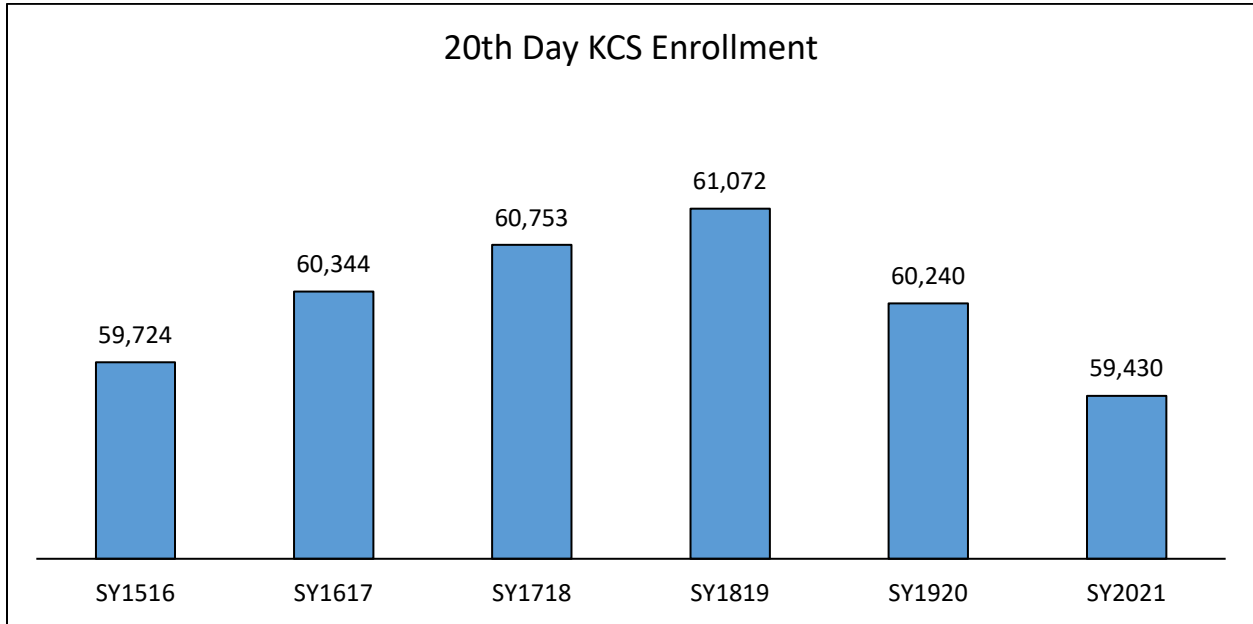

Figure 1: KCS Student Enrollment

As of October 5, 2020, 32% of KCS students were scheduled in at least one virtual learning course. The within-school proportion of students scheduled for at least one virtual learning course ranges from 56% to 15%. Table 1 contains the ten KCS schools with the largest percentage of virtual students and the ten schools with the smallest percentage of virtual students. Appendix 1 contains the data for all schools. As an example, 54% of the students enrolled at Vine Middle Magnet were scheduled for at least one virtual course during the first semester of SY2021.

Table 1: Virtual Learning Percentages by School

School	NCES School Type	In-Person		Virtual	
		n	%	n	%
Career Magnet Academy at Pellissippi St	City: Midsize	113	44%	146	56%
Vine Middle Magnet	City: Midsize	242	46%	280	54%
L & N Stem Academy	City: Midsize	303	52%	282	48%
Whittle Springs Middle	City: Midsize	279	54%	234	46%
Beaumont Magnet	City: Midsize	324	55%	265	45%
Holston Middle School	City: Midsize	313	56%	248	44%
Gresham Middle School	City: Midsize	471	57%	349	43%
Bearden Middle School	City: Midsize	742	58%	543	42%
Dogwood Elementary	City: Midsize	291	58%	209	42%
Northwest Middle School	City: Midsize	488	58%	348	42%
Mount Olive Elementary	Suburb: Large	168	80%	42	20%
Bonny Kate Elementary	Suburb: Large	270	80%	66	20%
Corryton Elementary	Rural: Fringe	173	81%	40	19%
Sequoyah Elementary	City: Midsize	364	81%	84	19%
Halls Elementary	Suburb: Large	568	81%	131	19%
Sam E. Hill Primary School	City: Midsize	165	85%	30	15%
Ridgedale Alternative	City: Midsize	40	95%	2	5%
Fair Garden Fam/Comm Ctr	City: Midsize	99	100%		
Ft Sanders Ed Dev Ctr	City: Midsize	337	100%		
Paul L. Kelley Volunteer Academy	City: Midsize	66	100%		

Aggregating the results by NCES school type suggests that a larger proportion of students from city schools were scheduled to attend at least one virtual course. A smaller proportion of students from rural schools were enrolled in at least one virtual course (Figure 2).
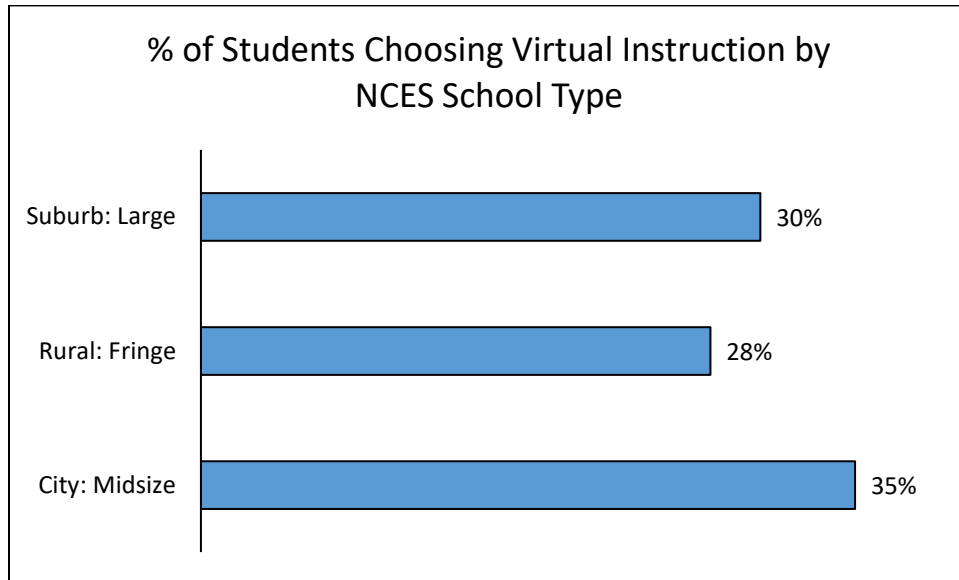

Figure 2: Percent of Students Choosing Virtual Instruction by NCES School Type

The enrollment in the various instructional environments by grade level cohort is provided in Table 2. The percentages reported in Table 2 were calculated as the number of students scheduled in each learning environment divided by the total number of students in the grade level. 30% of elementary students, 37% of middle students, and 33% of high students were scheduled in at least one virtual class during the first semester of SY2021. Notably, the third grade QuEST cohort is much larger than all the other elementary cohorts. Staffing the elementary QuEST program may be challenging if QuEST is continually serving cohorts of greatly varying sizes.

Table 2: Enrollment by Grade Level Cohort

Grade	In-Person		Virtual		Base Virtual		QuEST		FL Virtual	
	n	%	n	%	n	%	n	%	n	%
P3	207	100%								
P4	948	100%								
K	3007	73%	1108	27%	1001	24%	107	3%		
1	3047	71%	1219	29%	1115	26%	104	2%		
2	2925	69%	1305	31%	1184	28%	121	3%		
3	3149	69%	1414	31%	1185	26%	229	5%		
4	2900	67%	1433	33%	1333	31%	100	2%		
5	2891	67%	1444	33%	1314	30%	130	3%		
6	2947	65%	1555	35%	1536	34%	201	4%		
7	2803	62%	1702	38%	1680	37%	304	7%		
8	2953	62%	1804	38%	1787	38%	428	9%		
9	3345	69%	1513	31%	1497	31%	627	13%	1	<1%
10	3089	66%	1575	34%	1533	33%	684	15%	15	<1%
11	3069	67%	1543	33%	1498	32%	835	18%	74	2%
12	3067	68%	1468	32%	1407	31%	694	15%	35	1%

The percentage of elementary students who opted for virtual learning and were placed in the QuEST program (by zoned school) is contained in Appendix 2. Table 3 contains the ten elementary schools with the highest and lowest percentages of virtual students enrolled in the QuEST program. As an example, 69% of Mount Olive Elementary students who opted for virtual learning were placed in the QuEST program. Therefore 31% of Mount Olive Elementary students who opted for virtual learning were placed in the base-school virtual program.

Table 3: Percent of Elementary Virtual Learners Enrolled in QuEST by Zoned School

School	NCES School Type	n Virtual Learners	n QuEST	% QuEST
Corryton Elementary	Rural: Fringe	40	40	100%
New Hopewell Elementary	Rural: Fringe	56	56	100%
Mount Olive Elementary	Suburb: Large	42	29	69%
Gap Creek Elementary	Rural: Fringe	20	13	65%
Bonny Kate Elementary	Suburb: Large	66	34	52%
Pleasant Ridge Elementary	City: Midsize	67	28	42%
South Knoxville Elementary	City: Midsize	57	22	39%
Sequoyah Elementary	City: Midsize	84	29	35%
Pond Gap Elementary	City: Midsize	120	37	31%
Lonsdale Elementary	City: Midsize	65	15	23%
Farragut Intermediate	Suburb: Large	397	5	1%
Chilhowee Intermediate	City: Midsize	70	0	0%
Dogwood Elementary	City: Midsize	209	0	0%
Emerald Academy	City: Midsize	175	0	0%
Green Magnet Academy	City: Midsize	115	0	0%
Maynard Elementary	City: Midsize	54	0	0%
Mooreland Heights Elementary	City: Midsize	85	0	0%
Northshore Elementary School	City: Midsize	287	0	0%
Sam E. Hill Primary School	City: Midsize	30	0	0%
Sarah Moore Greene Magnet	City: Midsize	226	0	0%

Table 4 contains the percentage of first semester courses scheduled by grade level and learning environment. As an example, 67% of all first semester sixth-grade classes were scheduled as in-person classes, 31% of all sixth-grade classes were scheduled as base-virtual classes, and 1% of all sixth-grade classes were scheduled as QuEST virtual classes.

Table 4: Count and Percentage of Secondary Courses by Instructional Environment

	In-Person		Base Virtual		QuEST		FLVS	
Grade	n	%	n	%	n	%	n	%
6	21546	67%	10071	31%	448	1%		
7	20367	64%	10745	34%	660	2%		
8	21625	64%	11323	34%	795	2%		
9	18617	72%	6183	24%	905	4%	1	<1%
10	17563	70%	6530	26%	1039	4%	15	<1%
11	17382	73%	5127	21%	1307	5%	74	<1%
12	18926	76%	4734	19%	1071	4%	35	<1%

The percentage of middle school virtual courses scheduled at the QuEST program varies significantly among the KCS schools (Table 5). 21% of all first semester virtual courses at Carter Middle are delivered as part of the QuEST program. Powell Middle school has no students enrolled in the QuEST program.

Table 5: Percent of Middle School Virtual Courses by Virtual Environment

School	NCES School Type	Base Virtual		QuEST	
		n	%	n	%
Bearden Middle School	City: Midsize	3940	95%	211	5%
Carter Middle School	Rural: Fringe	1095	79%	288	21%
Cedar Bluff Middle School	Suburb: Large	1341	85%	241	15%
Emerald Academy	City: Midsize	776	100%		
Farragut Middle School	Suburb: Large	3116	93%	218	7%
Gibbs Middle School	Suburb: Large	500	82%	110	18%
Gresham Middle School	City: Midsize	2301	94%	153	6%
Halls Middle School	Suburb: Large	1744	97%	49	3%
Hardin Valley Middle School	Suburb: Large	2369	92%	205	8%
Holston Middle School	City: Midsize	1672	99%	16	1%
Karns Middle School	Suburb: Large	1900	95%	104	5%
Northwest Middle School	City: Midsize	2082	100%	1	0%
Powell Middle School	Suburb: Large	1632	100%	0	0%
South Doyle Middle School	City: Midsize	1852	94%	120	6%
Vine Middle Magnet	City: Midsize	1987	98%	36	2%
West Valley Middle School	Suburb: Large	2282	97%	65	3%
Whittle Springs Middle	City: Midsize	1512	95%	78	5%

The percentage of first semester high school virtual courses scheduled at the QuEST program also varies by school (Table 6). 36% of all virtual courses at Halls High are scheduled as part of the QuEST program. 2% of virtual courses at Powell High are scheduled as part of the QuEST program.

Table 6: Percent of High School Virtual Courses by Virtual Environment

School	NCES	Base Virtual		QuEST		FLVS	
		n	%	n	%	n	%
Austin East High School	City: Midsize	1267	94%	73	5%	2	<1%
Bearden High School	City: Midsize	2098	80%	515	20%	19	1%
Career Magnet Acad. At Pell. St	City: Midsize	443	85%	71	14%	8	2%
Carter High School	Rural: Fringe	868	89%	102	10%	3	<1%
Central High School	City: Midsize	1800	96%	73	4%		
Farragut High School	Suburb: Large	1978	77%	584	23%	19	1%
Fulton High School	City: Midsize	1484	90%	150	9%	9	1%
Gibbs High School	Suburb: Large	730	65%	378	34%	7	1%
Halls High School	Suburb: Large	1052	64%	582	36%	4	<1%
Hardin Valley Academy	Suburb: Large	2487	85%	438	15%	1	<1%
Karns High School	Suburb: Large	1620	81%	382	19%		
L & N Stem Academy	City: Midsize	1433	82%	272	16%	46	3%
Paul L. Kelley Vol. Acad.	City: Midsize	0		0			
Powell High School	Suburb: Large	1501	98%	29	2%		
South Doyle High School	Suburb: Large	1579	89%	184	10%	7	<1%
West High School	City: Midsize	2177	83%	452	17%		

Inspection of the schedules indicates that 61% of students who are scheduled in the QuEST program at the secondary level are scheduled at QuEST for a single course. Only 67 secondary students were scheduled entirely within the QuEST program.

Secondary virtual instruction includes academically leveled courses (standard-level courses, honors courses, and intervention courses). Table 7 shows the percentage of core content courses scheduled at each academic level by learning environment. Core content includes English/Language Arts, Math, Science, and Social Studies. As an example, Table 7 shows that 27% of in-person middle school core content courses are honors-level courses.

Table 7: Academic Levels of Core Content Secondary Courses

Grade Level	Academic Level	In-Person		Base Virtual		QuEST	
		n	%	n	%	n	%
Middle School	Honors	9617	27%	4490	23%	405	27%
	Standard	24733	69%	14096	74%	844	57%
	Intervention	1357	4%	585	3%	225	15%
High School	AP/IB/DE/Honors	10409	29%	2262	15%	632	27%
	Standard	25041	70%	12317	84%	1673	72%
	Intervention	376	1%	143	1%	33	1%

The departments associated with the course scheduled in each learning environment are in Table 8. The percentages are calculated as the number of scheduled courses associated with a specific department divided by the total number of scheduled courses associated with a specific learning environment. As an example, 9% of all scheduled in-person courses are associated with the Fine Arts department, compared to 4% of all scheduled QuEST courses.

Table 8: Courses by Department

Department	In-Person		Base Virtual		QuEST		FLVS	
	n	%	n	%	n	%	n	%
Academic Success/ Enrichment	12027	6%	1555	3%				
Fine Arts	18023	9%	3816	6%	288	4%	12	10%
Computer Tech	380	<1%			27	<1%		
Career/Teach Ed	20941	10%	3836	6%	791	12%		
Driver's Ed.	733	<1%						
ELL	1316	1%	152	<1%	30	<1%		
English/Language Arts	27141	13%	9192	15%	1117	17%	14	11%
Independent Study	3040	1%	3225	5%	26	<1%		
Health/Wellness/PE	24298	12%	5497	9%	621	10%		
Math	26778	13%	8428	14%	1155	18%	13	10%
Music	8642	4%	3406	6%	139	2%		
Recovery Credit	1195	1%	293	<1%				
ROTC	955	<1%	41	<1%				
Science	21819	10%	7617	13%	573	9%	62	50%
SPED	3551	2%	590	1%	260	4%		
Social Studies	30634	15%	9947	17%	1093	17%		
World Languages	8206	4%	1799	3%	388	6%	24	19%

Class sizes could only be approximated at the elementary level due to the way SY2021 schedules were recorded. The mean class sizes in Table 9 should be considered approximations because of the way students from multiple schools were aggregated into a single class within the QuEST program. How students are scheduled into QuEST classes will need to be modified if more precise estimates of class sizes are required.

Table 9: Estimated Mean Class Sizes by Environment

Grade	in-Person	Base Virtual	QuEST
K	15	15	26
1	16	16	18
2	15	16	25
3	16	16	21
4	17	18	19
5	17	19	19

Anecdotally, the way in which students are scheduled into a QuEST class creates unique challenges related to ASPEN gradebooks. QuEST teachers may have to access up to seven individual ASPEN gradebooks to enter grades for a single QuEST course.

Results: Student Demographics

A larger proportion of students who were scheduled in at least one virtual course identify as members of a racial/ethnic minority when compared to the in-person environment (Table 10). The data associated with each virtual environment is also reported. Students in grades 6 through 12 may be present in multiple modes of virtual instruction.

Table 10: Race/Ethnicities by Instructional Modes

Race/Ethnicity	In-Person		Virtual		Base Virtual		QuEST		FL Virtual	
	n	%	n	%	n	%	n	%	n	%
Amer. Indian	127	<1%	92	<1%	84	<1%	22	<1%		
Asian	774	2%	1047	5%	1006	6%	237	5%	17	14%
Black	5867	15%	4358	23%	4132	23%	865	19%	14	11%
Hispanic	4719	12%	1996	10%	1882	10%	493	11%	12	10%
Pac. Islander	98	<1%	55	<1%	49	<1%	18	<1%		
White	28762	71%	11535	60%	10917	60%	2929	64%	82	66%

State accountability subgroup data is available in Table 11. A higher proportion of students who were scheduled in at least one virtual course were classified as economically disadvantaged. A smaller proportion of virtual learners were classified as English language learners.

Table 11: Accountability Demographic by Instructional Modes

Demographic	In-Person		Virtual		Base Virtual		QuEST		FL Virtual	
	n	%	n	%	n	%	n	%	n	%
ED	8496	21%	5548	29%	5224	29%	1117	24%	11	9%
ELL	2481	6%	677	4%	641	4%	114	3%	1	<1%
SPED	5318	13%	2543	13%	2410	13%	716	16%	4	3%

Anecdotally, QuEST principals indicated that they were serving a large proportion of SPED students despite the data presented in Table 11. SPED enrollment data was disaggregated by grade level in Figure 3. Figure 3 indicates that the percentage of middle school students classified as SPED is much higher in the QuEST virtual program when compared to the base-school virtual option.
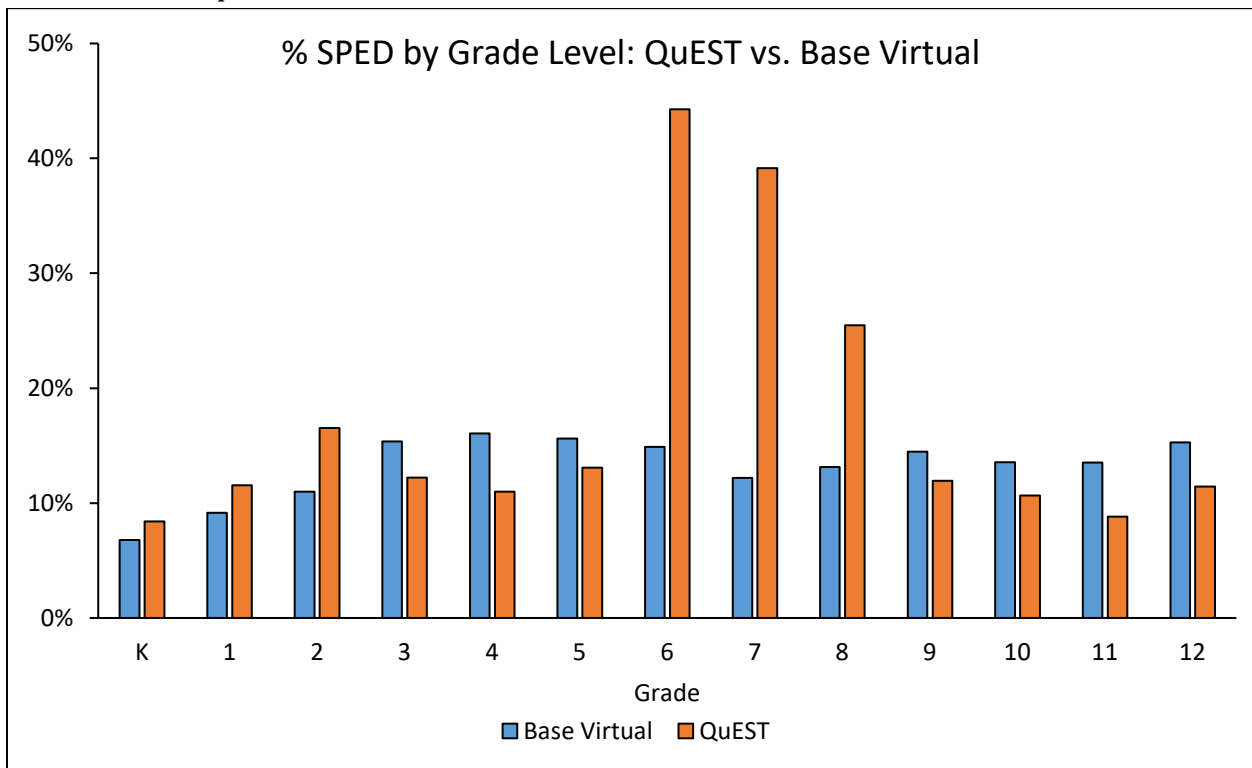

Figure 3: Percent of SPED Students in QuEST and Base Virtual Options

Results: TVAAS Projections

The SY2021 TVAAS projections for students who were scheduled for all in-person instruction and students who were scheduled for at least one virtual course are plotted in Figure 4. Figure 4 suggests that students who were scheduled in at least one on-line course had lower previous math state test scores than students who opted for in-person instruction.
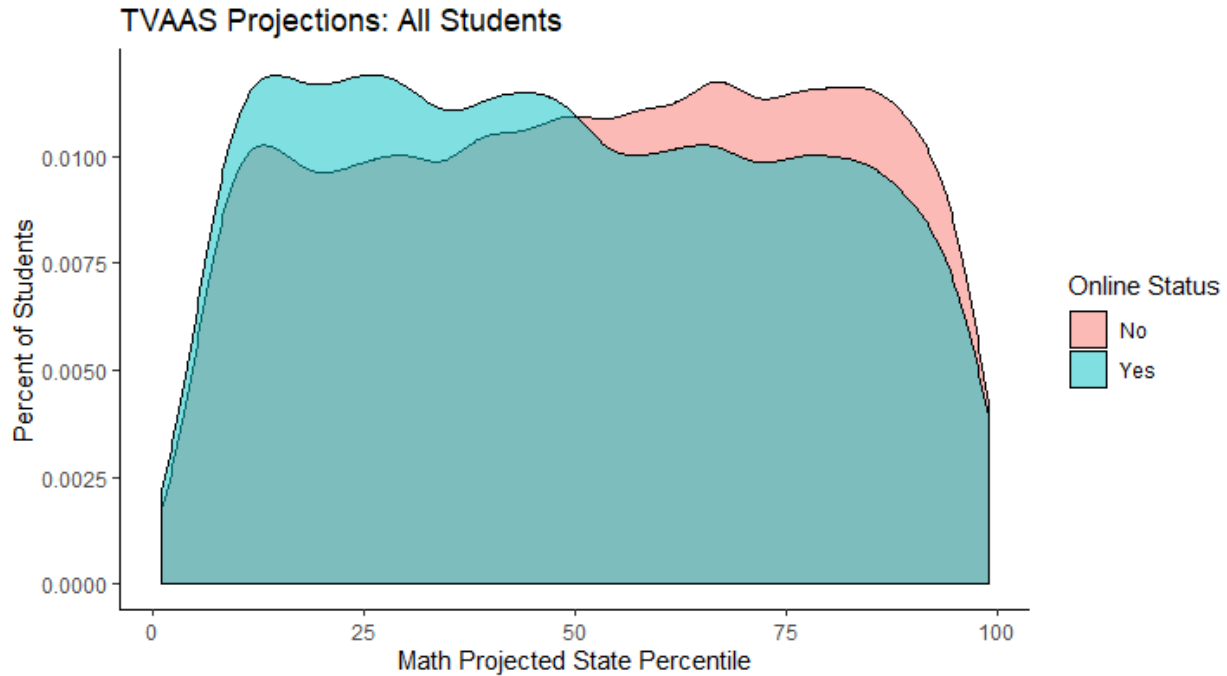
Figure 4: Distribution of Math TVAAS Projections; In-Person Vs. On-line Students

Results: Discipline Data

A higher proportion of students who were scheduled in at least one online course had a recorded discipline incident and suspension during SY1920. The percentage of students who had a discipline incident and suspension during the previous academic year is available in Figure 5.
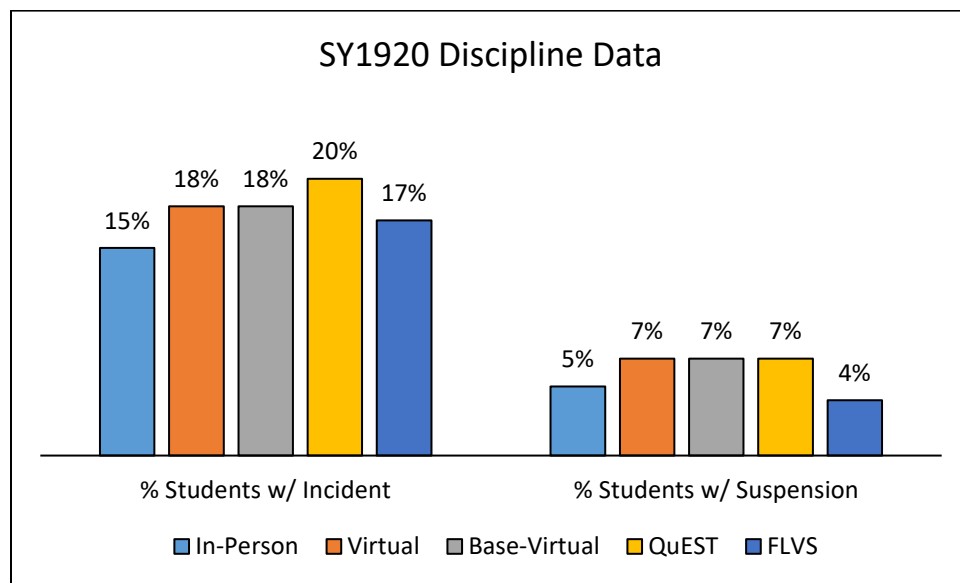

Figure 5: Percentage of Students with a Recorded SY1920 Discipline Incident by SY2021 Learning Environment

The difference between the percentage of in-person and virtual students who have been suspended by instructional environment is available in Appendix 3. Table 12 contains the ten schools with the most positive and negative differences in the percentage of students who were suspended during SY1920. The percentages in the table and appendix have been rounded to the nearest tenth due to generally low suspension rates in KCS elementary schools.

Table 12: Difference in SY1920 Suspension Rates by School; SY2021 In-Person Versus Virtual

School	% of In-Person Students Suspended	% of Virtual Students Suspended	Virtual - In-Person
Richard Yoakley Alt	63.9%	90.9%	27.0%
Gibbs High School	7.9%	14.2%	6.3%
Chilhowee Intermediate	0.9%	7.1%	6.2%
Knox Adaptive Education Center	46.3%	52.0%	5.7%
Central High School	8.6%	13.8%	5.2%
Gap Creek Elementary	0.0%	5.0%	5.0%
South Doyle Middle School	16.3%	20.9%	4.6%
Vine Middle Magnet	22.7%	27.1%	4.4%
South Doyle High School	17.8%	22.1%	4.4%
Karns Middle School	5.1%	8.5%	3.4%
Farragut High School	4.4%	2.8%	-1.7%
Green Magnet Academy	2.6%	0.9%	-1.7%
Whittle Springs Middle	19.4%	17.5%	-1.8%
West View Elementary	3.2%	1.3%	-2.0%
Pond Gap Elementary	3.0%	0.8%	-2.2%
Beaumont Magnet	3.7%	1.5%	-2.2%
Career Magnet Academy at Pellissippi St	10.6%	8.2%	-2.4%
Austin East High School	29.2%	26.1%	-3.1%
Holston Middle School	17.1%	12.4%	-4.7%
Ridgedale Alternative	25.0%	0.0%	-25.0%

As an example, Table 12 indicates that 14% of Gibbs High students scheduled in at least one virtual class were suspended during SY1920, compared to 8% of in-person Gibbs High students. The difference between these suspension rates (6%) is among the largest within the district, with a greater proportion of virtual students suspended in SY1920. Conversely, at Holston Middle, 17% of in-person students were suspended during SY1920, compared to 12% of students scheduled in at least one virtual class. The difference between these suspension rates (-5%) is among the largest within the district, with a greater proportion of in-person students suspended during SY1920.

Results: Student Attendance

The distribution of SY1920 student attendance rates is contained in Figure 7. The median SY1920 attendance rates for students who were scheduled for all in-person instruction during SY2021 was 97% compared to 95% for students who were scheduled for at least one virtual course.
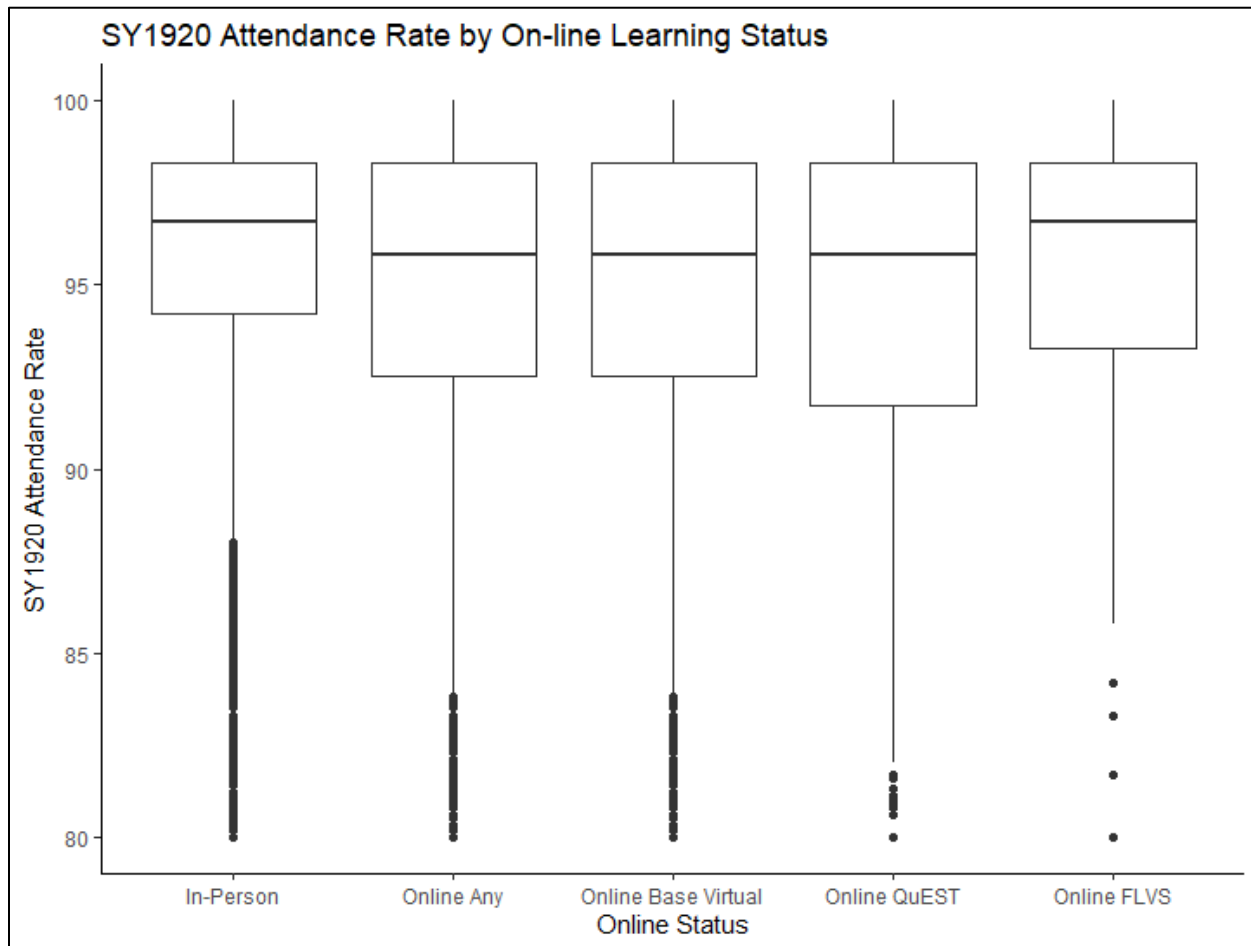

Figure 6: SY1920 Attendance by SY2021 Instructional Environment

Results: Teaching Staff Experience

The distribution of payroll steps (which serve as a proxy for teacher years of experience) for the elementary teachers associated with the SY2021 instructional environments is presented in Figure 8. Readers are reminded that an elementary student placed in the QuEST program will have all of their classes taught by a teacher hired specifically by the QuEST school. Figure 8 suggests that nearly a quarter of elementary QuEST teachers had no prior teaching experience prior to joining the KCS QuEST program. The timeline associated with the launch of the QuEST program and the implementation KCS human resources policy constrained how the QuEST program could be staffed.
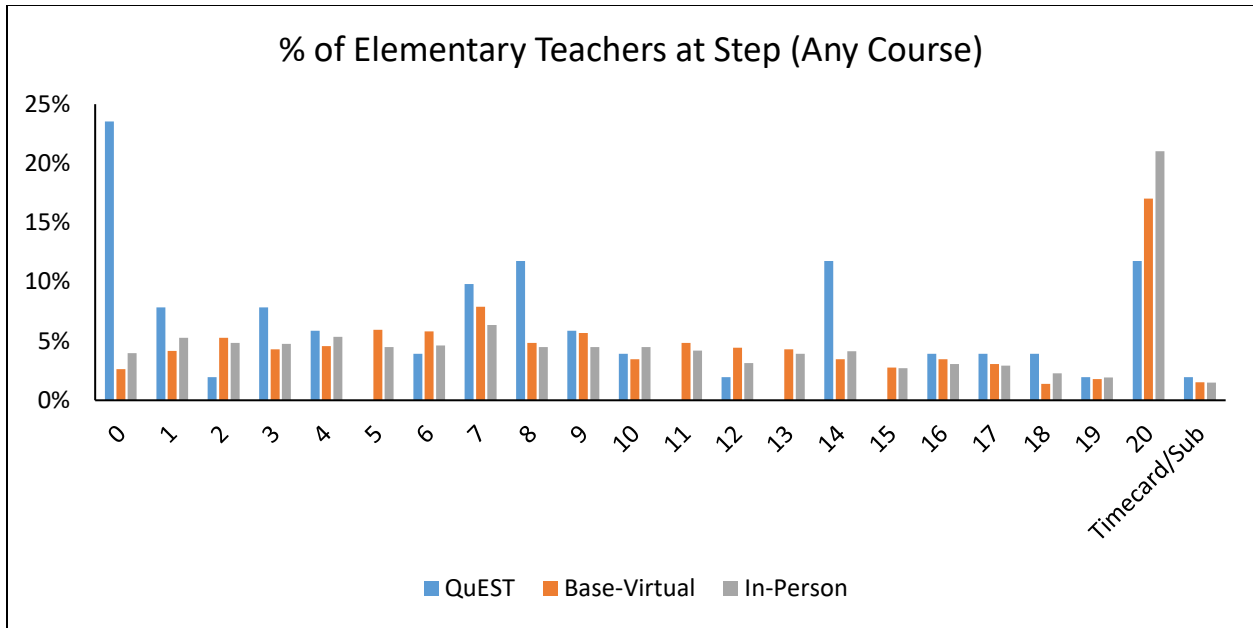
Figure 7: Distribution of Payroll Steps; Elementary Teachers

The distribution of payroll steps for the secondary teachers associated with the SY2021 instructional environments is presented in Figure 9. At the secondary level, some teachers were hired specifically to staff the QuEST school, but many middle and high school courses are taught by non-QuEST teachers during their plan time (with additional compensation). This change in staffing procedures results in a distribution of teacher steps that are more similar across learning environments.
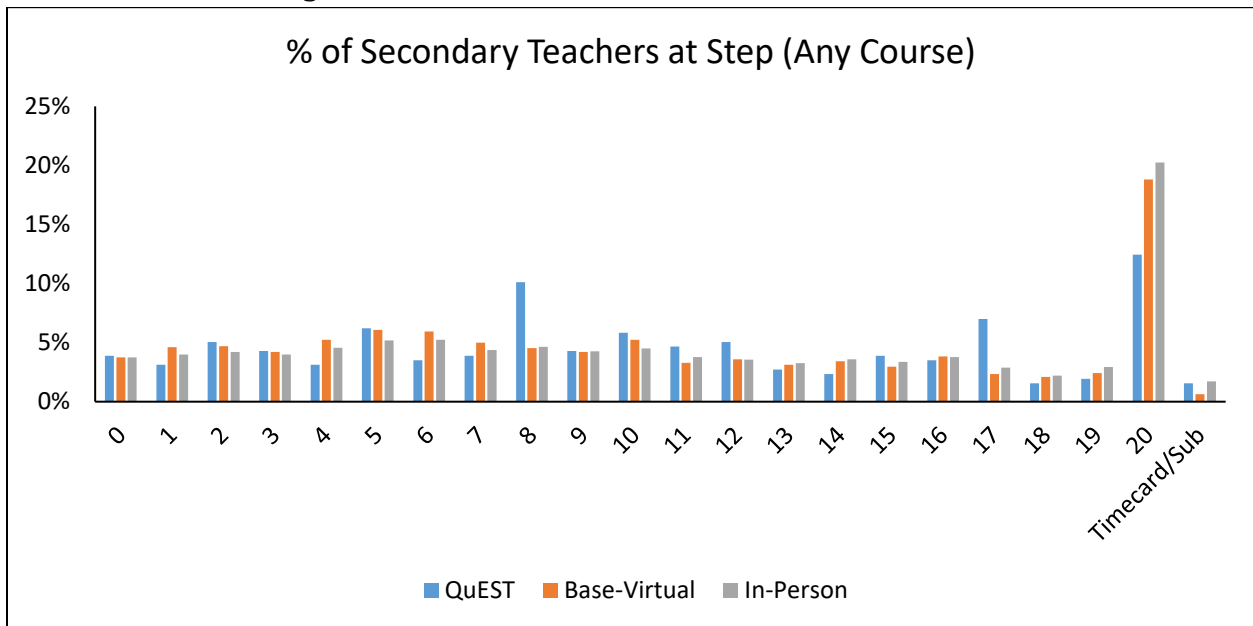
Figure 8: Distribution of Payroll Steps; Secondary Teachers

Conclusions & Considerations

This report will likely serve as reference material for later analysis of 2020-2021 perception and outcome data. This report suggests that students who opted into virtual learning environments differed from students who opted for all in-person instruction in many observable variables. Evidence suggests that students who opted into virtual learning are more likely to be minority students, economically disadvantaged, lower performing on state assessments, absent, and have a recorded discipline incident. Additionally, at the elementary level, QuEST students are more likely to be taught by a teacher in the first year of their career and be enrolled in a larger class than their in-person peers.

KCS Families will be permitted to change their students' learning environment at the end of the SY2021 Fall semester. The schedule and staffing data will be continually monitored to better understand changes in enrollment patterns. Another report will be generated by the REA team to highlight changes to these statistics as KCS progresses to the second semester of SY2021.

Appendix 1

School	NCES School Type	In-Person		Virtual	
		n	%	n	%
A.L. Lotts Elementary	Suburb: Large	647	67%	316	33%
Adrian Burnett Elem	Suburb: Large	375	75%	127	25%
Amherst Elementary	Suburb: Large	485	73%	178	27%
Austin East High School	City: Midsize	467	60%	317	40%
Ball Camp Elementary	Suburb: Large	376	70%	161	30%
Bearden Elementary	City: Midsize	221	69%	101	31%
Bearden High School	City: Midsize	1412	68%	659	32%
Bearden Middle School	City: Midsize	742	58%	543	42%
Beaumont Magnet	City: Midsize	324	55%	265	45%
Belle Morris Elementary	City: Midsize	268	64%	153	36%
Blue Grass Elementary	Suburb: Large	354	68%	166	32%
Bonny Kate Elementary	Suburb: Large	270	80%	66	20%
Brickey-Mccloud Elementary	Suburb: Large	659	76%	205	24%
Career Magnet Academy at Pellissippi St	City: Midsize	113	44%	146	56%
Carter Elementary	Rural: Fringe	386	74%	135	26%
Carter High School	Rural: Fringe	608	73%	224	27%
Carter Middle School	Rural: Fringe	403	67%	199	33%
Cedar Bluff Elementary	Suburb: Large	859	72%	336	28%
Cedar Bluff Middle School	Suburb: Large	388	64%	221	36%
Central High School	City: Midsize	845	66%	441	34%
Chilhowee Intermediate	City: Midsize	106	60%	70	40%
Christenberry Elementary	City: Midsize	317	69%	140	31%
Copper Ridge Elementary	Rural: Fringe	352	77%	105	23%
Corryton Elementary	Rural: Fringe	173	81%	40	19%
Dogwood Elementary	City: Midsize	291	58%	209	42%
East Knox County Elementary	Rural: Fringe	317	70%	137	30%
Emerald Academy	City: Midsize	265	60%	175	40%
Fair Garden Fam/Comm Ctr	City: Midsize	99	100%		
Farragut High School	Suburb: Large	1312	65%	702	35%
Farragut Intermediate	Suburb: Large	653	62%	397	38%
Farragut Middle School	Suburb: Large	892	65%	479	35%
Farragut Primary	Suburb: Large	634	69%	280	31%
Fountain City Elementary	City: Midsize	236	68%	113	32%
Ft Sanders Ed Dev Ctr	City: Midsize	337	100%		
Fulton High School	City: Midsize	552	60%	372	40%
Gap Creek Elementary	Rural: Fringe	52	72%	20	28%
Gibbs Elementary	Suburb: Large	708	79%	185	21%
Gibbs High School	Suburb: Large	854	79%	222	21%
Gibbs Middle School	Suburb: Large	467	79%	124	21%
Green Magnet Academy	City: Midsize	230	67%	115	33%

School	NCES School Type	In-Person		Virtual	
		n	%	n	%
Gresham Middle School	City: Midsize	471	57%	349	43%
Halls Elementary	Suburb: Large	568	81%	131	19%
Halls High School	Suburb: Large	917	72%	365	28%
Halls Middle School	Suburb: Large	773	72%	299	28%
Hardin Valley Academy	Suburb: Large	1436	69%	644	31%
Hardin Valley Elementary	Suburb: Large	862	72%	334	28%
Hardin Valley Middle School	Suburb: Large	628	64%	357	36%
Holston Middle School	City: Midsize	313	56%	248	44%
Inskip Elementary	City: Midsize	318	65%	173	35%
Karns Elementary School	Suburb: Large	851	69%	377	31%
Karns High School	Suburb: Large	947	68%	452	32%
Karns Middle School	Suburb: Large	607	65%	331	35%
Knox Adaptive Education Center	City: Midsize	41	62%	25	38%
L & N Stem Academy	City: Midsize	303	52%	282	48%
Lonsdale Elementary	City: Midsize	230	78%	65	22%
Maynard Elementary	City: Midsize	77	59%	54	41%
Mooreland Heights Elementary	City: Midsize	177	68%	85	32%
Mount Olive Elementary	Suburb: Large	168	80%	42	20%
New Hopewell Elementary	Rural: Fringe	158	74%	56	26%
Northshore Elementary School	City: Midsize	746	72%	287	28%
Northwest Middle School	City: Midsize	488	58%	348	42%
Norwood Elementary	City: Midsize	306	63%	180	37%
Paul L. Kelley Volunteer Academy	City: Midsize	66	100%		
Pleasant Ridge Elementary	City: Midsize	225	77%	67	23%
Pond Gap Elementary	City: Midsize	234	66%	120	34%
Powell Elementary	Suburb: Large	573	75%	196	25%
Powell High School	Suburb: Large	955	70%	400	30%
Powell Middle School	Suburb: Large	613	69%	272	31%
Richard Yoakley Alt	City: Midsize	37	79%	10	21%
Ridgedale Alternative	City: Midsize	40	95%	2	5%
Ritta Elementary	Rural: Fringe	399	73%	149	27%
Rocky Hill Elementary	City: Midsize	527	73%	199	27%
Sam E. Hill Primary School	City: Midsize	165	85%	30	15%
Sarah Moore Greene Magnet	City: Midsize	319	59%	226	41%
Sequoyah Elementary	City: Midsize	364	81%	84	19%
Shannondale Elementary	City: Midsize	259	68%	120	32%
South Doyle High School	Suburb: Large	660	63%	392	37%
South Doyle Middle School	City: Midsize	521	63%	306	37%
South Knoxville Elementary	City: Midsize	102	64%	57	36%
Spring Hill Elementary	City: Midsize	297	64%	165	36%
Sterchi Elementary	City: Midsize	246	70%	105	30%

School	NCES School Type	In-Person		Virtual	
		n	%	n	%
Sunnyview Primary	Rural: Fringe	157	68%	73	32%
Vine Middle Magnet	City: Midsize	242	46%	280	54%
West Haven Elementary	City: Midsize	219	67%	110	33%
West High School	City: Midsize	1043	70%	454	30%
West Hills Elementary	City: Midsize	461	67%	231	33%
West Valley Middle School	Suburb: Large	786	67%	393	33%
West View Elementary	City: Midsize	124	61%	80	39%
Whittle Springs Middle	City: Midsize	279	54%	234	46%

Appendix 2

School	NCES School Type	n Virtual Learners	n QuEST	% QuEST
A.L. Lotts Elementary	Suburb: Large	316	10	3%
Adrian Burnett Elem	Suburb: Large	127	10	8%
Amherst Elementary	Suburb: Large	178	29	16%
Ball Camp Elementary	Suburb: Large	161	15	9%
Bearden Elementary	City: Midsize	101	3	3%
Beaumont Magnet	City: Midsize	265	37	14%
Belle Morris Elementary	City: Midsize	153	23	15%
Blue Grass Elementary	Suburb: Large	166	24	14%
Bonny Kate Elementary	Suburb: Large	66	34	52%
Brickey-Mccloud Elementary	Suburb: Large	205	15	7%
Carter Elementary	Rural: Fringe	135	12	9%
Cedar Bluff Elementary	Suburb: Large	336	27	8%
Chilhowee Intermediate	City: Midsize	70	0	0%
Christenberry Elementary	City: Midsize	140	21	15%
Copper Ridge Elementary	Rural: Fringe	105	7	7%
Corryton Elementary	Rural: Fringe	40	40	100%
Dogwood Elementary	City: Midsize	209	0	0%
East Knox County Elementary	Rural: Fringe	137	12	9%
Emerald Academy	City: Midsize	175	0	0%
Farragut Intermediate	Suburb: Large	397	5	1%
Farragut Primary	Suburb: Large	280	4	1%
Fountain City Elementary	City: Midsize	113	6	5%
Gap Creek Elementary	Rural: Fringe	20	13	65%
Gibbs Elementary	Suburb: Large	185	31	17%
Green Magnet Academy	City: Midsize	115	0	0%
Halls Elementary	Suburb: Large	131	7	5%
Hardin Valley Elementary	Suburb: Large	334	18	5%
Inskip Elementary	City: Midsize	173	14	8%
Karns Elementary School	Suburb: Large	377	20	5%
Lonsdale Elementary	City: Midsize	65	15	23%
Maynard Elementary	City: Midsize	54	0	0%
Mooreland Heights Elementary	City: Midsize	85	0	0%
Mount Olive Elementary	Suburb: Large	42	29	69%
New Hopewell Elementary	Rural: Fringe	56	56	100%
Northshore Elementary School	City: Midsize	287	0	0%
Norwood Elementary	City: Midsize	180	20	11%
Pleasant Ridge Elementary	City: Midsize	67	28	42%
Pond Gap Elementary	City: Midsize	120	37	31%
Powell Elementary	Suburb: Large	196	15	8%
Ritta Elementary	Rural: Fringe	149	17	11%
Rocky Hill Elementary	City: Midsize	199	9	5%

School	NCES School Type	n Virtual Learners	n QuEST	% QuEST
Sam E. Hill Primary School	City: Midsize	30	0	0%
Sarah Moore Greene Magnet	City: Midsize	226	0	0%
Sequoyah Elementary	City: Midsize	84	29	35%
Shannondale Elementary	City: Midsize	120	7	6%
South Knoxville Elementary	City: Midsize	57	22	39%
Spring Hill Elementary	City: Midsize	165	23	14%
Sterchi Elementary	City: Midsize	105	2	2%
Sunnyview Primary	Rural: Fringe	73	11	15%
West Haven Elementary	City: Midsize	110	3	3%
West Hills Elementary	City: Midsize	231	15	6%
West View Elementary	City: Midsize	80	16	20%

Appendix 3

School	% of In-Person Students Suspended	% of Virtual Students Suspended	Virtual - In-Person
A.L. Lotts Elementary	0.5%	0.9%	0.5%
Adrian Burnett Elem	0.5%	0.8%	0.3%
Amherst Elementary	0.6%	0.6%	-0.1%
Austin East High School	29.2%	26.1%	-3.1%
Ball Camp Elementary	0.8%	0.0%	-0.8%
Bearden Elementary	1.4%	0.0%	-1.4%
Bearden High School	5.8%	7.0%	1.2%
Bearden Middle School	7.7%	9.6%	1.9%
Beaumont Magnet	3.7%	1.5%	-2.2%
Belle Morris Elementary	1.9%	3.9%	2.1%
Blue Grass Elementary	0.6%	0.0%	-0.6%
Bonny Kate Elementary	0.4%	0.0%	-0.4%
Brickey-Mccloud Elementary	0.5%	2.0%	1.5%
Career Magnet Academy at Pellissippi St	10.6%	8.2%	-2.4%
Carter Elementary	1.0%	0.0%	-1.0%
Carter High School	11.2%	12.9%	1.8%
Carter Middle School	5.8%	6.9%	1.1%
Cedar Bluff Elementary	0.2%	0.3%	0.1%
Cedar Bluff Middle School	6.7%	5.4%	-1.3%
Central High School	8.6%	13.8%	5.2%
Chilhowee Intermediate	0.9%	7.1%	6.2%
Christenberry Elementary	1.3%	0.7%	-0.5%
Copper Ridge Elementary	1.1%	0.0%	-1.1%
Corryton Elementary	1.2%	2.5%	1.3%
Dogwood Elementary	2.1%	2.4%	0.3%
East Knox County Elementary	0.6%	0.0%	-0.6%
Emerald Academy	17.7%	20.6%	2.8%
Farragut High School	4.4%	2.8%	-1.7%
Farragut Intermediate	0.0%	0.0%	0.0%
Farragut Middle School	3.8%	4.2%	0.4%
Farragut Primary	0.0%	0.0%	0.0%
Fountain City Elementary	0.4%	1.8%	1.3%
Fulton High School	14.1%	13.7%	-0.4%
Gap Creek Elementary	0.0%	5.0%	5.0%
Gibbs Elementary	0.7%	0.0%	-0.7%
Gibbs High School	7.9%	14.2%	6.3%
Gibbs Middle School	6.6%	6.5%	-0.2%
Green Magnet Academy	2.6%	0.9%	-1.7%
Gresham Middle School	6.6%	9.7%	3.2%

School	% of In-Person Students Suspended	% of Virtual Students Suspended	Virtual - In-Person
Halls Elementary	0.0%	0.8%	0.8%
Halls High School	4.9%	3.9%	-1.0%
Halls Middle School	3.8%	2.3%	-1.4%
Hardin Valley Academy	4.5%	5.6%	1.1%
Hardin Valley Elementary	0.3%	2.1%	1.7%
Hardin Valley Middle School	2.9%	3.9%	1.1%
Holston Middle School	17.1%	12.4%	-4.7%
Inskip Elementary	6.6%	8.1%	1.5%
Karns Elementary School	0.5%	0.3%	-0.2%
Karns High School	6.9%	8.8%	2.0%
Karns Middle School	5.1%	8.5%	3.4%
Knox Adaptive Education Center	46.3%	52.0%	5.7%
L & N Stem Academy	4.3%	3.5%	-0.8%
Lonsdale Elementary	1.7%	1.5%	-0.2%
Maynard Elementary	5.2%	5.6%	0.4%
Mooreland Heights Elementary	0.0%	1.2%	1.2%
Mount Olive Elementary	0.0%	0.0%	0.0%
New Hopewell Elementary	0.6%	0.0%	-0.6%
Northshore Elementary School	0.3%	0.3%	0.1%
Northwest Middle School	9.0%	8.9%	-0.1%
Norwood Elementary	1.0%	1.7%	0.7%
Pleasant Ridge Elementary	2.2%	1.5%	-0.7%
Pond Gap Elementary	3.0%	0.8%	-2.2%
Powell Elementary	1.0%	1.0%	0.0%
Powell High School	15.9%	19.0%	3.1%
Powell Middle School	5.5%	7.7%	2.2%
Richard Yoakley Alt	63.9%	90.9%	27.0%
Ridgedale Alternative	25.0%	0.0%	-25.0%
Ritta Elementary	0.5%	0.0%	-0.5%
Rocky Hill Elementary	0.8%	0.5%	-0.3%
Sam E. Hill Primary School	0.6%	0.0%	-0.6%
Sarah Moore Greene Magnet	3.4%	2.7%	-0.8%
Sequoyah Elementary	0.5%	1.2%	0.6%
Shannondale Elementary	0.4%	0.0%	-0.4%
South Doyle High School	17.8%	22.1%	4.4%
South Doyle Middle School	16.3%	20.9%	4.6%
South Knoxville Elementary	1.0%	1.8%	0.8%
Spring Hill Elementary	3.7%	4.2%	0.5%
Sterchi Elementary	2.0%	2.9%	0.8%
Sunnyview Primary	0.0%	0.0%	0.0%

School	% of In-Person Students Suspended	% of Virtual Students Suspended	Virtual - In-Person
Vine Middle Magnet	22.7%	27.1%	4.4%
West Haven Elementary	1.4%	0.9%	-0.5%
West High School	13.8%	15.8%	2.0%
West Hills Elementary	0.0%	0.9%	0.9%
West Valley Middle School	1.8%	1.0%	-0.8%
West View Elementary	3.2%	1.3%	-2.0%
Whittle Springs Middle	19.4%	17.5%	-1.8%