Design Strategy

Re-Learning

K-12 EDUCATION | Part 1

INTRODUCTION

As schools prepare to open this coming fall, Perkins Eastman has been working in tandem with these institutions, surveying the effectiveness of remote learning curricula, discussing current learning initiatives, strategies, and technologies with leading educators, and modeling the best ways to teach children at a distance.

Over all, our research indicated that throughout history, disruptions in education disproportionately effects vulnerable populations. For example, research shows that "learning loss," how much time students spend without instruction, is greater for low-income, Black, and Hispanic students. As we assist K-12 institutions with their reentry plans, COVID-19, economic hardship, and socioeconomic understanding must be part of a design solution, an intersectional and human approach that keeps children, families and school staff with learning environments that prepare them for the future.

Our K-12 insights report analyzes and distills the pertinent findings of a firmwide survey completed in the summer of 2020. Recognizing that the respondents may not be representative of the larger population, given that the survey was only circulated to Perkins Eastman staff, we have further supported these findings with information from roundtables with leading educators, as well as our own research to conceptualize new ways of designing spaces for K-12 students. We question the current state of remote learning and its future, socialization as education, shifting learning models, and the school's place as the heart of its community, with an eye to the future and planning for the long-term.

While institutions begin to roll-out new plans for reentry, our research found that alternative remote learning environments are not so new to the American school system, even ones enacted in the face of a pandemic like COVID-19. For example,

ROUNDTABLES

Perkins Eastman, in partnership with organizations including Drexel University's School of Education and the Boston Society of Architects, has moderated virtual roundtables. Through our collaboration with Drexel University, we will continue to explore emerging ideas about pedagogy, flexibility and community through the fall.

SURVEY

The Perkins Eastman Remote Learning Survey includes feedback from 89 employees and 73 K-12 student of these employees from across the US offices and internationally. Survey respondents answered questions about their day-to-day experiences and feelings since the start of stay-at-home orders, including factors related to remote learning and resources, wellness, socialization and technology.

RESEARCH

The Design Strategy team continuously engages in basic, exploratory and inductive research to identify trends, understand influencing factors, and envision future scenarios. Secondary research related to the COVID-19 crisis supports insights from roundtable discussions and the Perkins Eastman survey.

during the 1937 polio epidemic, the Chicago school district kept students home for their first month, using the radio to teach classes. Their innovative move to remote learning mirrors our current situation as schools theorize alternating schedules, ending the semester early, or, like Chicago, starting late.

What Chicago teachers implemented in 1937 is the same impetus we need to implement now: pioneering design initiatives that ensure a healthy and efficient learning environment. Unfortunately, our research determined that the immediate roll-out of remote learning on a massive scale has not fulfilled this goal. We found that 60% of children think they are learning less than they did when in the classroom. Recent research also warns that with our current remote learning set-up, students will lose months of instruction without in-person teaching. Therefore, remote learning is not a substitute for in-person instruction.

Further, a school is so much more than a learning environment. In the 1920's the school system was redesigned to not only provide education but healthcare, food, social skills, and childcare. The buildings themselves were actually convergent campuses that catered to the learning of the "whole" child. Therefore, our initial focus on COVID-19 quickly expanded from the virus' impact on learning to its impact on child social skills and community resources.

We take these insights to reimagine what K-12 education could look like in a post-pandemic world. We ask: What do our schools need to be? And, what can they become over the long-term? To combat tuberculosis, "open-air" schools gained popularity, and during the influenza epidemic school nurses became a staple of the education system. How will the conjoined public health, economic, social justice, and environmental crises change the design of our schools?

| Learning Has Evolved:	Schools must respond:	Communities will become:
DIGITALLY ENHANCED	**Hybrid Environment:** Leverages digital technologies in physical spaces to maximize students' learning experience.	Future-proofed, nimble, and adaptive
PROMOTES HOLISTIC WELLBEING	**Healthy Haven:** Acts as a safe space to develop healthy habits for both mind and body.	Robust, resilient, and healthy
MORE DIVERSE LEARNING LEVELS + MODES	**Personalized Destination:** Responds to students' specific learning styles and addresses gaps in knowledge.	Perceptive, responsive, and fair
ENCOMPASSES SOCIALIZATION + EQ	**Integrated Experience:** Encourages the acquisition of a full range of skills to support successful learning and development.	Compassionate, tolerant and mindful

FOUR PARALLEL CRISES:
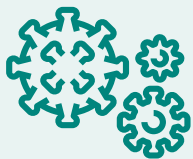
Public Health   Economic   Social Justice   Climate Change

KEY TAKEAWAYS

REMOTE LEARNING DOESN'T REPLACE CLASSROOM LEARNING

Studies, supported by findings in our survey, clearly indicate that children are learning less now from a home environment than before COVID-19 in a classroom environment. With that in mind, there are a number of benefits to learning remotely, some of which will continue into the future.

SOCIALIZATION IS CRUCIAL TO EDUCATION

Many students are experiencing social isolation and loneliness, which has an impact on the quality of their learning as well as their social development.

LEARNING MODELS ARE SHIFTING

There are competing priorities that have developed as a result of COVID-19, including learning vs play, mental health vs physical safety, and routine vs flexibility.

SCHOOLS ARE AT THE HEART OF THE COMMUNITY

In times of crisis, communities turn to schools for support, hope, shelter, and sustenance. Schools provide essential resources to the community at large, but especially to students, many of whom would not otherwise have access to these necessary resources that allow for maximized learning and development.

REMOTE LEARNING DOESN'T REPLACE CLASSROOM LEARNING

Students across the board are learning less

According to our survey, **60% of children think they are learning less remotely** than they did while in the classroom with **69% finding the home itself a hard place to focus on classwork**. Parents are largely in agreement with more than half of parents with children at all grade levels believing their children are learning less than they did while in the classroom. These trends are aligned with other research and studies completed to date.

Younger students have more difficulty learning remotely

The stress and burden of education skews downward, where **children K-5—those most in need of instruction in the fundamentals of English, math, and science—are finding it harder to learn from home.** Parents are picking up the slack, with 69% saying they are teaching their children more than before remote learning was implemented. **This has led to undue stress on parents, especially with younger children, where 72% of K-5 parents say having a child at home has been stressful.**

Socioeconomic factors affect learning loss

Our own research shows a continuous trend across all negative effects from COVID-19 on education, **the loss of learning is disproportionate for lower income students and those from vulnerable populations.** These students are particularly susceptible to "learning loss" and are at risk of losing months of instruction should the current remote learning model continue.

SURVEY QUESTION: IN GENERAL, HOW SUCCESSFUL HAS LEARNING FROM HOME (OR WHEREVER YOU HAVE BEEN SHELTERING-IN-PLACE) BEEN FOR YOUR CHILD?

	MY CHILD HAS BEEN LEARNING LESS THAN USUAL	MY CHILD HAS BEEN LEARNING ABOUT THE SAME	MY CHILD HAS BEEN LEARNING MORE THAN USUAL
K TO 5	**69.5%**	13.6%	1.7%
6 TO 8	**60.9%**	34.8%	0%
9 TO 12	**52.2%**	17.4%	13.0%

PARENTS AT PERKINS EASTMAN SUPPORT THEIR CHILDREN IN THE FOLLOWING WAYS MOST FREQUENTLY:

79% Discussing how their studies are going

77% Encouraging my child

71% Assisting with technology

64% Sharing with my child my own knowledge on a subject they are studying
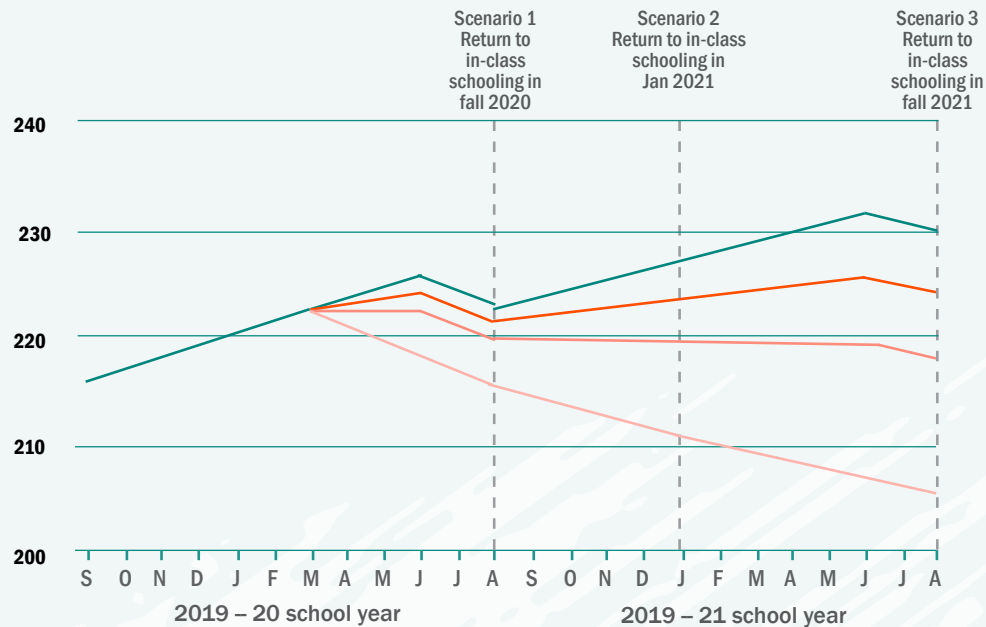
63% Discussing how they are feeling

FOCUS AND ATTENTION SPAN OF STUDENTS AT HOME

69% of students **find it a little hard to very hard to focus** on learning while at home.

Only **22%** of students **find it a little easy**, and **9%** find it **very easy.**

PROJECTED 6TH-GRADE MATH PERFORMANCE, EXAMPLE, NWEA' RIT SCORES

Scenario 1
Return to in-class schooling in fall 2020

Scenario 2
Return to in-class schooling in Jan 2021

Scenario 3
Return to in-class schooling in fall 2021

2019 – 20 school year

2019 – 21 school year

Typical In - person: Students learn at typical ratios with in-classroom instruction

Learning slowdown - average remote learning: Students learn at typical rates until March 2020, followed by -52% of learning through remote instruction

Learning slowdown - low quality remote learning: Students learn at typical rates until March 2020, followed by no growth or loss resulting from low-quality remote instruction

Learning loss - no instruction: Students lose learning equivalent to an extended summer slide, as a result of no instruction or disengagement from remote learning

Source: https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-student-learning-in-the-united-states-the-hurt-could-last-a-lifetime

EXTERNAL STUDY:

AVERAGE MONTHS OF LEARNING LOST IN SCENARIO 2 COMPARED WITH TYPICAL IN-CLASSROOM LEARNING

Average remote learning — 3 - 4

Low-quality remote learning — 7 - 11

No instruction — 12 - 14
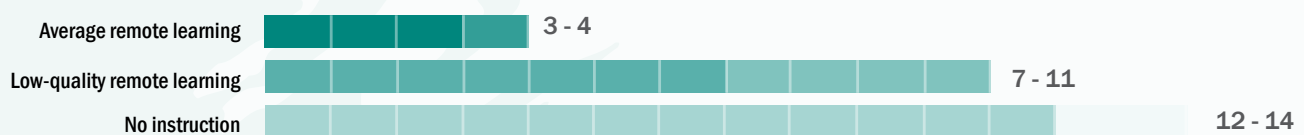
Source: https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-student-learning-in-the-united-states-the-hurt-could-last-a-lifetime

EXTERNAL STUDY:
LEARNING LOSS WILL PROBABLY BE GREATER FOR LOW-INCOME, BLACK, AND HISPANIC STUDENTS

QUALITY LEVEL OF REMOTE INSTRUCTION, % OF K-12 STUDENTS

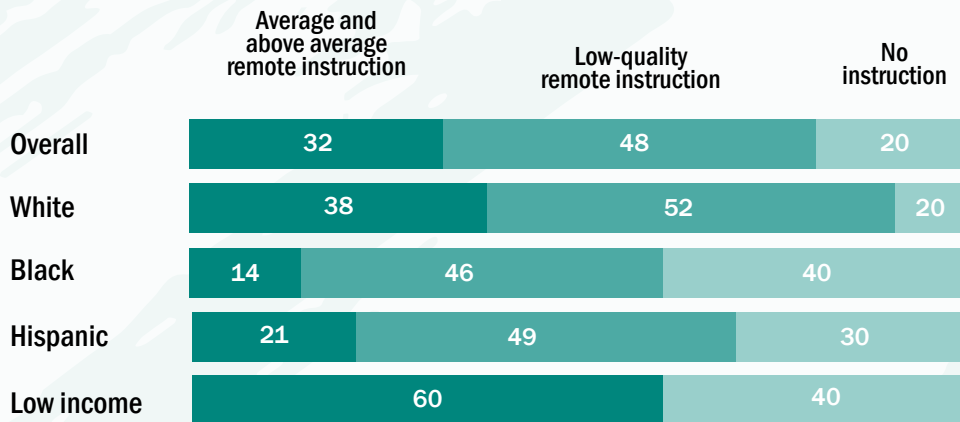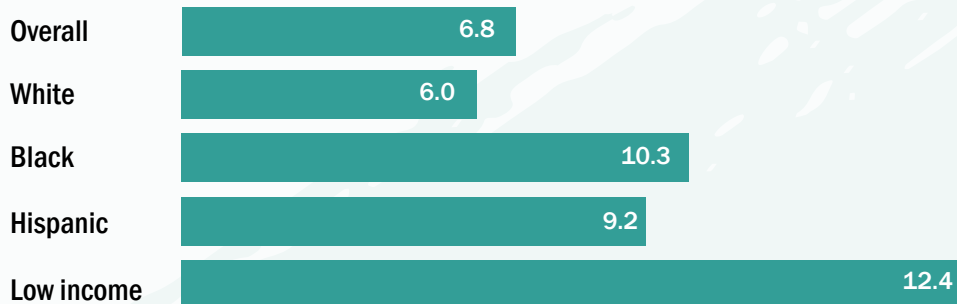|	Average and above average remote instruction	Low-quality remote instruction	No instruction
Overall	32	48	20
White	38	52	20
Black	14	46	40
Hispanic	21	49	30
Low income	60		40

Source: https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-student-learning-in-the-united-states-the-hurt-could-last-a-lifetime)

EXTERNAL STUDY:
AVERAGE MONTHS OF LEARNING LOST IN SCENARIO 2 WITH TYPICAL IN CLASSROOM LEARNING

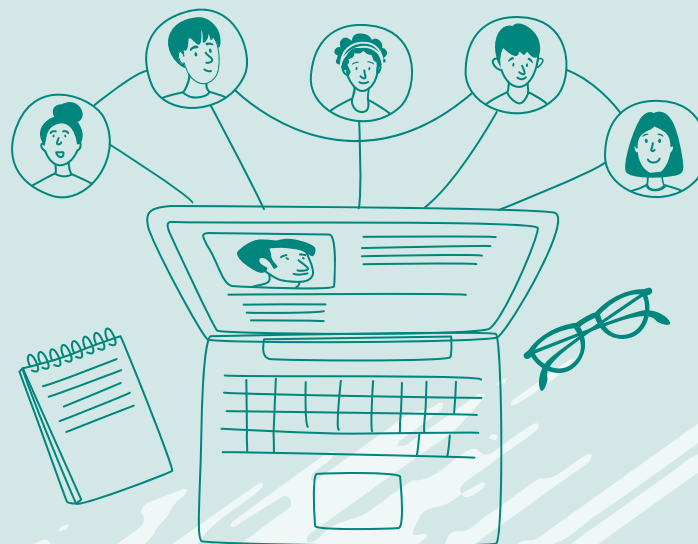|	
Overall	6.8
White	6.0
Black	10.3
Hispanic	9.2
Low income	12.4

Source: https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-student-learning-in-the-united-states-the-hurt-could-last-a-lifetime)

Of the 66 unique parent/child pairs that responded to the question in our survey regarding how much the student has been learning since sheltering-in-place, **45 pairs (68%) agreed** and **21 pairs (32%) disagreed. This means approximately 1 in 3 parent/child pairings had different perceptions of the quality of learning at home. Of the pairs that disagreed, 15 students (71%) answered more positively than their parents, whereas 6 student (29%) answered more negatively.** As such, it seems that where there is a discrepancy between parent and student answers, most students feel that they are learning more at home than their parents realize.

SURVEY QUESTION: HOW HAS HAVING YOUR CHILD AT HOME (OR WHEREVER YOU ARE SHELTERING-IN-PLACE) AFFECTED YOU?

It has been stressful

K to 5
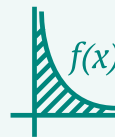**71.9%**

K to 5
26.1%

9 to 12
26.1%

It has negatively affected my ability to perform other tasks

K to 5
40.4%

K to 5
13%

9 to 12
8.7%

POST-PANDEMIC LEARNING PREFERENCES

When asked if they want to keep having school at home at the end of the pandemic,

51% of students said that they would like to return to having **lessons at school like before**.

37% would like a **mix of both** lessons from home and from school.

12% would like to have lessons **just at home**.

SOCIALIZATION IS CRUCIAL TO EDUCATION

Prioritize in-person education for ages 10 and younger and special education

Growing evidence suggests that children ages 10 and younger are significantly less likely to get seriously ill from COVID-19 and they are less likely to spread the illness onto others. **This relative safety and this age group's heightened need for in person interaction makes them a strong candidate to go back to school** (with safety protocols still enforced such as handwashing, mask use, physical distancing, and the implementation of small student "pods" or cohorts). Furthermore, getting younger children back to school has **the added benefit of lessening the strain on parents** with older children being more self-sufficient. While implementing safety protocols in early education schools will unavoidably have a large price tag, the needs of special education students cannot be overlooked. Financial investment for these students should be prioritized as well, so that they can safely and effectively learn in person and virtually (e.g., individual remote instruction).

Move as much as possible outdoors

Research strongly suggests that interaction outdoors (especially with physical distancing and other safety measures) is relatively safe to protect both students and teachers. To this end, **strategies for outdoor learning such as tents, shading structures, mobile whiteboards, etc. should be considered.** Additionally, **any strategy for outdoor instruction should have contingency plans** for remote learning days when then weather is not conducive.

Opportunities for creative interactive learning and educational resources in the community

As we continue into the fall, schools need to enhance remote learning to better engage students. **Research is showing that schools can enhance student experience by expanding synchronous learning opportunities,** enabling greater student and teacher engagement while students are off-campus. **These include class sessions and smaller breakout discussions to provide some of the social interaction that inspire students to learn. Virtual interactions need to be paired with physical "third places."** Leveraging currently underutilized physical settings on campus, for example, gyms, can allow students to socialize responsibly, while accessing support services such as tutoring and meals. **Creating "third places," where children can get out of the house and safely engage socially, is now even more of an imperative.**

ISOLATION AND LONELINESS ACCORDING TO SURVEY DATA

96% of students say that being with their friends is one of the things they like most about being at school

88% of parents identify that being isolated from friends has impacted their children's learning experience at home

71% of parents feel that the lack of social/extracurricular activities is the biggest challenge their child is facing

34% of children identify with being lonelier since sheltering-in-place began

WHAT STUDENTS LIKED MOST ABOUT BEING AT HOME

I can speak my preferred language
5%

No bullying
21%

Less peer pressure
23%

Being with pets
41%

Access to the outdoors
55%

Spending time with the people you live with
78%

Access to food
65%

Having a flexible schedule
64%

No travel time to and from school
59%
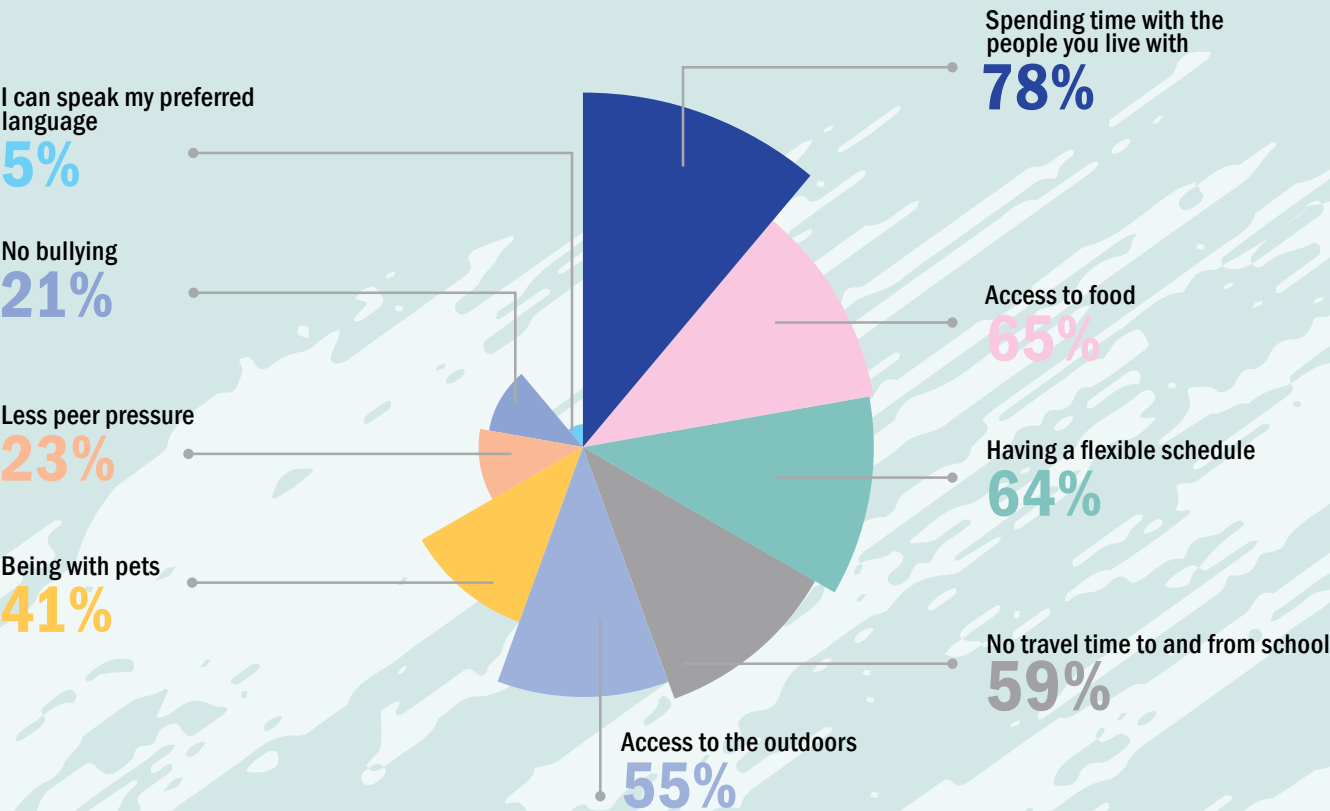
WHAT STUDENTS LIKED MOST ABOUT BEING IN SCHOOL

Getting support from specialists or therapists I work with
12%

Attending clubs
29%

Acting or performing
31%

Playing music
38%

Playing sports
46%

Being with friends
96%

Working with teachers
63%

Going to events like school plays or sporting events
59%

Making art
56%
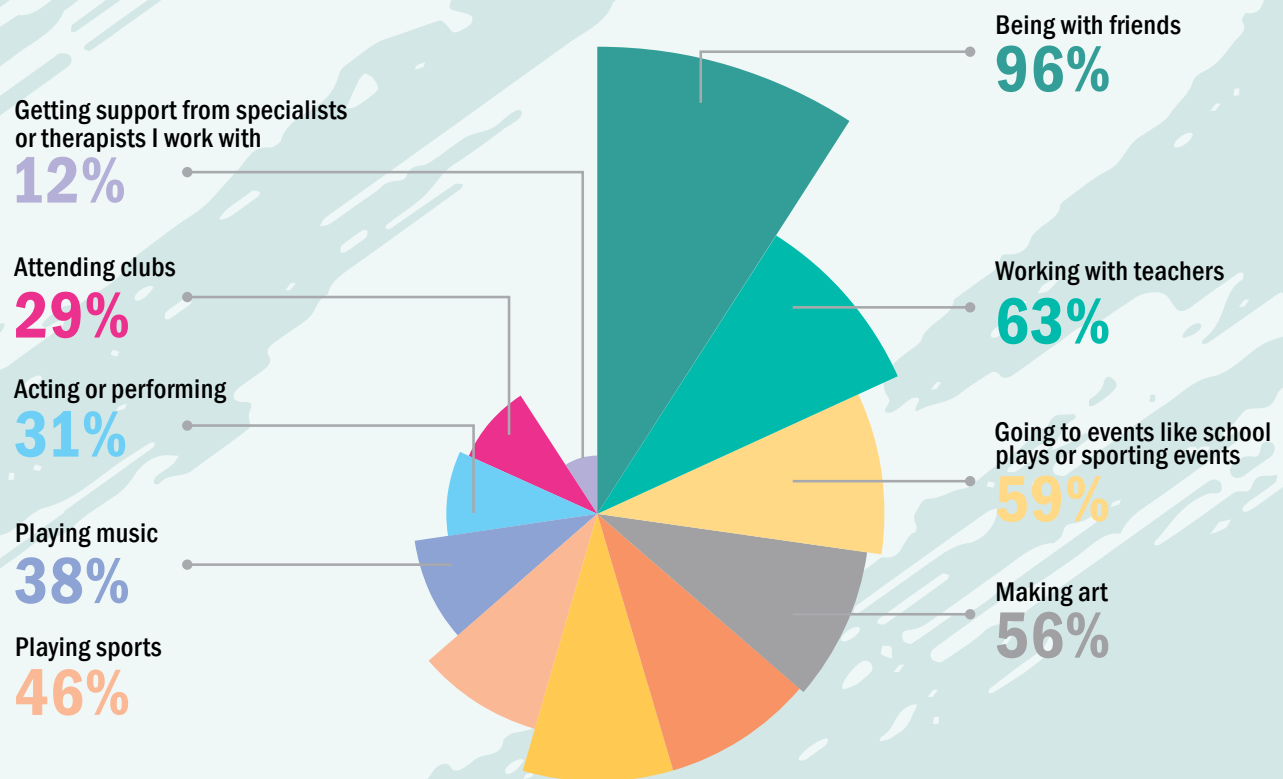
LEARNING MODELS ARE SHIFTING

Learning vs Play

Many schools are proposing hybrid models with shortened periods of in-school instruction; with less instruction time in the day, they are balancing the need for play (crucial for childhood development, health, happiness, etc.) with the need for learning (to compensate for significant learning losses). **Will less structured approaches to classroom time, where students have more freedom to determine what activities they engage in, including "play", be adopted as a strategy for K-12?**
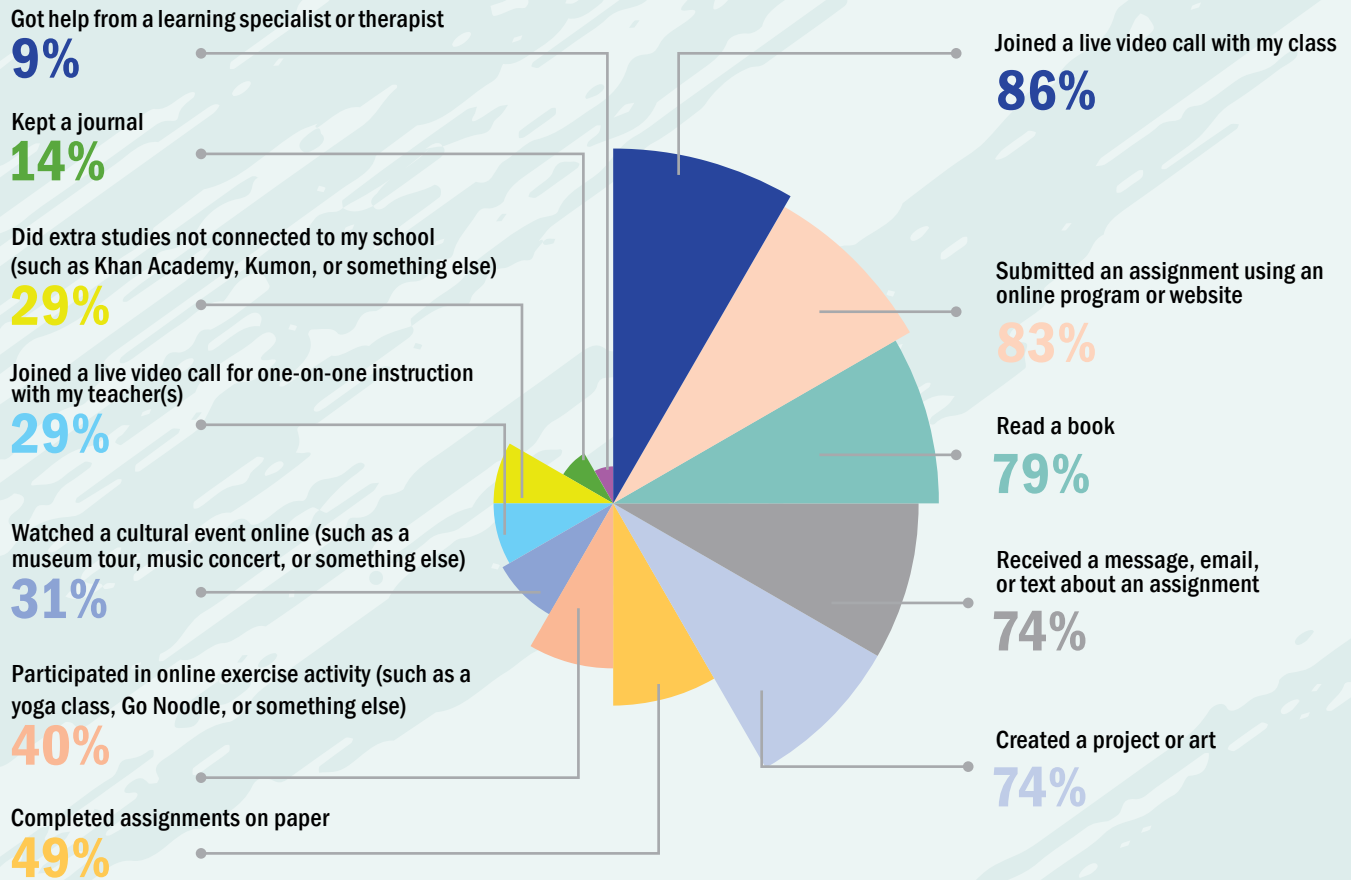
Socialization vs Safety

Physical distance is key to protecting the health and safety of students, but physical closeness is an essential part of connection for younger children. **How can schools help students to connect and socialize while maintaining a safe distance?**

Routine vs Flexibility

Students enjoy and benefit from the flexibility of remote learning. Asynchronous learning can also be an effective strategy for personalized/self-paced learning. However, children – especially younger children – benefit from structure and routine. Blended learning models provide an opportunity for students to access learning both online and in person, leveraging the strengths of each modality (see Perkins Eastman's 2015 Blended Learning Design Guidelines here). **How can a blended learning model provide a non-traditional approach to structure and routine while still addressing the need for individualized instruction?**

WHEN ASKED WHAT THEY DID IN A TYPICAL SCHOOL WEEK SINCE SHELTERING-IN-PLACE, STUDENTS RESPONDED WITH THE FOLLOWING

Got help from a learning specialist or therapist
9%

Kept a journal
14%

Did extra studies not connected to my school (such as Khan Academy, Kumon, or something else)
29%

Joined a live video call for one-on-one instruction with my teacher(s)
29%

Watched a cultural event online (such as a museum tour, music concert, or something else)
31%

Participated in online exercise activity (such as a yoga class, Go Noodle, or something else)
40%

Completed assignments on paper
49%

Joined a live video call with my class
86%

Submitted an assignment using an online program or website
83%

Read a book
79%

Received a message, email, or text about an assignment
74%

Created a project or art
74%

TECHNOLOGY INTEGRATION

78% of parents support minor to major adoption of technologies used during sheltering-in-place when children return to school
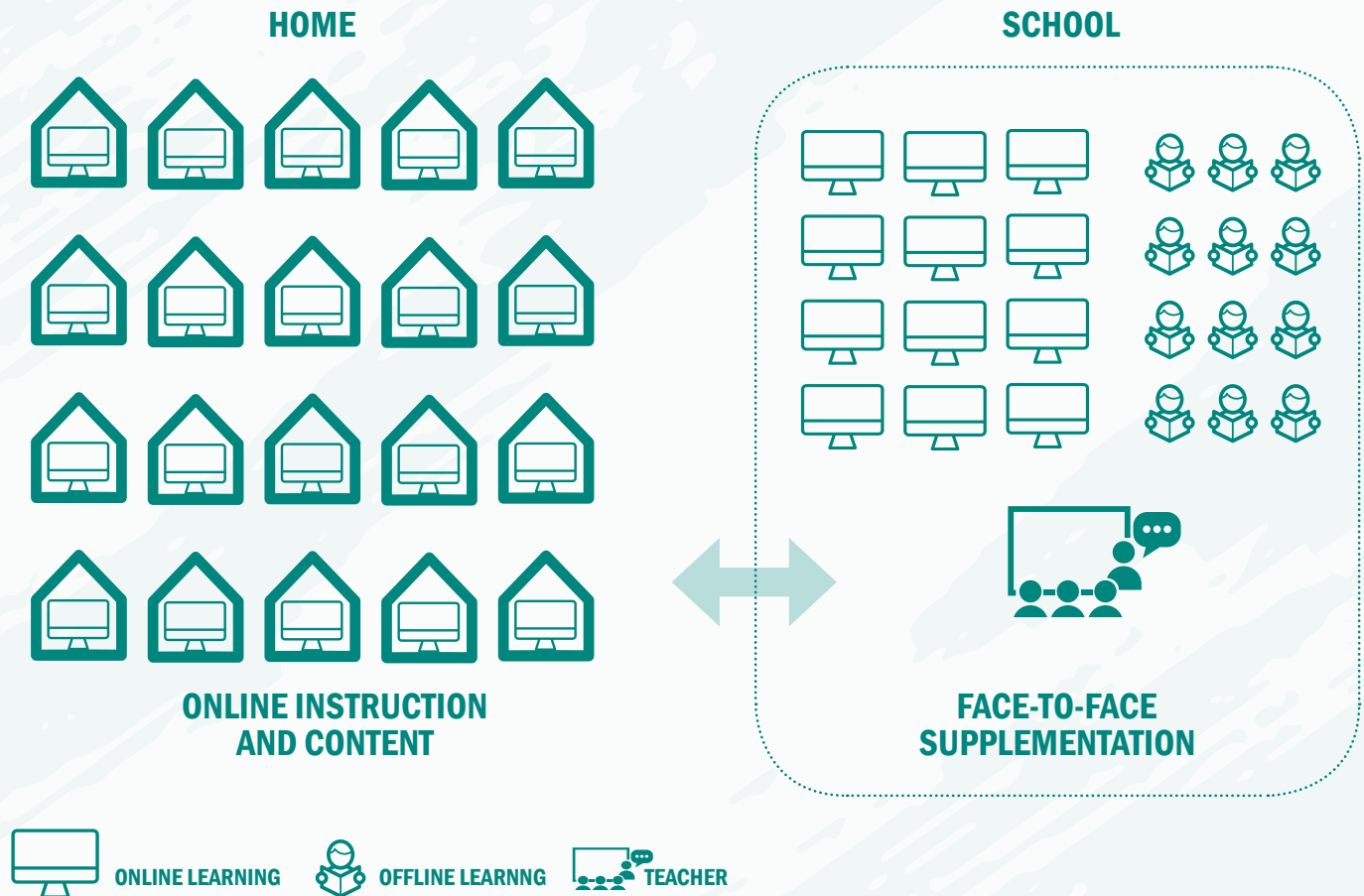
PERKINS EASTMAN BLENDED LEARNING STUDY:
"SELF BLENDED" MODEL

SCHOOL

CYBER LOUNGE

HOME

ONLINE TEACHER

🖥 ONLINE LEARNING   👤 OFFLINE LEARNNG   💬 TEACHER
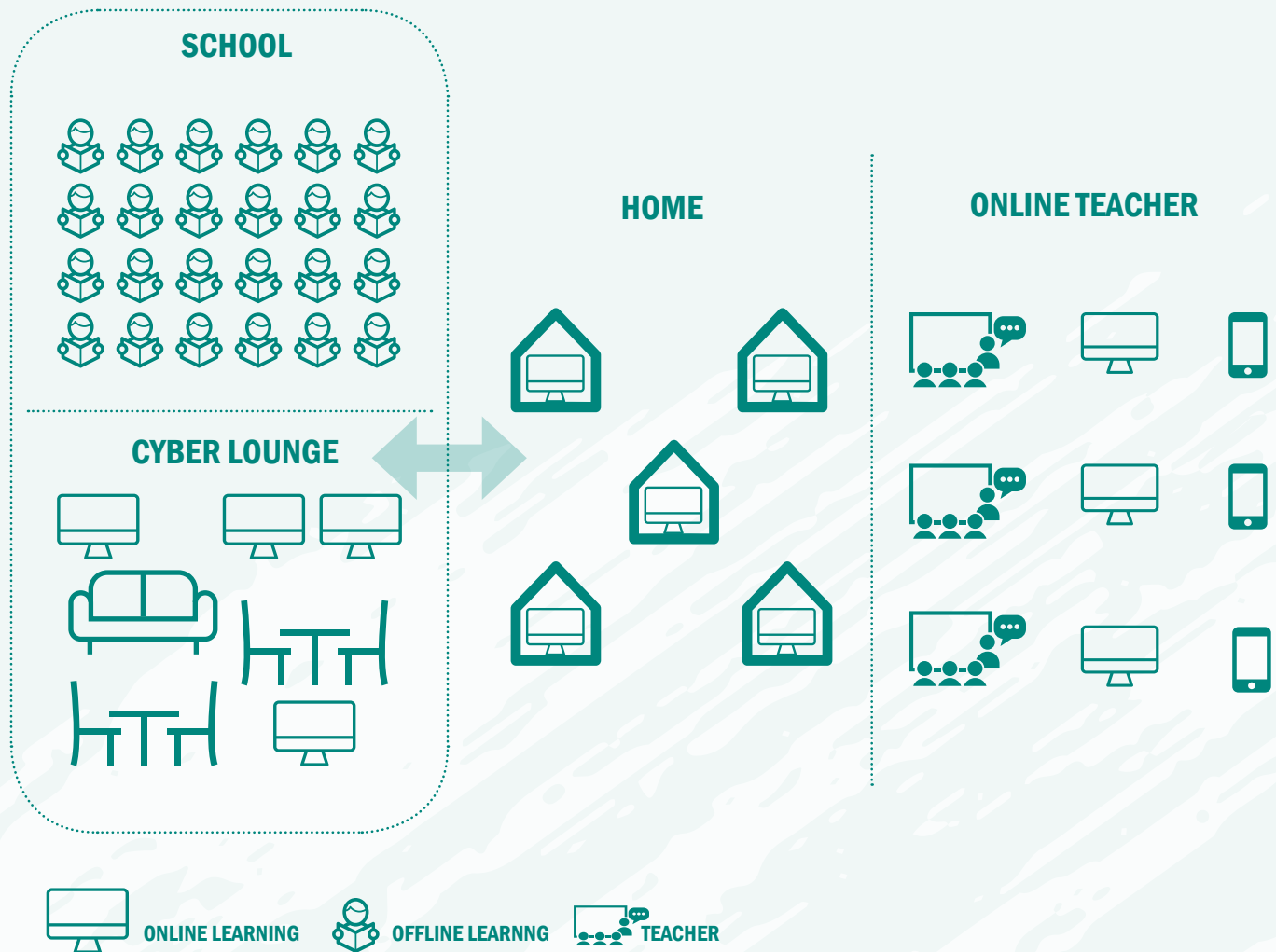
Self-Blended approaches involve delivering portion of a student's course load primarily online. These courses complement courses delivered using more traditional approaches and modes (e.g., in person seminars, lectures and labs). The self-blended content can be delivered in a variety of locations in school or outside of school, enabling student choice regarding time and place.

Source: https://www.lisc.org/media/filer_public/99/02/990296e9-9471-45f8-ac5b-5a92babe501a/schoolbuild_additional_resources_blended_learning_design_guidelines.pdf

PERKINS EASTMAN BLENDED LEARNING STUDY: "ENHANCED VIRTUAL" MODEL

HOME

SCHOOL

ONLINE INSTRUCTION AND CONTENT

FACE-TO-FACE SUPPLEMENTATION

ONLINE LEARNING   **OFFLINE LEARNNG**   **TEACHER**

Enhanced Virtual blended learning delivers a portion of every course online. This content can be delivered asynchronously and at a variety of locations. This asynchronous content is complemented by face-to-face interaction with teachers and peers in more conventional school settings. In contrast to most of the other blended learning models, students may not be on campus every day. Environmental considerations are similar to the self-blended model providing spaces for seminars, classes and labs, and cyber lounges for using online resources. Reduced attendance on a daily basis may reduce the overall square footage required for facilities.

SCHOOLS ARE AT THE HEART OF THE COMMUNITY

Access to mental health services

Schools provide mental health services to 57% of children who need care. Most mental health disorders develop during childhood, so diagnosing and treating disorders early can prevent serious health and emotional problems from developing. **Students living in poverty are more likely to receive mental health services from their schools exclusively.** The recent closure of schools has meant that these students lost access to services in a time when **existing mental health disorders may be worsened by the public health crisis, social isolation and the economic recession impacting households.**
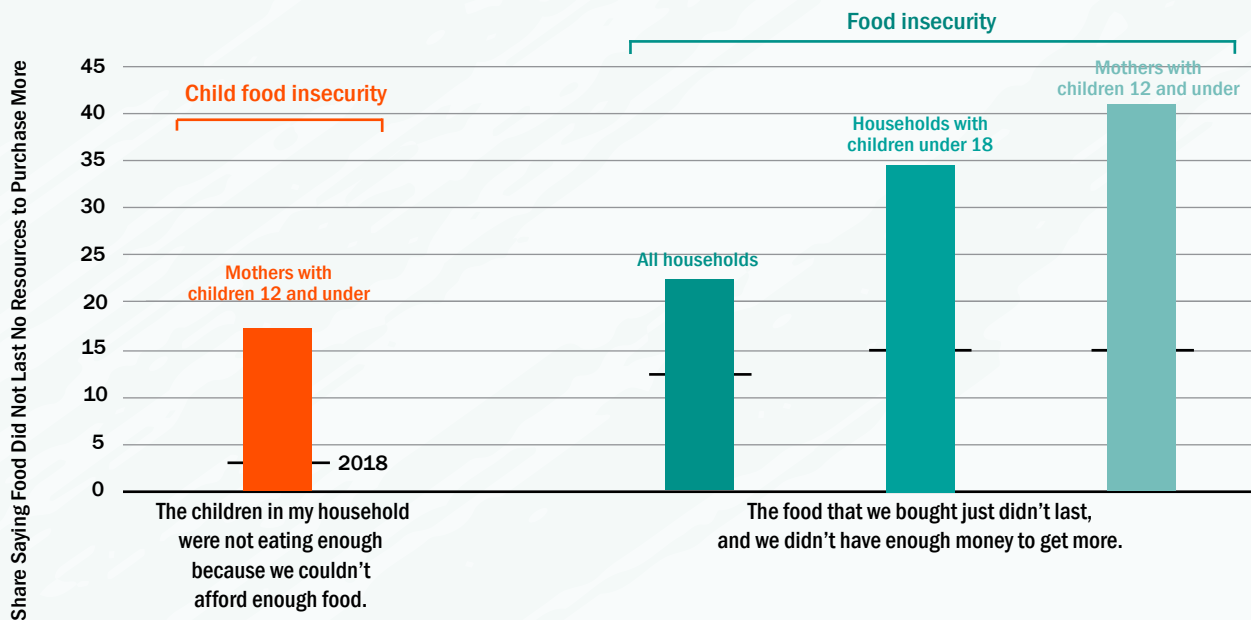
Access to technology

Schools act as an essential resource for providing necessary technology to students. Prior to the outbreak of COVID-19, **17% of teenagers struggled to complete their homework because they did not have reliable access to either a computer or an internet connection.** For students of color, this number was significantly higher, with **1 in 4 Black students lacking reliable access to a computer or the internet.** Today, **districts are accelerating the provision of 1:1 technology.** As students return to class this fall, many may have more access to the necessary technology and devices to learn remotely, as compared to spring of 2020.

Access to food

95% of schools participate in the National School Lunch Program, **providing meals to more than 30 million students each day.** With schools closed due to COVID-19, many students have lost access to this essential service. **By the end of April 2020, more than 1 in 5 households in the US, and 2 in 5 households with mothers with children 12 and under, were food insecure.** Along with the provision of mental health services and access to technology, supplying healthy, regular meals is essential in developing community resiliency. Through these and other venues, **the school is well situated to play a critical role in strengthening communities, helping them not only adapt, but flourish, in the face of challenges.**

EXTERNAL STUDY:
FOOD INSECURITY IN THE UNITED STATES, APRIL 2020

Food insecurity

Child food insecurity

Mothers with children 12 and under (orange bar)

Mothers with children 12 and under (rightmost teal bar)

Households with children under 18

All households

Y-axis: Share Saying Food Did Not Last No Resources to Purchase More (0, 5, 10, 15, 20, 25, 30, 35, 40, 45)

2018

The children in my household were not eating enough because we couldn't afford enough food.

The food that we bought just didn't last, and we didn't have enough money to get more.

Source: https://www.brookings.edu/blog/up-front/2020/05/06/the-covid-19-crisis-has-already-left-too-many-children-hungry-in-america/

IN OUR SURVEY, NEARLY ALL PARENTS ARE AT LEAST A LITTLE WORRIED ABOUT THEIR CHILDREN CONTRACTING COVID-19 WHEN THEY RETURN TO SCHOOL...

40% of parents are very to extremely worried, with another **52%** feeling "a little worried" about their children contracting COVID-19 when schools open again.

THE TOP RATED PROTOCOLS AND PROCEDURES THAT WOULD MAKE PARENTS FEEL THAT THEIR CHILDREN ARE SAFE TO RETURN TO SCHOOL

82%
Better and more regular cleaning around the school

80%
A vaccine is available

cannot be implemented by schools at this time

76%
Minimize large groups

73%
Fewer students in class/ maintaining social distancing

67%
Implementing social distancing protocols

STRESS AND SUPPORT FROM COUNSELORS

37% of parents identify that learning from home has caused their children to feel stressed, with another **12%** noting that their children miss special support and therapy that they had a school.

Only **19**% of parents agree that their student receives adequate support from counselors, with another **11%** of parents noting that their child receives some support but could use more.

THE TOP RATED PROTOCOLS AND PROCEDURES THAT WOULD MAKE CHILDREN FEEL SAFE TO RETURN TO SCHOOL:

57%
Better and more regular cleaning around the school

57%
A vaccine is available

49%
Checking students at the school entrance(s) to see if they feel sick/have a fever

47%
More places to wash my hands

46%
More hand sanitizer stations

45%
Everyone wears a mask at school

PARENTS MOST SUPPORT THE FOLLOWING CHANGES WHEN CHILDREN BEGIN TO RETURN TO THE CLASSROOM

59%
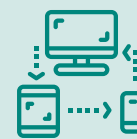Allowing more flexibility in the times for class scheduling

56%
Introducing strategies for personalized/ student-paced learning

51%
Allowing more remote learning

40%
Leveraging more online resources

WORLD

WORLD

Regional Community

Internal Community

Interpersonal

Individual

Individual

Interpersonal

Internal Community

Regional Community

INCREASE FOCUS ON HOLISTIC WELLNESS

COVID-19 showed just how conjoined public health, economic stability, social justice, and environmental crises are. We believe that these crises compel us to look at school design through a larger, interconnected lens, where **COVID-19's impact on K-12 education has resurfaced the various roles that a school takes within a community: child care, healthcare, mental health, food, shelter, education, among other vital services.** Designing through this larger lens, we can better advocate for policies and decisions within our projects that have implications for the ultimate success of students going forward.

Wellness has, in recent months, become a critical issue. In the context of design, the focus is often on individual wellness – and how the built environment can impact an individual's personal health and well-being. COVID-19 has pulled forward a slowly changing philosophy around Wellness: **how intrinsically connected our personal wellness is to the wellness of others and to the wellness of the planet. From our collective experience over the past few months, we know that we can no longer look at these interconnected issues in isolation.**

Schools, in many ways, are the heart of a community. It is the place where the future is cultivated.This future is dependent upon new kinds of built environments that reduce environmental degradation, engage and foster life-long personal growth, promote community resiliency, and enhance health and wellness for every individual, family, and member of the community.

We are proposing a new and more comprehensive approach, named Holistic Wellness. Designing for wellness across multiple scales, from the individual to the world, from the student to the school, from healthcare to education, proposing resilient design solutions with ambitious goals for the built environment.

Re-Learning K-12 Education | Part 1 has been published to capture a moment in time. The firmwide survey highlighted here represents the beginning of an ongoing investigation of the impacts of COVID-19 on the long-term approaches to teaching and learning environments. As part of an ongoing study that incorporates roundtable discussions, personalized interviews, and in-depth research, we will continue to test and affirm ideas raised in the survey and shared in this report. Future reports will be published on Perkins Eastman's website at www.perkinseastman.com/white_papers.

THANK YOU FOR PARTICIPATING!

The Design Strategy team and K-12 Education Practice would like to thank all of our roundtable participants and industry leaders who generously lent their time and experience to help us gather key insights and data regarding changes in the K-12 education across the country. We would like to send a special thank you to our partners at Drexel University's School of Education for their ongoing support and participation. And, to our PEople, who participated in one of our most rigorous and wide-reaching surveys, your continued work at Perkins Eastman is invaluable.

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