



Leveraging technology for K12 learning

Insights from US students and teachers

JULY 2022



Survey results and analysis from a May, 2022 survey
conducted by YouGov and sponsored by Microsoft Education



Introduction

Almost three years after the disruption of formal learning by a global pandemic, education in the United States looks very different from before. While for the most part, students and teachers have returned to physical classrooms, the effects of remote, hybrid, and blended learning have created durable changes to the ways learning is designed, delivered, and experienced.



Much has been written about the negative effects of the unexpected and fast move to remote learning, including how already marginalized and at-risk students fell further behind their peers, and how the pandemic highlighted existing inequities in access to devices and internet connectivity. Despite these challenges that educators are continuing to address, there have been “silver linings” as well. For example, increased government funding enabled many schools to expand their digital infrastructure, in many cases creating the opportunity to move to a 1 to 1 device model. Additionally, innovations in education technology have increased accessibility, expanded connectivity, and delivered more ways to work effectively online and offline. Among the positive benefits, perhaps the most obvious result of remote and hybrid learning is that students and teachers alike gained a great deal of experience, practice, and confidence using the various devices, learning platforms, and tools their schools adopted.

The questions now on many educators minds are, how will these changes continue to transform education, and how do teachers and students really feel about the technology they’ve been using? In the Summer of 2022, Microsoft commissioned YouGov to survey students and teachers in the US with the goal of better understanding their experience with education technology. Approximately 500 teachers and 500 students were asked questions like: what aspects of technology they believe have improved teaching and learning, how connectivity has affected students, which technology skills teachers feel they have improved, and how both students and teachers believe edtech can make education more equitable. Their answers highlight opportunities to further evolve technology to truly address the needs of students and teachers, and understanding their experiences will facilitate informed changes that enable greater equity, expand accessibility, increase well-being, and accelerate learning.



An Executive Summary

SECTION 1: KEY FINDINGS

Technology & improvements in education

Teachers and students have very different ideas and priorities about how technology improves education.



- **Teachers and students alike agree that technology allows them to access resource materials**, but past this top-rated item, the disparity starts immediately.
- **Students' 2nd top rated way that technology makes learning easier is keeping up with their schoolwork (57%)**. However, teachers rate this as the 2nd least important way that technology makes learning easier (31%).
- While the difference may be lesser amongst other potential ways that teachers and students view how technology improves education, there is very **little agreement in regard to priorities**. Interestingly, students are generally more bullish on the role of technology plays in making education easier for students than teachers are. This is potentially representative of a difference in ages between students and teachers, with today's students having grown up with technology.

Students view a wide range of factors that make distance-based learning as more important than their teachers do.



Differences are particularly striking for the following:

- **Use of animation (31% teachers, 45% students—T2B makes learning easier)**. Particularly true for students in grades 4-6 (55%).
- **Use of pictures to describe subject matter (44% teachers, 55% students)**; and
- **Use of different background colors (21% teachers, 34% students)**.

As with other areas of technology and distance-based learning, teachers and students disagree on the most important types of technology to enhance reading comprehension.



- **Technology that helps students practice reading skills is a top priority** for both students and teachers (59% students, 66% teachers, top 2 rankings combined).
- **Teachers also place more emphasis on read-aloud technologies than do students** (55% teachers, 44% students, top 2 rankings combined).
- **Students most often #1 ranked item are technology tools that provide a dictionary definition of words**. 22% of students ranked this the #1 top reading comprehension associated technology vs. only 12% of teachers ranking this as the #1 reading comprehension technology.
- **Similarly, picture dictionaries are an important priority for students (34% top 2 rankings combined)** than they are for teachers (21% top 2 rankings combined.)

Shoring up differences in both priorities and understanding of impacts actual learning outcomes between students and teachers is critical for developing more effective distance-based curriculum and learning modalities.

SECTION 2: KEY FINDINGS

Face-to-face vs. distance learning insights

While teachers and students generally agree that a combination of using technology at school and at home is ideal for most types of learning/projects, students place a much higher emphasis on at-home technology usage than do teachers and teachers place a much higher emphasis on at-school based technology usage to enhance educational outcomes.



- **Activities that students agree are best suited towards at-school use of technology include taking tests/exams, studying with classmates, and preparing for and giving group presentations.**
- Key technology-based activities that students and teachers **both** agree are **most suited towards at-home use of technology include report writing and working on individual projects.**
- **There is a big disconnect regarding the value of accessing tutors and other school-work support systems/peoples.** Teachers view this as a top-tier at-home use of technology while students rank this quite low on the list and believe it is best suited for at-school usage.

SECTION 3: KEY FINDINGS

Connectivity and learning

Nearly half (**48%**) of teachers indicate that most of their students have reliable internet access at home.



- Additionally, roughly 2/3rds (**63%**) of teachers believe that students with reliable internet access at home **perform better than peers without reliable at-home internet** usage.

Teachers that have a mix of students that do and don't have reliable at home internet access best understand why platforms that work both on and offline are important.

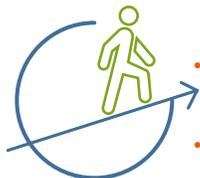


- The top cited reason (**81%**) amongst teachers with a mix of students with/without internet access is that **a platform that works both online and offline makes things fair** for students that don't have reliable at-home internet access.
- Similarly, **81%** of teachers who have a mix of students with/without reliable home internet access cite **"allows my students to get their work done without internet connectivity"** as a key reason that platforms that work both on and offline are critical.

SECTION 4: KEY FINDINGS

Distance learning & teachers' skills improvement

90% of teachers indicate that they have increased their teaching skills in one or more areas, based on experience with distance-based learning.



- The top area of teacher improvement is (expectedly) **learning technology skills related to software and learning platforms (45%)**.
- **Increased skills in instructional design for online learning** is a second area of teachers' skills improvement (**42%** improved).
- **Technology skills related to devices and online presentation/on-camera skills (36% and 33% respectively)** round out the list of improved teachers' skills.

SECTION 5: KEY FINDINGS

Technology & equity in education

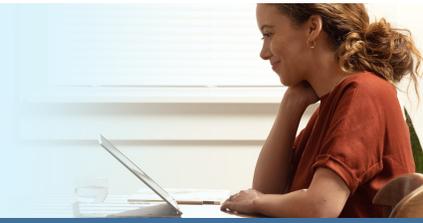
Generally, students are more bullish than teachers are regarding ways technology can make education more equitable.

Students indicate that:



- **allowing all students to have more control over their learning (39% students, 36% teachers),**
 - **giving students the ability to control the level of support they need (38% students, 33% teachers), and,**
 - **giving students flexibility in time to contribute (36% students, 33% teachers)**
- are the top 3 ways students can benefit from technology in terms of making learning fair for all.

Technology & improvements in education

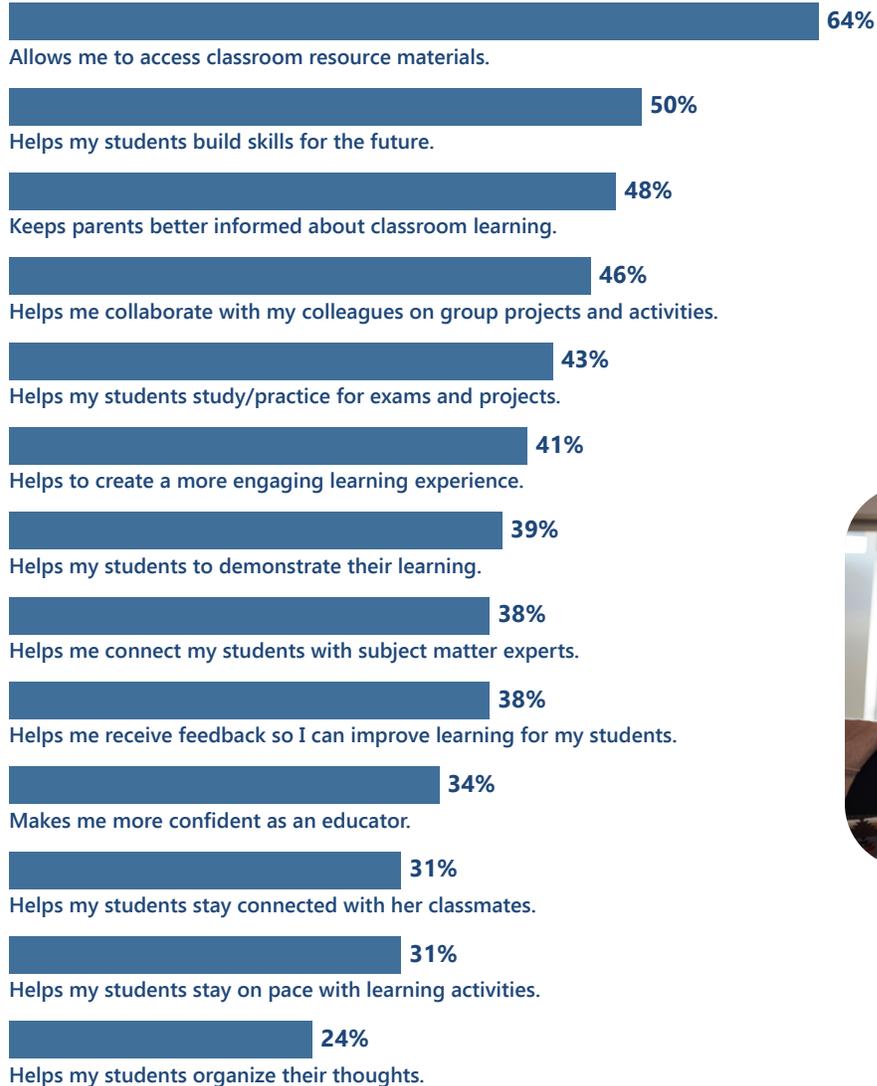


Teachers strongly believe technology allows them to access classroom materials, helps students build future-focused skills, and enables collaboration across a range of activities.

Conversely, only 1 in 4 (24%) of teachers believe technology helps students organize their thoughts and less than 1 in 3 (31%) believe technology helps students stay connected to classmates. Similarly only 31% of teachers believe technology helps students stay on pace with learning activities.

Technology & learning (TEACHERS)—T2B

Q1a. Thinking about technology and learning, how strongly do you agree or disagree with each statement?

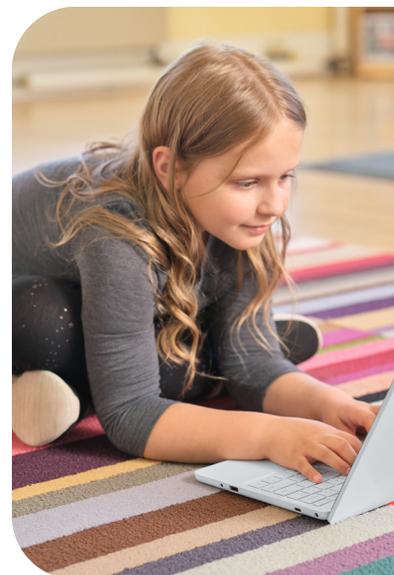


Students indicate that technology helps them access learning resources, helps them keep up with schoolwork, helps them correct mistakes and practice and helps them study for exams and projects.

While technology helps students stay interested in their work to some degree, this is a lower tier priority for students. Surprisingly, less than half of students (**46%**) indicate that technology helps them work with other kids on projects and assignments.

Technology & learning (STUDENTS)—T2B

Q1b. Thinking about technology and learning how strongly do you agree or disagree with each statement?

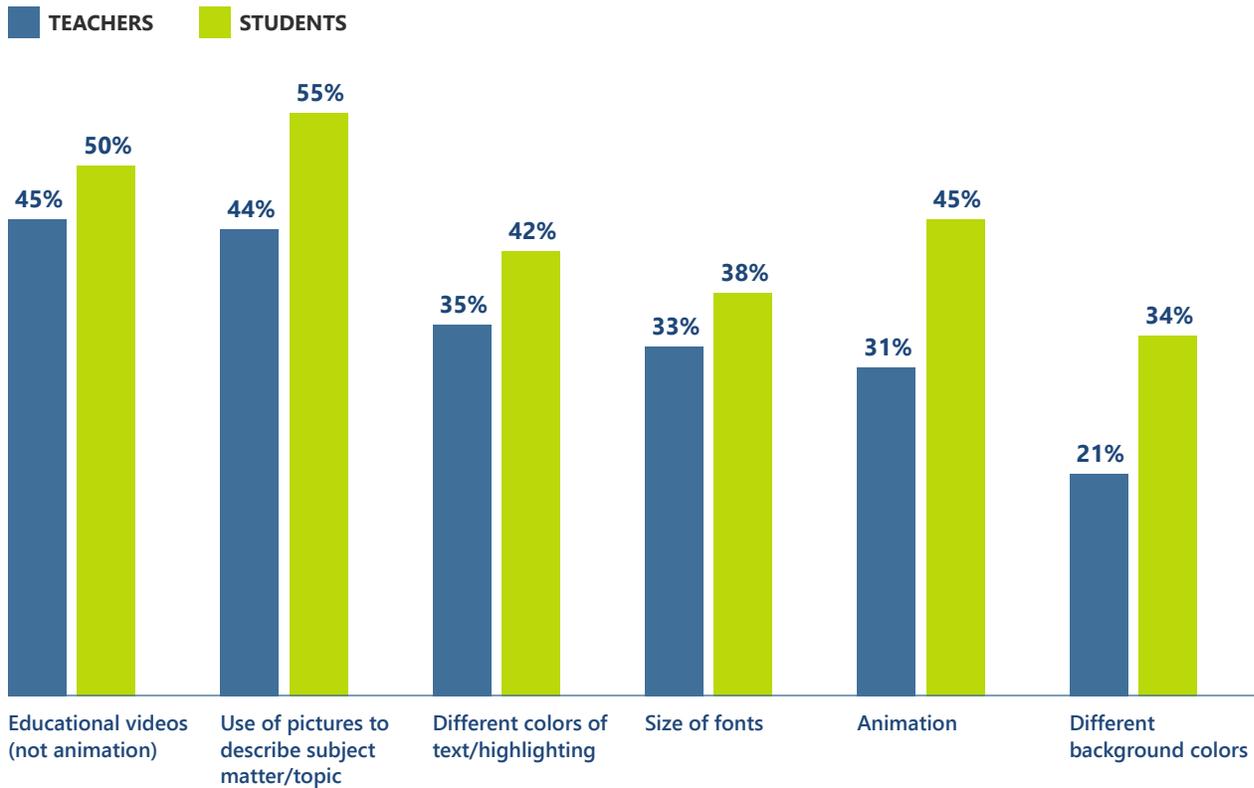


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What makes online learning easier (TEACHERS & STUDENTS)—T2B

Q2a1/Q2b: When you think about learning online, do each of the following make online learning harder or easier?

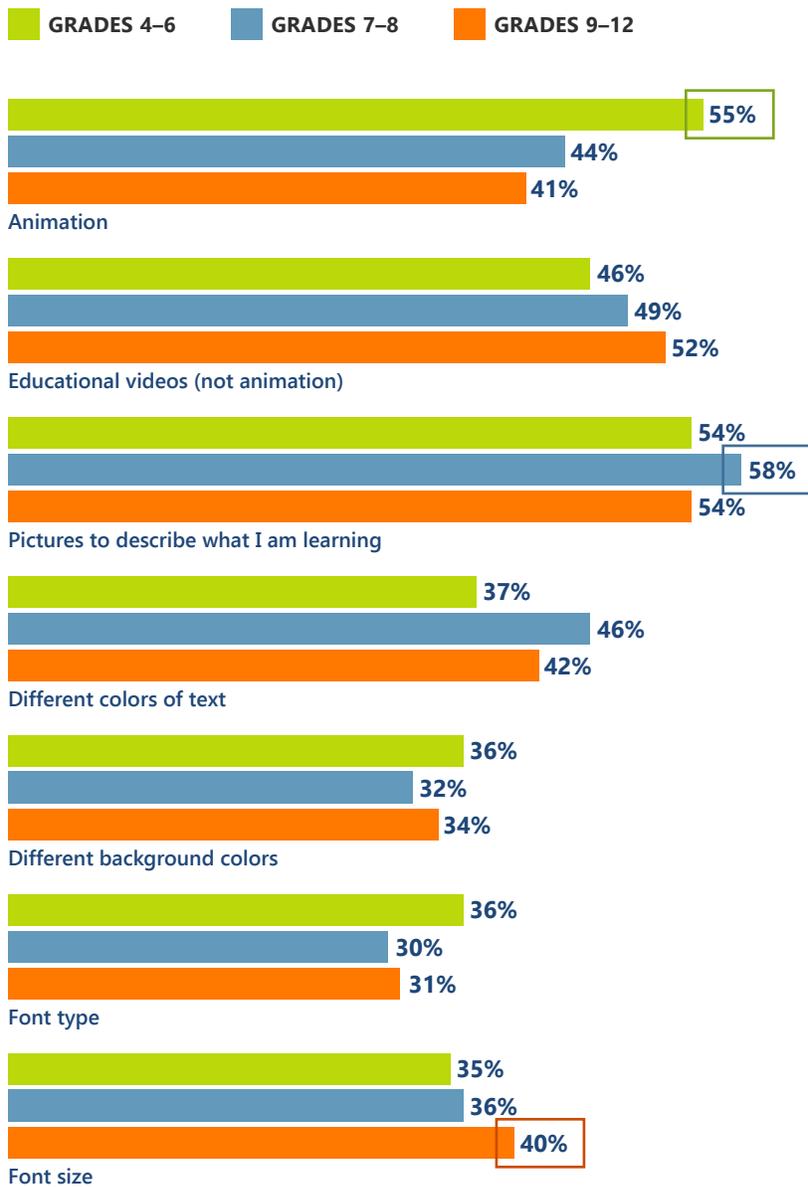


Animation, educational videos, and pictures to describe what students are learning are the items that make online easier for students of all grade levels.

- Students in grades 4-6 are the most drawn to animation and font type.
- Students grades 7-8 are most drawn to pictures to describe learnings and different colors of text.
- Students grades 9-12 are helped more by differing font size than are younger students.

What makes online learning easier (STUDENTS)

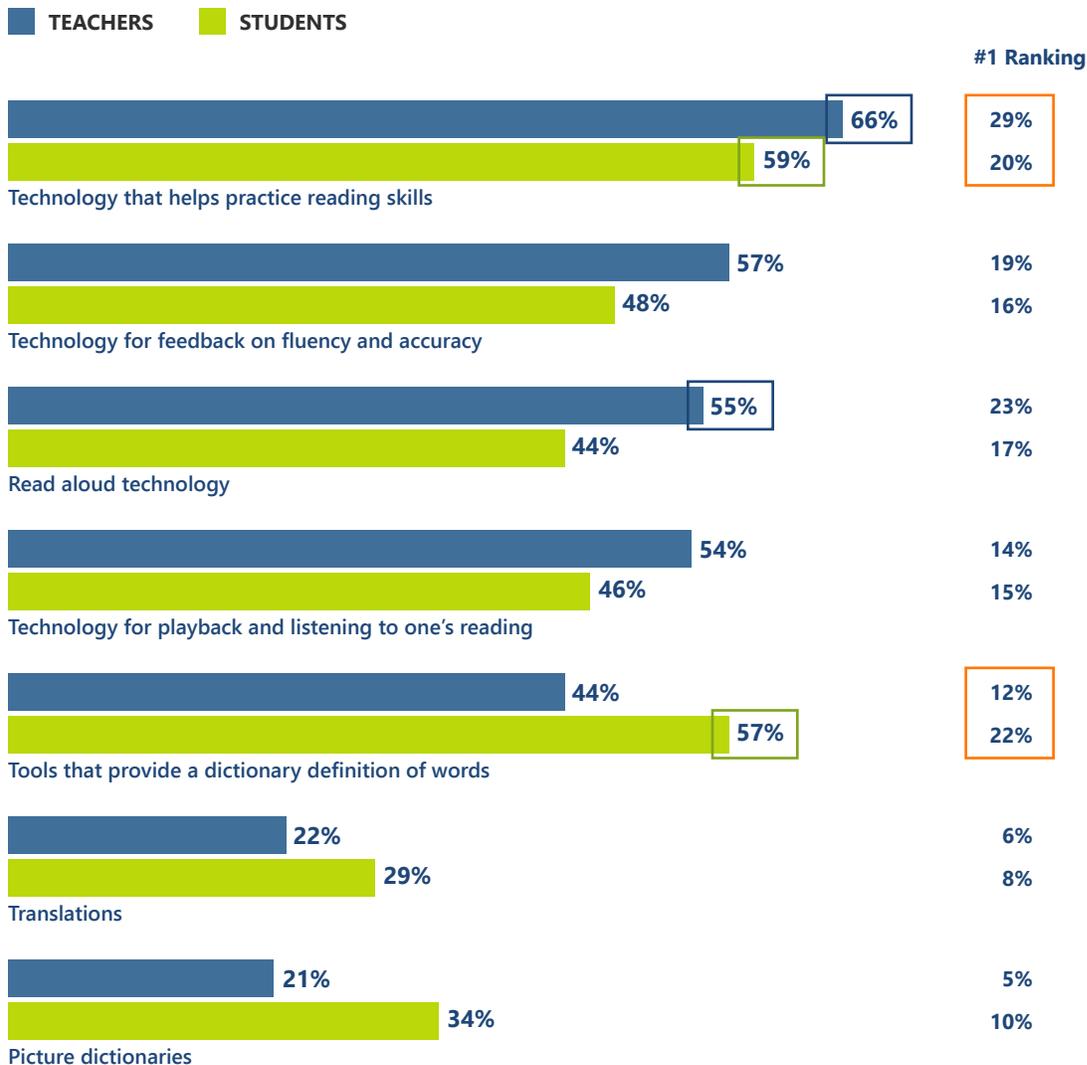
Q2b: When you think about learning online, do each of the following make online learning harder or easier?



Tech that helps practice reading skills is the most important type of tech for both students and teachers in terms of enhancing comprehension. The biggest teacher-student disconnect is regarding tech that provides a dictionary definition—this is the most often cited #1 ranking for students but only the 5th most cited #1 item by teachers.

Most important tech to enhance reading comprehension (TEACHERS & STUDENTS)—Top 3 rank

Q4b. Thinking about how technology may help you understand your reading, please rank the following tools as most important to least important.



SECTION

2 Face to face vs. distance learning insights



Students and teachers alike generally agree that a combination of tech at home and at school is ideal for most learning tasks—but important disconnects exist.

Students are far more in favor of using tech at home—across a wide range of activities—than teachers are. Key areas of disconnect include:

- reading & comprehending lessons
- planning & giving both individual and group presentations
- report writing
- making & sharing creative work
- project collaboration
- studying with classmates

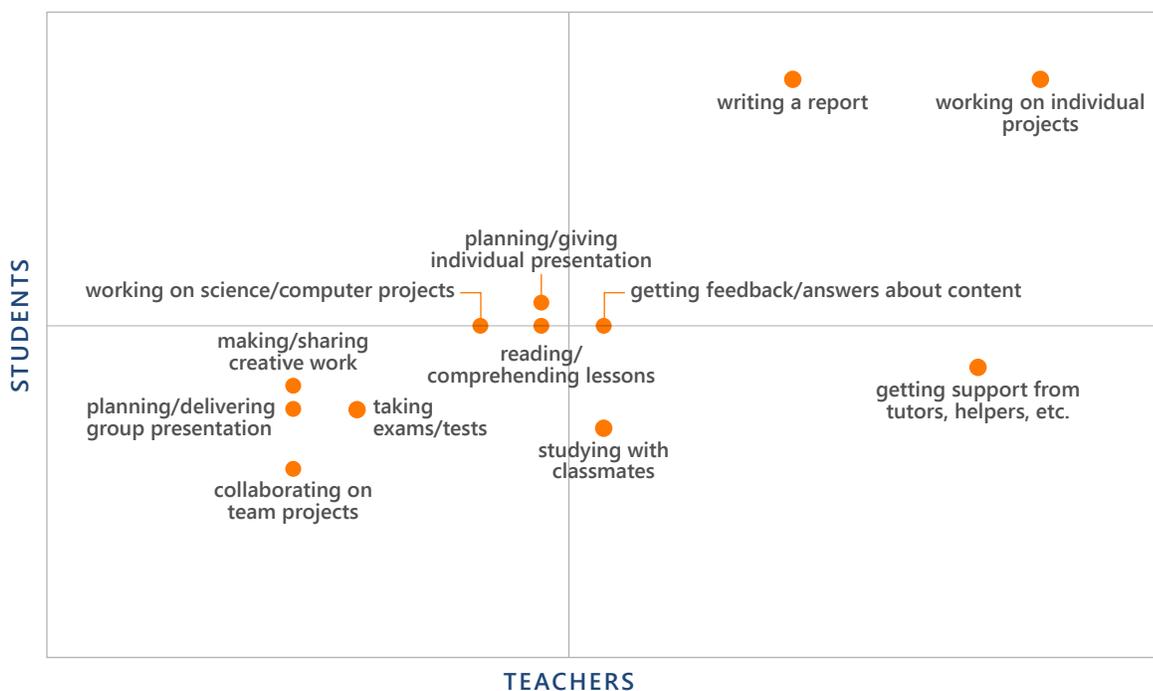
Teachers and students agree that writing reports and working on individual projects are great at home technology tasks.

However, teachers place extremely high importance in using technology at home for getting support from tutors, etc.—while students view this as a relatively ineffective way of using technology at home.

This disparity needs to be addressed – either massive efforts in connecting students directly with outside support structures, or by educating teachers that this simply is not working for students and to adjust their planning accordingly (a more likely scenario).

Using technology for tasks—AT HOME PREFERRED

Q3a/3b: Do you feel using technology for the following tasks is easier for you to complete in person (in a physical classroom), at home (remote learning), or a combination in a classroom and at home?



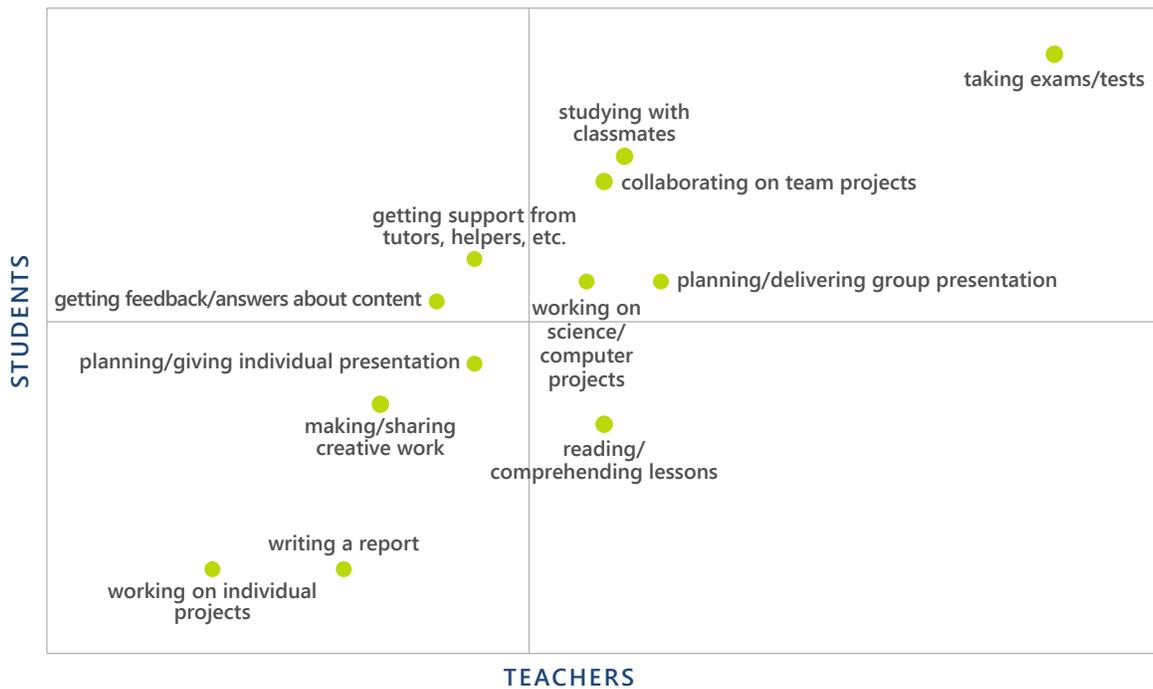
Teachers and students agree that taking exams/tests is a technology application that is ideally suited for usage at school.

Interestingly, studying with classmates is also considered a key at-school technology application.

Working on individual projects and writing reports are viewed as not good usages of technology at school—both of these applications are viewed by teachers and students alike as either done best at home or a combination of at home/ in school.

Using technology for tasks—AT SCHOOL PREFERRED

Q3a/3b: Do you feel using technology for the following tasks is easier for you to complete in person (in a physical classroom), at home (remote learning), or a combination in a classroom and at home?



3 Connectivity and learning

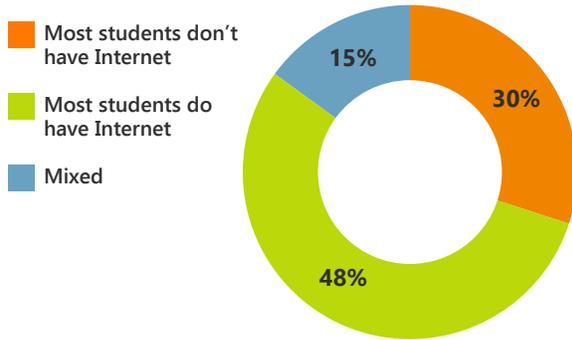


Teachers agree that students with reliable internet perform better. The need for a platform that works online & offline is critical because it ensures educational equity for those who don't have internet and allows students to work when/where they choose.

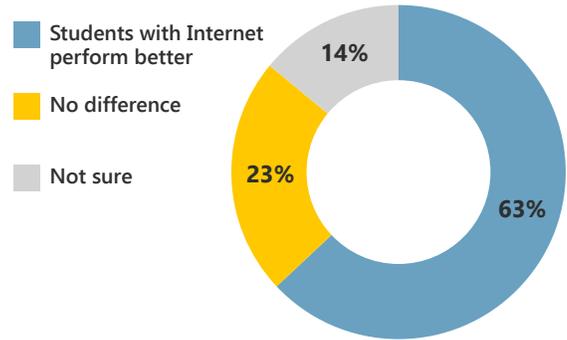
Connectivity and learning (TEACHERS)

Q5a/Q6a: Thinking about internet access, which of the following statements do you most agree with. Thinking of the following statements do you most agree with?

Students with Internet access



Internet and academic performance



Why an online/off-line platform matters

Q7a: Why does the ability for a 'platform/ tool' to work online and offline matter?

Why an online/off-line platform matters	No reliable Internet	Reliable Internet	Mixed
Make things fair for students who don't have consistent Internet	67%	67%	81%
Ensures that people can continue working when they choose	65%	76%	78%
Allows my students to get their work done without Internet connectivity	64%	73%	81%
All of the above	44%	63%	66%

SECTION

4 Distance learning & teachers' skills improvement

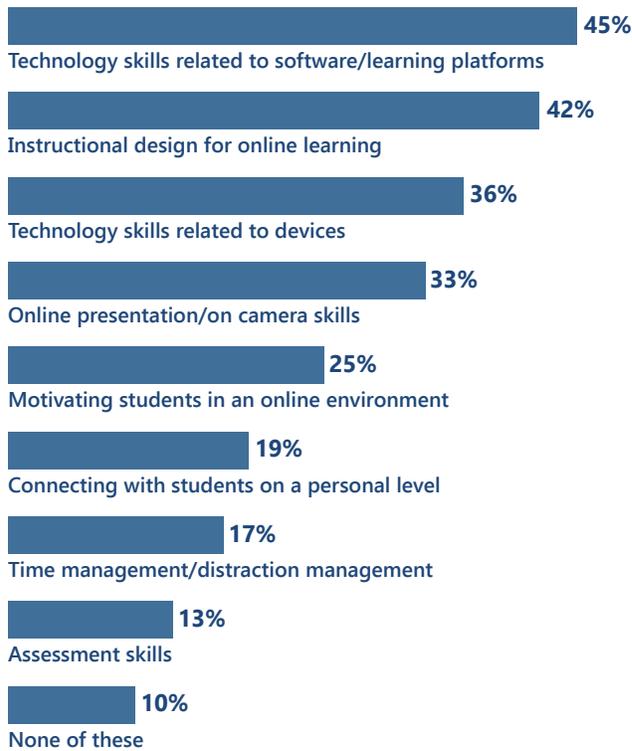


Distance learning has increased teacher skills most significantly in the following areas:

- using learning platforms
- instructional design for online learning
- technology skills related to devices, and
- online presentation skills

Teacher skills improvement due to distance learning (TEACHERS)

Q8a. What, if any, skills have you improved upon during remote/hybrid learning?



SECTION

5 Technology & equity in education

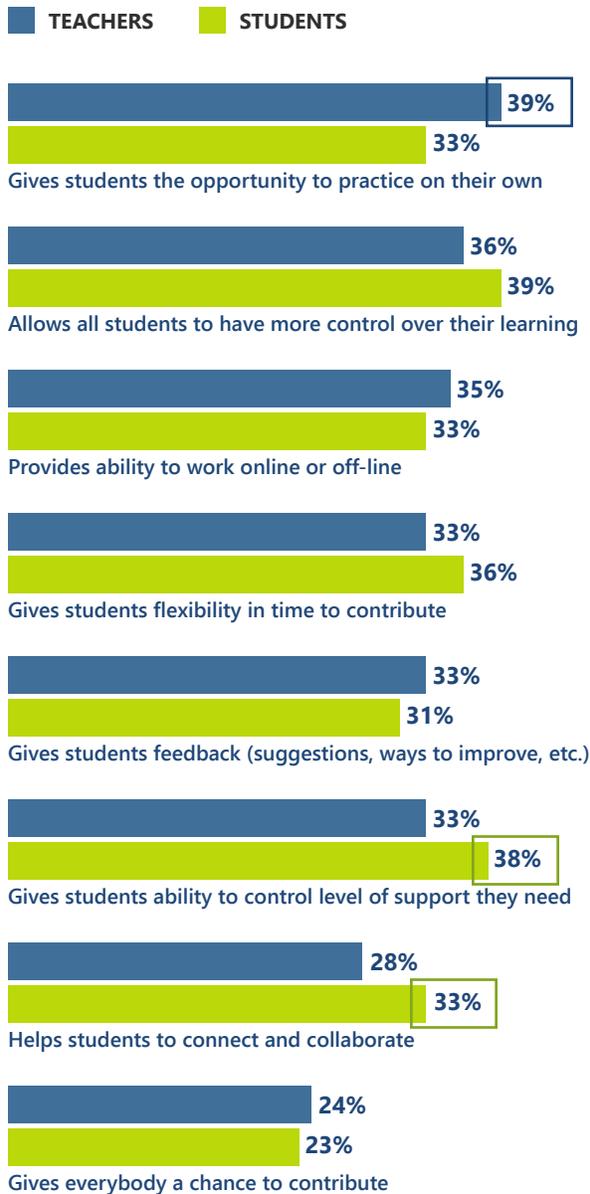


Teachers believe the key ways technology makes learning equitable include giving students the opportunity to practice on their own, allowing students to have more control, and providing the ability to work both on and offline.

While student priorities are similar, students also call out having the ability to control the level of support needed and flexibility in terms of time to contribute as key ways technology can make learning equitable for all.

How technology can make learning equitable (TEACHERS & STUDENTS)

Q9: How can technology make learning fair for everyone?



Resources

For more information and insights into how technology continues to transform k-12 classrooms, please see the Accelerate Learning kits on the K12Blueprint [Learning Next](https://www.k12blueprint.com/learning-next) page: <https://www.k12blueprint.com/learning-next>

Visit our main [education resources](https://www.microsoft.com/education) page: <https://www.microsoft.com/education>

