

Jabra GN



REINVENTING THE LEARNING EXPERIENCE WITH TECHNOLOGY

Creating the flexible classroom of the future

INTRODUCTION

Classrooms, redefined

Teachers and students are heading back to a hybrid classroom enabled by technology and defined by flexibility.

Over the past 18 months, the learning landscape has changed dramatically. Because of the Covid-19 pandemic, teaching in the classroom was put on hold, but educating students wasn't. Parents, teachers, and students found themselves having to rapidly adjust to these major changes. As the world turned to technology to create virtual classrooms and hybrid learning setups, we saw some incredibly innovative and creative solutions. But this new environment also brought a host of new challenges.

Schools have had to re-examine how they bring educational continuity and equity to life using innovative technologies. Education, along with almost all areas of our lives, became a hybrid of traditional learning and new models. Now, online learning is a staple of many schools' curriculums and in the last year and a half, we've witnessed a massive change in the amount of technology students can access.

Navigating the shift to virtual

In the past two years, we've seen pivotal shifts in the way we teach and learn. In the US prior to the pandemic, only 1% of students were attending online schools and only 10% taking online courses. At the peak of the pandemic, however, about 80% of teachers were teaching remotely.¹ And because of this shift to hybrid learning, up to three-and-a-half hours of face time were lost per day, making it very difficult to keep students engaged.²

In K-12, 92% of parents report that their children's school closed for 2 months or more and only 56% were satisfied with the digital learning resources offered.³ Similarly, in higher education, many institutions lacked the digital infrastructure they needed to make remote learning effective. In one survey of 3,089 undergraduates, 78% of respondents felt that their online class experience was unengaging.⁴

As we return the classroom, many new digital learning solutions are coming with us in our backpacks, as schools realize the major benefits of integrating digital learning solutions in the classroom. With evolving intelligence, AI and digital learning practices are serving as a personal assistant for teachers and are facilitating enhanced teaching and learning capabilities. We now need to ask ourselves how we can use the lessons learned during the pandemic to reinvent the education experience to increase flexibility and personalize learning for students of all ages. Let's understand the levers of the past 18 months in this shift and the opportunity ahead for the future of technology-enhanced learning.

¹ John Watson, Interview with Jabra, 2020

² Jabra Educators At Home Survey, April 2020

³ Deloitte Back-to-School Survey, 2021

⁴ Adrift in a Pandemic: 3,089 Students Finds Uncertainty About Returning to College



TECH CHALLENGES

The tech challenges facing hybrid education

Tech can open up new opportunities for education, but only if we overcome the practical challenges experienced by both teachers and students.

One of the biggest challenges to overcome during the shift to hybrid learning was the discrepancy in the level of technology that schools and students had access to. This was evident across all different levels of education, from universities to K-12 and even pre-K. But there were also discrepancies within each of these sub-groups. For example, one school district may have a really robust learning management system, while another at the same level was still teaching primarily in-person. Even within a school itself, one teacher might be more technologically minded and able to use tools more effectively than another. In many ways, the when, where, and who that constitute a learning experience have completely shifted over the past year. The pandemic has forced changes at every level.

Teachers have taken on new responsibilities

From a teacher's perspective, one of the biggest challenges has been the ability to connect with their students. Naturally, as a result of the shift to remote learning, teachers have spent on average 87% more time troubleshooting problems with technology, contributing to a 71% decrease in time spent on actual teaching.⁵ Essentially, most teachers were forced to also become IT experts. Balancing these new responsibilities with traditional teaching duties, teachers needed to conduct their lessons over videoconferencing platforms in ways which would still engage and connect with their students.

As the 2020 school year began, teachers were largely limited to their laptop camera. In fact, 88% of teachers were simply using their laptop's built-in camera.⁶ And additionally, they didn't have the ability to leverage the tools that they had in the physical classroom to better engage with their students, such as a whiteboard or projector, which help to provide an effective and efficient learning experience. For teachers, there was a clear challenge in simply connecting with students and conveying information effectively. And as a result, students – 44% of whom have not been satisfied with the audio or video quality of their remote learning sessions – have had a difficult time maintaining focus.⁷

Distractions, focus, and student engagement

When students had to learn from home, they were taken out of a controlled classroom environment and put in a variable environment with siblings, parents working from home, barking dogs, ringing doorbells, and countless other distractions. These noisier, less predictable environments contributed to a diminished ability to stay focused on what teachers were instructing. In fact, 79% of teachers think their students' ability to focus had gotten worse with school-related tasks during the lockdown.⁸ In establishing effective education models for the future, we will need to look at how technology can positively impact focus, engagement, and student success regardless of location.

⁵ How COVID-19 Is Shaping Tech Use ^{6,7} Jabra Educators at Home Survey, April 2020

⁸ Will Months of Remote Learning Worsen Students' Attention Problems?

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For the past year, teachers have had to split their time between teaching and troubleshooting tech issues. Despite these challenges, however, they rose to the occasion and now have a new set of digital skills to further improve the learning experience. Now, to enable them to continue doing what they do best, it is crucial that they have access to technologies that enhance the experience for both themselves and for students.

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Maya Tuyen Le,
Practice Lead Education, Jabra

LEARNING MODELS

Learning models as solutions

2020 and 2021 will forever be marked as years of major change and experimentation for education. Two of the core elements of learning that have been disrupted by the pandemic relate to when and where we learn. Amongst educators, these are commonly referred to as synchronous or asynchronous learning and in-person or remote learning.

The 'when' of education

After well over a year of pandemic-style work and learning, many are well aware of the difference between in-person and remote: you're either physically there, or you're not. But **when** we do our work or learning has also taken on entirely new dimensions during the pandemic. "Synchronous" and "asynchronous" simply mean "at the same time" and "not at the same time," respectively. Synchronous learning is when teachers are giving a lesson to a student in real-time. Asynchronous learning, on the other hand, has traditionally taken the form of homework and reading assignments, where the student is acquiring knowledge in her own time, without the direct instruction of a teacher.

Synchronous learning has long been an in-person activity; without advanced technologies to connect people across spaces in real-time, they had to physically be together. However, this has also been seen as its major advantage. The logic went that, when gathered together, teachers can better curate the depth of instruction, manage changes to curriculum and communication in real-time, and better understand the challenges of their students. But now, new possibilities are emerging which allow synchronous education to happen not only in the physical classroom, but also in the virtual one.

A recent study comparing synchronous online education to live physical education showed that when learning from a virtual teacher trained in live video instruction, high school students in the US actually scored 6% higher than the national average.⁹ And with 87% of teachers saying that their ability to use technology has increased since the start of the pandemic, the future landscape of virtual synchronous learning looks promising.¹⁰

Similarly, asynchronous learning activities have changed during the pandemic. With a greater degree of tools at their disposal, both teachers and students now have expanded learning opportunities outside of the real-time activities that take place. Because of technology, no longer do these "when's" need to be bound to a specific place. Let's take a look at how with the proper technologies, these models can serve as a catalyst of innovation and flexibility in our approach to all levels of education.



In-person

- › Distraction-free environment
- › Hands-on learning



Remote

- › Flexibility and safety
- › Affordability
- › Increased networking
- › Good option for busy parents and workers



Synchronous

- › Classroom engagement
- › Dynamic learning
- › Instructional depth



Asynchronous

- › Flexibility
- › Pacing
- › Affordability

⁹ New Study Proves Effectiveness of Synchronous Online Learning

¹⁰ How COVID-19 Is Shaping Tech Use

LEARNING MODELS

Enabling flexibility in education

For either of these models to reach their full potential, they need to be accompanied by technologies that give maximum flexibility to students, teachers, and parents. Even if all students return to the classroom, equipping those rooms with video technology will allow educators to link their synchronous and asynchronous teaching activities. With video recording functions on platforms like Teams, Zoom, or Google Meet, students will be able to return to a lecture for clarification, even after school hours. This means no longer needing to rely on hastily scribbled notes or second-hand verification from a classmate. Because the class is no longer taking place in real-time and becomes accessible on demand, this would be an asynchronous activity. This is also crucial if a student falls ill. Typically, an absence from school simply means missing that day's class. But by recording all lessons, teachers can make sure that no students fall behind and that everyone is getting equal access to knowledge and instruction.

Flexibility meets affordability

“One of the principle advantages of asynchronous online learning,” write education experts Diana Anthony and Marshall Thomas, “is that it offers more flexibility, allowing learners to set their own schedule and work at their own pace.”¹¹ In this light, asynchronous models facilitated through recorded lectures have also had a major impact on continuing education for adult learners, as they no longer have the constraints of a set timetable or a tuition that was tied to a physical university. Now available are massive online open courses (MOOCs), which allow people to afford many more education opportunities independent of their schedules, locations, and incomes. With on-demand classes, adult learners can get an education when and where it is convenient for them, with more accessible tuition costs.

¹¹ Asynchronous Learning or Live Lessons? Which One Works Better for Me?



SYNCHRONOUS

Traditional classroom teaching and group work

Virtual online class

ASYNCHRONOUS

Individual work such as math exercises, language training, and reading

Homework & preparation
Self-paced online course

LEARNING MODELS

Elevating and personalizing student development

Technology also opens up new possibilities for teachers to personalize teaching and track student development along various metrics. Microsoft Teams, for example, has developed the Reading Progress program, which analyzes audio and video recordings of students reading passages selected by the teacher. The data generated by programs like this allow teachers to better understand the challenges at both an individual student and class-wide level by tracking accuracy rate, correct words per minute, mispronunciations, omissions, and many more. And since students and teachers can record and review the passages when they have time to do so, this frees up synchronous learning time to cover more difficult material that may require real-time instruction.

In this past year, education has undergone some major disruptions, causing many uncertainties amongst all parties involved. But one thing is certain: technology is opening a variety of new combinations of in-person, remote, synchronous, and asynchronous learning that, if leveraged correctly, will boost the success of both students and teachers and help shape a new way of learning fit for a hyper-connected, hybrid world.

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We're only at the beginning of what data and AI will offer to student development. With AI technology, content is adaptive to each student and learning becomes more personalized and engaging. Educators also benefit from the technology, as learning analytics can help them easily identify learning gaps and what to focus on during the instruction time to help students advance more quickly through difficult topics.

Combining AI technology with the right tools to help learners focus on the content can lead to more purposeful instruction and improved student outcomes.

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Maya Tuyen Le,
Practice Lead Education, Jabra

CLASSROOM TECHNOLOGY

The technologies needed for effective hybrid learning

Reinventing the classroom requires many considerations, but perhaps the most important is enabling teachers to focus on the teaching, not the tech.

Captivating the classroom requires new tools and powerful platforms that work together to unlock new benefits that fundamentally change the way in which education unfolds. 73% of teachers believe that 1:1 computing (one device per student) would make high-quality teaching and learning easier.¹² But bringing those laptops and tablets to life will require high-quality audio and intelligent video devices. The link between these tools will be one of the key enablers of the learning experience in the years to come. Building on innovations in consumer audio, conference call technology, and leveraging the latest in edge AI, these peripheral devices will continue to become increasingly interwoven into the way we approach education.

High-quality audio

Audio is essential to a great learning experience. You have to be able to hear in order to teach and to understand the lessons. The American Speech-Language-Hearing Association has warned that poor classroom acoustics can cause problems with how a student understands speech, reads, spells, behaves, and concentrates.¹³ And to a certain extent, these can be controlled in physical classroom environments through classroom redesign measures. But with increasingly distributed learning models, the environments in which students “attend” class are far more varied, and any physical redesigns of those environments would fall outside of the reach of the school or district.

This is exactly where audio technology can serve as an innovative solution. Headsets that feature passive or active noise cancellation technology remove noise from the surrounding environment so that students and teachers can hear more clearly, regardless of where they are. Teachers can be more confident in student learning and comprehension if they know that everyone has access to high-quality noise cancelling audio. Similarly, for the many families that share a home-working space, this allows everyone to focus on the work they are doing without being distracted by others. In other words, this means that a mother’s business meeting won’t interfere with her child’s book report presentation.

Similarly, noise-cancelling microphones allow everyone to be heard clearly. Without high-quality sound pick-up, the increasingly ubiquitous student development insights that platforms deliver will not be accurate. This is an especially important consideration for school district IT procurement specialists and systems integrators, who need to ensure that all programs and tools are working to maximize the effectiveness of one another.

Finally, in order to effectively record and revisit lessons and lectures, in-room audio quality must be on par with personal audio solutions. To provide this level of sound, advanced conference call technology presents a major opportunity for educators.

¹² How COVID-19 Is Shaping Tech Use



CLASSROOM TECHNOLOGY

Intelligent video

When students and teachers were sent to learn and instruct from home, many experienced challenges with video. Of course, ensuring a reliable internet connection for all students was one major roadblock; in many places, it was simply an infrastructural improbability. But once connected, low-quality video can still fatigue students and teachers and reduce engagement. Whether squinting to see a grainy math equation on a white board or straining to see one of your 24 classmates' heads crammed into a small screen, poor video quality inhibits learning efficiency.

Intelligent video – that is, video technology powered by artificial intelligence (AI) – can solve many of these issues. In addition to high video quality, they have many features that provide a seamless learning experience in both the virtual and physical classroom. With Intelligent Zoom and Virtual Director, intelligent video solutions can frame the image solely on the speaker so that it's optimized for the viewer. Similarly, edge AI enables whiteboarding features to automatically capture and display the whiteboard in a simultaneous dual stream, so that any students joining in remotely can see in real-time just as if they were in the room. And with picture-in-picture – a function which can stream a smaller live video within the main stream of the camera – a biology teacher can dissect a frog and explain to the students what she is doing without needing to constantly readjust the camera.

Some school districts are already seeing the benefits of the video-enabled classroom. In Florida, the Sarasota County School District has adopted a fully-hybrid model where some students are present in the classrooms, while others are attending the classes online. To ensure continuity through this major change, teachers and IT teams recognized a need for technology that enabled educators to bring the classroom environment online. In response, the school district installed Jabra PanaCast cameras and Speak 510 speakerphones in 2,500 classrooms across the district – from pre-K through 12th grade and technical college. Because of the flexibility this solution offers, this tech-enabled hybrid learning environment will be a major benefit to education in the years to come, regardless of any major changes to learning.

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When you equip classrooms with intelligent video conferencing systems, you have the opportunity to elevate that hybrid education experience to a new level. Tools like Intelligent Zoom and Virtual Director build on insights from film makers – people who understand the psychology of how we as humans enjoy consuming information – to allow all participants to follow the flow of conversation in a very natural and immersive way without having to toggle any controls or tools. This reduces fatigue and creates a more life-like user experience, thus boosting engagement and focus.

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*Aurangzeb Khan, SVP,
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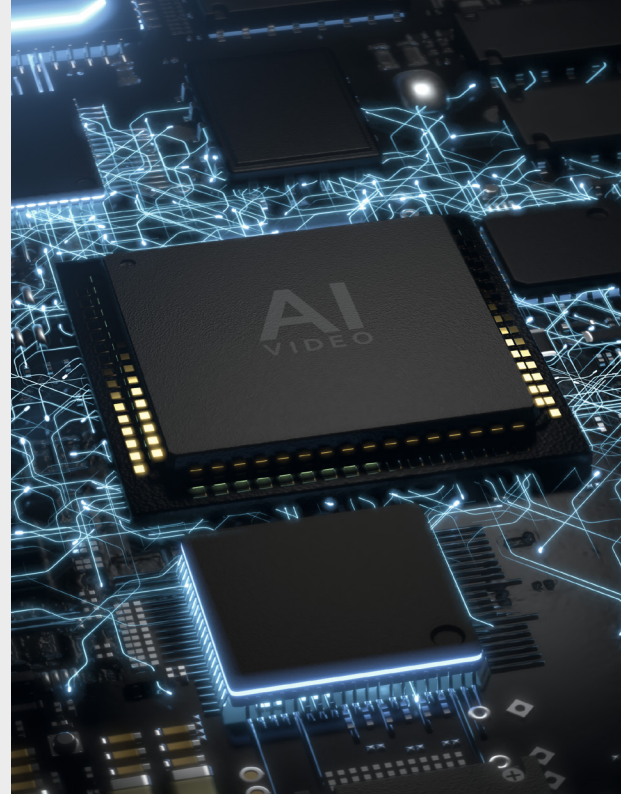
CONCLUSION

Securing the future of learning

Regardless of where students will be learning in the future, technology will connect them to a personalized and immersive education experience.

There are many benefits to embracing a more flexible and tech-enabled approach to education at all levels. In K-12, the increased capabilities of schools to reach students remotely when necessary – whether for sick days or snow days – will allow all students to stay on a predictable and equitable development path. Similarly, audio and video enabled by AI will allow teachers to better tailor the learning experience both to the individual student and to the class as a whole. And in adult learning, education paths based on online asynchronous learning models will allow adults to continue in their pursuit of knowledge in an accessible and affordable way.

There are many angles to cover in the debate on effective hybrid education models, such as age, budgets, and socioeconomic disparities. But for any level from kindergarten to higher education, everyone from legislators and district administrators to students, parents, and teachers should be looking towards technology to see which tools and solutions are best tailored to their realities. By understanding how technology is linked to how we organize and structure the education experience, we can create learning environments that serve the best interests of students by bringing out the best in both them and in their teachers.





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