



## THE OPERATIONAL AND TECHNOLOGICAL CHALLENGES OF GOING BACK TO SCHOOL

## Back to School - Operational Challenges with Technological Solutions

While the pandemic has upended the lives of most, educational institutions have experienced more disruption than many. As an IT service provider, we at Infosys have had the opportunity to take a closer look at some of the challenges experienced by the education industry and identify ways to address them. We partnered with several education institutions, helped them scale operations and develop solutions that meet the needs of now and the future. The experience has taught us that the education industry can benefit tremendously from cutting-edge collaborative technology and technology service providers have a large opportunity to collaborate and innovate for the industry.

Here are some of the challenges we saw and the insights we drew:

### Operational Challenges

#### Digital disparity

The digital divide is one of the biggest challenges that schools currently need to address. It has been found that students do not have equal access to internet and

not all own a connectable device. This disparity is especially pronounced among the disadvantaged demographic. School districts must find ways to enable students,

equally. Some of them have partnered with telecommunication companies and device manufacturers to deliver these facilities on short notice.



## Digital Fluency

As remote and blended learning becomes the new norm, students, parents, caretakers, teachers, and staff need to increase their digital fluency, and leverage digital tools and platforms. School administrations should plan training sessions for teachers and staff to enable the effective use of remote/blended learning tools that are designed and deployed using increasingly sophisticated technologies. Parents and guardians of pre and primary school children should also be trained to support their children at home while using computers, laptops, or smartphones.

## Student Engagement and Learning Effectiveness

When students connect to their class remotely, teachers need to ensure effective engagement and learning. Pedagogical changes powered by technology are critical to increase student participation and collaboration in the class. Immersive technologies expand on these developments and require that physical spaces be designed for different types of activities. AR and VR activities can range from sitting in a swivel chair to standing at a table displaying holographic content, and from navigating a complex virtual space to interacting with digital objects. This engaging way of learning allows students to work on real problems within virtual, augmented environments, answer quiz questions in real-time, and learn collaboratively.

## Assessment Integrity

Institutions across the world are rapidly transitioning to fully remote classes, with assignments and online exams that students can take from home. Protecting the exam content and ensuring assessment integrity is important. Technological solutions can prevent digital cheating and automate exam proctoring.

## Enrollment

Enrollment counts have been critical for public schools. The entire life cycle of enrollment from registration campaigns to the scheduling of classes involves multiple manual processes that need to be automated and brought onto the software application being used by the school. This will retain enrollment counts.

## School meals

Some children depend on schools for meals. But, how do districts ensure that this service continues with students learning from home? Schools need to identify efficient ways to form distribution centers and direct students to them. However, the data required to improve the efficiency of processes is not readily available. This is where technology can aid and deliver innovative solutions. While a student's address may be mapped to their school, it may not be mapped to the hub. A better way would be to map students to a distribution center based on their residential address.

## School Operations

A lot of administration in a school is manual. Parents reach out to schools directly instead of the central office for a myriad of reasons. While some of these operations can be redirected to the central office, others can be responded to through a digital platform. Parents can be given access to a portal that

allows them to upload digital documents. And schools should be able to verify and process these documents, digitally. Another touchpoint between schools and parents is during the disbursal of report cards of elementary students. Some elementary schools hand these report cards directly to the students while others print and mail them to the students' home. With COVID-19, this process has become a challenge. Schools do not have the required staff to perform this operation on location. As a remedy, vendors have stepped in to help with the mailing of report cards.

Some of the processes implemented to tide over COVID-19 will evolve into long-term solutions. The dependency on help desk operations has risen significantly in the absence of physical workers at schools. The number of calls to the schools' help desk has gone up, expectedly. To mitigate costs, schools could adopt solutions such as self-help portals or chatbots. Infosys is working with multiple clients to implement such a solution.

## Inadequacy of software

Another operational challenge for education institutions is the inadequate access to software tools that cover the entire lifecycle of a student- from enrollment to instruction, assessment, on to graduation. In cases where appropriate tools have been procured, students, teachers, and parents have been found to be insufficiently trained to use them. Schools now conduct orientation and training sessions for groups of users to acquaint them with the look and feel of these software applications.

Districts that are ahead of the curve, managed to make key processes like enrollment and document submission largely digital.

## Technological Solutions

### Feature gaps

As schools were unprepared for remote learning, many platforms and applications have evolved with inherent inefficiencies and feature gaps. The current pandemic simply brought these existing gaps to the surface. A couple of examples of such missing features is in the enrollment and attendance process.

Many SIS systems are built for usage in physical classrooms. While government bodies review policies to include distance learning scenarios, SIS platforms need to have features that cater to these policies. A teacher is expected to ensure that a student is present in the classroom before submitting the daily attendance sheet. But how do they do this when the classroom is online? The solution lies in reviewing online usage of learning platforms or presence in a virtual classroom platform (like Meridian, Zoom, Teams).

Additionally, should the platform differentiate between physical attendance and remote learning attendance? This depends on how each district wants to define the process based on applicable rules. Infosys has experience implementing attendance related solutions for some of our customers.

### Security considerations

Security is a primary concern in a digital scenario - be it network security, asset management, endpoint protection, data security, or others. There have been a few instances of large school districts experiencing issues ranging from data breaches and denial of service attacks, to issues like Zoom bombing.

School districts are governed by stringent security norms like FERMA, HIPPA, and other State-specific student privacy laws. These also apply to the consulting and technology partners of the schools.

Infosys has put in place cybersecurity protocols that have a zero-tolerance policy for any violations. Best practices like training sessions and continuous awareness campaigns run by the cybersecurity team have enabled our clients to tighten security.

### Too many applications and platforms

Students and teachers hop between applications as all the required features do not exist on a single platform. They switch between applications for instructions, assessments, attendance, and live sessions.

Integration between multiple tools can be a problem and adopting multiple products results in high license costs. The need is to create a unified product that brings together teachers, students, and processes onto a single platform. Infosys Wingspan and Meridian can help here.



## Adoption of cloud technologies

Cloud-based platforms and technologies offer inherent security and scalability. A platform on traditional on-premise infrastructure might struggle to scale at the same speed.

## Data/analytics

One overarching challenge commonly faced by schools is the delivery of the right data for the right people. For instance, a district leader may need data to identify problems and to assess whether appropriate steps have been taken towards mitigation.

Common data needs that we have observed are -

- To understand how students are attending distance learning classes. Are they accessing their LMS platforms? How much time do they spend on these platforms? This information leads to a better understanding of attendance metrics and truancy reports.
- Are the devices provided by the district effectively utilized?
- Are students falling behind in the new format?
- How are different student demographics performing?
- Are there metrics to benchmark against pre-COVID performance?
- Do we know which students live in the same household?

## Key areas that require data insights



## Personnel

Existing personnel in schools, central offices, and students need to be trained in new processes and systems so that they can access data accurately and review the insights they need.

## Budget

Addressing the challenges of remote learning has meant an increase in budget. Innovative partnerships with corporate and public enterprises have helped solve some problems and ease the budget burden. The state is providing relief in some instances. Institutions have leveraged data to relooked at discretionary spending and prioritized some projects over others.

## COVID Testing and Tracing

As institutions start planning to return to physical classrooms either completely or in a hybrid model, they will have to consider adopting COVID-19 testing and tracing mechanisms. It will become a priority to have controls in the eventuality that some test positive for the virus. Without

an effective testing and tracing process, schools that reopen physically may end up with a spurt in positive cases and need to close again. This also applies to any work location such as a central office, or a local district office. To stay ahead of the curve, some of our clients are collaborated with leading institutions to develop a model for testing and tracing.

## The need to put in place 'Return to Workplace' Solutions

Infosys has launched its enterprise-grade Return to Workplace solutions to help clients including schools ensure the safety and wellness of their students, teaching faculty, and employees as they adapt to new ways of working. These solutions can be easily implemented on school campuses large and small.

Infosys offers a wide range of cloud and edge-based solutions for many of the current challenges being faced by schools. Our intelligent collaboration platform Wingspan provides a unified collaboration experience, wherein users

can work seamlessly across video/audio streams, screen sharing, polls, quizzes, shared working space, events, moderated discussions, etc. It allows participants to share micro feedback on the session in progress and the nudge framework helps drive active contribution and participation from attendees. This increases student engagement in the remote learning scenario.

Infosys Assessment Platform assists teachers to conduct live quizzes, surveys, polls, contests, assessments for their students in a simple and secure environment with video proctoring. The easy to use assessment platform ensures assessment integrity and enhances student confidence in the assessment system. It also grants access to live and historic telemetry from the school district and provides meaningful, actionable insights for students and teachers. This, when coupled with the knowledge graph and digital brain enables faster connections and collaborative activities by suggesting and recommending actions.





## Infosys LE Suite for Educational Institutions – Wingspan (LxP)

 <p>Cloud First, Mobile First Learning Experience Platform</p>	 <p>Guided Learning</p>	 <p>Assessments Platform</p>	 <p>Certifications &amp; Virtual proctoring</p>	 <p>Knowledge discovery &amp; management</p>
 <p>Heart-beat Telemetry Analytics &amp; Dashboards</p>	 <p>Authoring Platform - Crowdsource content</p>	 <p>Personalization &amp; Recommendations driven by AI/ML and Faculty</p>	 <p>Technology Practice labs</p>	 <p>Smart Scheduler &amp; Learning Management</p>
 <p>Learning Goals &amp; Playlists including Tracking</p>	 <p>Gamification Platform</p>	 <p>Content Player and Rule based Adaptive learning</p>	 <p>Multi-language support</p>	 <p>Seamless API Integrations with third party systems</p>

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