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TECHNOLOGY

Can technology save higher education from COVID-19?

OVID-19 has changed lives around the world, from the way people work, learn/teach, and deliver/receive education. At HMC Architects, we are exploring the pandemic as an opportunity to learn, reinvent, and most importantly help our clients amid this crisis.

As part of this ongoing research effort, we are committed to sharing our findings with the industry on five main areas of Technology, Adaptability and Flexibility, Regulatory/ Budgetary/Institutional Impacts, Space Needs Restructuring, and Impact to Wellness/ Mental Health. In this article, we are discussing technology as it relates to the higher education sector.

METHOD

A group of representatives including higher education clients, students, contractors, and consultants were invited to participate in individual phone interviews to share their insight and understanding of short-and long-term impacts of COVID-19 on facility design and operation for college campuses and universities. The interview discussions focused on distance learning and its relationship to technology.

WERE WE READY FOR DISTANCE LEARNING?

The answer to this question varies by institution, but the overall takeaway is

that nobody was ready to move to 100 percent distance learning when the stay-athome orders were issued. Most traditional institutions have a distance learning or distance education program in place, usually administered through a content management portal such as Canvas. However, those programs made up a small portion of the overall curriculum prior to COVID-19 and were not ready to handle a full digital migration. Instructors familiar with physical classrooms and traditional teaching methods struggled to adapt to the digital realm on such short notice. There was frustration with the new protocols from both students and instructors and the consensus was that digital instruction needs to be improved for it to be successful.

The biggest struggle for students was access to technology. Many institutions were able to loan a limited quantity of computers to students in need, but the demand surpassed supply. Even more of an issue than hardware was access to adequate internet, thus exposing financial inequities. Many students have poor or no internet service, or they do not have a place at home that is conducive to online learning. Even visiting public places with Wi-Fi proved problematic as spaces like coffee shops and libraries were closed. These struggles led to high attrition rates among students at some institutions.



Mt. San Antonio College, Design Technology Center, HMC Architects

FUTURE IMPROVEMENTS NEEDED FOR TECHNOLOGY

Most institutions noted that a more robust IT infrastructure was needed to advance distance learning and that there needs to be more consistency across their platforms. A strong content management portal should be developed that allows for ease of use by both students and faculty. That portal, and the infrastructure that supports it, should be tested regularly to solve problems before they affect instruction. Developing a virtual tech helpline for students and staff is another item seen as key to making the system run efficiently.

Beyond the campus infrastructure, the issue of student access to technology needs to be addressed. This is a much more complex problem for institutions to tackle and may require much more creative solutions. Simply providing hardware to students doesn't solve the problem of poor internet or access to workspace. One solution may be to reconsider underutilized space on campus by creating dedicated, socially distanced space for students to use while taking online classes.

In general, students' views on the effectiveness of the online learning content tended to land on the negative side. This may be due to time constraints in preparing/developing the content on such short notice. Prerecorded content was seen in a negative light due to the lack of interaction between student and instructor. Live content was looked upon more favorably, and even provided some benefits over traditional learning. For example, the chat function in Zoom facilitates what one administrator refers to as "keyboard courage." Students who may be hesitant to speak up or get engaged find it easier to do so via chat during a Zoom call. This preference for live content may however require changes in the facilities themselves to facilitate it. Instructors cannot effectively host live online classes from their homes. Physical infrastructure, perhaps in the form of recording studios or classrooms, would need to be provided to give instructors the resources they need to create engaging, collaborative classes. Lastly, Zoom and IT administrators struggled for a time to stay one step ahead of the disruptive hackers who found new ways create havoc and infiltrated group learning sessions.

The final technology piece requiring attention is the issue of social engagement and interaction which is so difficult to foster digitally. A large part of the collegiate experience is the interaction that takes place on campus, and that tends to be lost in the virtual realm. This issue was raised many times in our interviews. While Zoom facilitates a certain level of interaction, it fails to mimic the in-person experience. There were few solutions on how to address this issue beyond working to create a rich online environment. This will certainly need to be researched if distance learning becomes a permanent part of the college experience.

HAS THE PERCEIVED VALUE OF DISTANCE LEARNING CHANGED?

The overwhelming answer to this question was yes. Where there was hesitation before related to the unknowns or remote learning,



There's no app for this.

Joel Peterson

DIRECTOR OF FACILITIES, GLENDALE COMMUNITY COLLEGE



being forced to implement it has shown that it can be done. However, not one person interviewed believed that 100 percent distance learning would become the new normal. Some classes translate well to a remote environment, large lecture classes for example. Some classes however require hands-on learning with specialized equipment, and those will likely never make the transition to virtual. There is also a question around instructors and their willingness to teach virtually. Many institutions saw push back from educators who do not believe that distance learning can be effective. It may be that online instruction requires a slightly different skill set and that training will need to be provided to make these instructors feel comfortable with the transition, as well as a blended model for in situ learnina.

According to one interviewee, studies show that most students are planning on taking at least some of their classes online for the foreseeable future. Benefits such as more flexibility in schedules and less commute time are appealing to students. Administrators are also finding that additional online courses may be a way to generate additional revenue for their institutions. And it was noted that bringing in guest lecturers, or experts from far away, becomes much easier to do in a digital environment.

SUMMARY

While every institution has utilized technology to continue operating during this pandemic, it is clear that significant progress needs to be made to make distance learning equal to the traditional methods. Upgrading technology infrastructure and providing equitable access to technology for students are the main hurdles that need to be overcome for distance learning to be effective on a larger scale. As one IT engineer put it, "not having a vision is dangerous." No one was expecting this pandemic, and it's clear that our higher education system was not fully ready to deal with the ramifications of virtual instruction. Even if everything returns to pre-COVID normal, all signs point to a real possibility of future pandemics creating the same disruptions to our education system. Now is the time for institutions to start planning and make changes to better prepare our higher education delivery model for what lies ahead.

For additional questions, contact:

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