



The Digital Campus Starts with Cloud Communications

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Topic: Higher Education

Issue: How will colleges and universities leverage cloud communications to become more digital?

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SUMMARY

The transformation of higher education is underway. With the need for faster and more socially collaborative interaction for students, staff, and faculty, higher education has embarked, albeit slowly, into the digital transformation age. By retiring outdated communication modalities and introducing the capabilities and benefits of cloud-based communications and collaboration platforms, higher education has the opportunity to transform disconnected groups and siloed communications and create truly innovative digital campuses.

Executive Summary: The Digital Campus Will Be Powered by Cloud Communications

Just like commercial enterprises, colleges and universities are evolving and becoming more digital. A rapid shift to online learning has occurred overnight, with sheer need superseding the possibility of traditional change management. Digital campus transformation was initially driven, in part, by the desire of universities to offer more collaborative and interactive services to students. To accomplish this, and to compete in a slowing enrollment market, higher education institutions continue to need to attract and retain undergraduate and graduate students. The quality of digital campus services plays a huge role in this—now more than ever. If they begin at all, fall semesters will begin differently, and it will be through the successful implementation of new digital transformation tools that the future of the campus will be shaped.

The need to have a common infrastructure that ensures uptime, reliability, and other critical services like disaster recovery has been a foundational component of the move to digital. Additionally, having a consistent way to communicate with students and faculty outside of email platforms is critical to a cloud-based communication infrastructure. Lastly, improving safety and emergency communication on the physical campus, as well as inside the campus network, is a must-have for a digital campus evolution.

The challenge of COVID-19 has, overnight, made the digital campus critical to changing pedagogical models and to leapfrogging existing systems while creating intuitive, elegant, and safe experiences. For these reasons, Aragon feels that the schools of the future will be powered by modern cloud communications platforms.

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Introduction

Colleges and universities often compete for talent in the same way that companies do. With more and more digital natives starting a secondary education, effective and prevalent technology—the core component of a digital campus—will become even more important to attract and retain students. And while there is still an abundant number of students entering secondary educational institutions every year, the growth has slowed. From 2000-2013 there was a 33% growth in undergraduate admissions at US colleges and universities. The projected growth from 2014-2025 is expected to be just 13%.¹ With a more competitive student market, campus technology plays an important role in student recruitment and retention.

The Digital Campus: What and Why

A student's digital experience with a university begins even before they set foot on campus. The day the prospective student decides to apply is really when their digital experience starts. Incidentally, this is also the student's first exposure to an institution's digital maturity. In a 2017 student technology study conducted by Ellucian, 97% of student respondents felt that technology outside the classroom was just as important as technology inside the classroom. Moreover, 87% of the students in the survey said that a university's technology competency was an important factor for them when deciding on a school.

Most institutions realize the positive impact a truly digitally transformed campus can have on students, faculty, parents, and alumni. These include:

- A thriving digital culture that creates meaningful data from student interactions, scholastic behaviors, etc. with the ability to derive and apply insights

- An infrastructure that provides contextual information summaries and helpful¹ recommendations based on those findings to students and staff based on their individual actions and behaviors
- An infrastructure that supports students with digital assistance, such as push notifications and proactive reminders for study prep and classwork

Unfortunately, digital initiatives often fall short of delivering the benefits administrators aim for. The [2019 McKinsey Global Survey](#) on digital transformation found that about 80 percent of respondents said their organizations had begun digital transformations, but just 14 percent said their efforts made any sustained performance improvements.

In truth, there is really no such thing as a digitally transformed campus because there is no end to digital transformation—it is an ongoing process of growth. Digital transformation is a continuous journey of migrating siloed and segmented platforms to new and existing systems. Another common issue faced by campuses hoping to go digital is anemic leadership engagement. The 2019 Campus Computing Project Survey of Higher Education Institution CIOs and Senior Campus Officials found that just 30 percent of university presidents, CEOs, and CFOs, were very engaged or well-informed about digital transformation. Executive buy-in and sponsorship is essential to the success of any digital transformation project.

It is important to note that digital communications are an anchor capability for a digital campus. There are four areas that are driving the need for a modern digital communications infrastructure, including:

- Evolving student populations

¹ Source: US Department of Education: Projections of Education Statistics to 2025, September 2017.

- Changing needs for classroom instruction
- Local and virtual campuses
- Safety and security

The digital experience starts before students arrive on campus. Once they arrive, things accelerate. Here digital interactions find their way into:

- Interactions with professors tied to a class
- Interactions with students in and out of class
- Interactions with faculty, deans, and administrators
- Notifications from the university, alumni, etc.

But how do institutions reach a state where digital engagement across all university and institutional parties is effective and ubiquitous? The challenges of moving to digital are unique to each institution, and in order to address them in a cost-effective manner, schools need to pursue clear and informed digital strategies. Aragon believes all transformation should begin with a state-of-the-art communications infrastructure, which in addition to all the interaction modalities, serves as the nucleus for a number of near-term and future digital services. And in order to achieve continuously updated features and improvements, institutions need to have digitally connected and networked services that can deliver these offerings without interruption.

The life of a student has many different forms of interaction during college. It starts with the recruitment process, then onboarding, and then the daily life that goes on from freshman to senior year. There are many interactions that take place between the student, faculty, and administration (see Figure 1).

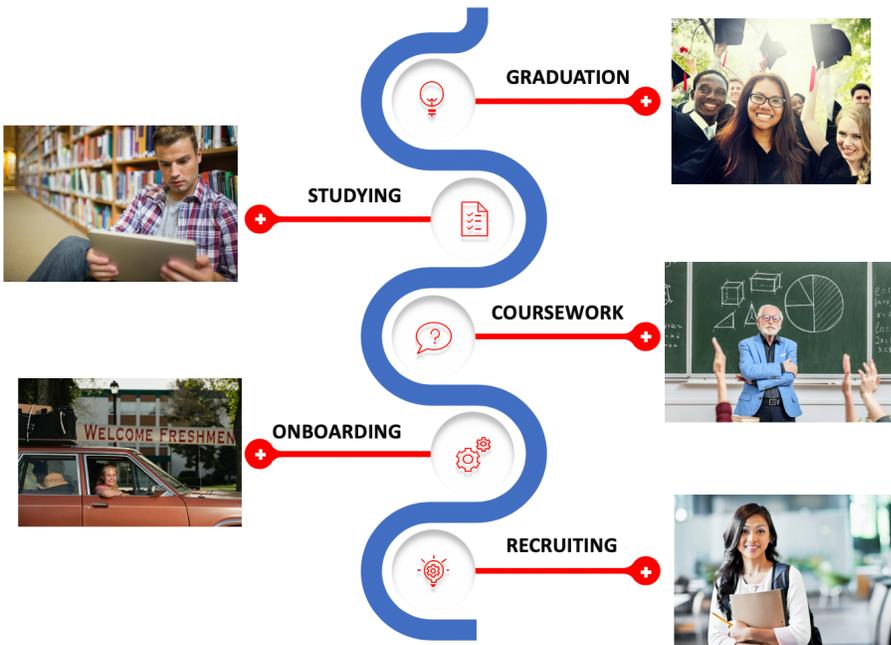


Figure 1: Students have many touchpoints with faculty and staff during their time in college.

To understand how a student's experience at a digital campus is made possible, it is important to understand the building blocks that make communication and collaboration between students possible. Some of the aspects of a fully digital campus include:

- Seamless network
- Integrated communications
- Physical and digital classroom instruction
- Curated content distribution
- New digital services based on the network and communications offering

So, while many institutions want to go digital, in many cases, there is not a full digital architecture to make this happen. One of the crucial mistakes that causes digital transformation failures is observing isolated pockets of change and crediting them as full digital successes. Going

fully digital takes time, planning, a broad strategic outlook, and persistence.

Why Communications and Collaboration Is Vital

In many campuses today, the remnants of those ‘digital pockets’ or the disparate systems of past best-of-breed deployments are still in operation. This includes legacy PBX phone systems and isolated meetings and messaging solutions. This is due, in part, to the way the communications market has evolved, but the independence that different departments have had at colleges and universities also plays a role. Moving forward, it will be necessary to rationalize the communications infrastructure of higher education through application redundancy and interoperable technologies.

So, the first goal of a digital campus transformation is to eliminate silos such as those between the registrar and bursar, the college faculty and students, or the students and alumni in order to communicate accurately, consistently, centrally, individually, and effortlessly between all parties.

A modern omni-channel communications and collaboration platform is vital to meet the immediate communications expectations of students or to create flexible and pervasive campus-wide notifications. Of course, a successful transformation is only as good as effective adoption, so it’s paramount to connect and integrate existing user messaging modalities such as Facebook Messenger, Snapchat, or SMS. This will enable a seamless social experience without force-fitting the communications system.

What Is Driving the Demand for Digital Communications?

1) Evolving Student Populations

First of all, student populations are evolving. Undergraduates have grown up with mobile devices, and

Note 1: Enrollment Is Poised to Grow

There is no shortage of students for higher education institutions, however the growth has slowed.

- From 2000-2013 there was a 33% growth in undergraduate admissions at US colleges and universities
- The projected growth from 2014-2025 is expected to be 13%

Source: US Department of Education: Projections of Education Statistics to 2025, September 2017.

their expectation for immediacy and mobile-enabled interaction is growing. 51% of students surveyed used a mobile phone or tablet for reading online materials or for contacting a professor (see Figure 2).

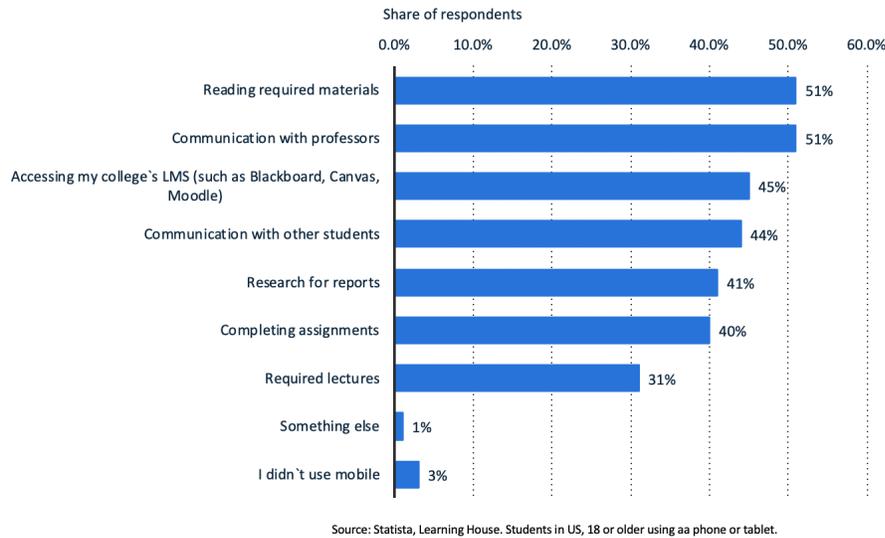


Figure 2: Mobile devices are being used more by students.

2) Changing the Instruction Experience

The instruction experience is also changing with digital delivery of materials, higher use of virtual classrooms for virtual and hybrid instruction, and a need for faster ways for students to communicate with professors.

3) Local and Virtual Campus

While the idea of the physical campus is the dominant thought when it comes to higher education, the growing need to have a virtual campus to meet the needs of remote students represents a significant business opportunity to expand undergraduate, graduate, and continuing education programs along with subsequent enrollment.

4) Safety and Security

Higher education institutions have gone back to 'en loco parentis,' meaning that they have taken greater

responsibility for students when they are away from home, and part of this responsibility has led to better safety and security. Security has to do with both online communications and physical security.

The need to be able to quickly communicate with the entire campus community when there is an emergency is vital, and, if anything, this singular need will drive the improvement of existing communications infrastructure on its own. This means that systems need to always be available (uptime) and have core services, such as e911. Kari's law applies to e911 (see Note 2).

For students and faculty, having e911 services available as an app on their mobile device makes it easy to report an incident or call for help. By making access to emergency services so easy and fast, response times can be reduced, and safety can be increased.

For the institution, the other part of a digital campus is enabling more location awareness technologies via e911 and also making buildings more digital- and video-enabled. By being able to track the location of a student and then locate the situation via remote video cameras, campus personnel can react faster.

There are many things that both facilities and IT need to address relative to security. See Note 3 for a summary checklist.

The Growth of Communications and Collaboration

Because of the challenges higher education institutions are trying to address, most are in varying stages of digital transformation. Let's look at the key elements that a digital unified communications and collaboration (UCC) platform should include:

- Cloud-based telephony
- Enterprise-wide messaging (team collaboration)
- Video conferencing and meetings
- A digital work hub
- Campus-wide notifications for emergencies

Note 2: Kari's Law:

Kari's Law applies to multi-line telephone systems (MLTS), which are phone systems that serve people in environments such as office buildings, campuses, and hotels.

Kari's Law requires phone systems in the US to enable users to dial 911 directly, without having to dial a prefix to reach an outside line, and to provide for notification (e.g., to a front desk or security office) when a 911 call is made.

Note 3: Core Security Checklist for Higher Education

Higher education institutions need to ensure physical and digital security. Some of the things to ensure include:

1. Facilities and event security policies and protocols.
2. Emergency communication notification broadcast capability and e911 for faculty and students.
3. Overall cyber security policy that includes network threat protection policies and tools.
4. Device security, including tools (firewall, anti-virus).
5. Identity access and management and VPN.
6. Encryption policy and enablement for meetings and content.
7. Privacy policy that regulates the use of faculty and student personally identifiable information (PII).
8. Regular backup of core course materials and overall backup and recovery policy.

Out of all the software markets, UCC represents one of the largest spending areas, as compared to customer relationship management (CRM) and enterprise security. Demand for each of the modalities in UCC is growing (see Figure 3). Part of the reason for this growth is the need for always-on communications and the need for enterprise-wide messaging, referred to as team collaboration and meetings. The increase in mobile devices and network connectivity has led to increased demand for all communication services.

Note 4: The Key Elements of a Higher Education Communications and Collaboration Platform

Higher education institutions are in the midst of a digital transformation. The key elements of a digital communications and collaboration platform include:

- Cloud-based telephony
- Enterprise-wide messaging (team collaboration)
- Video conferencing and meetings
- Campus-wide notifications for emergencies

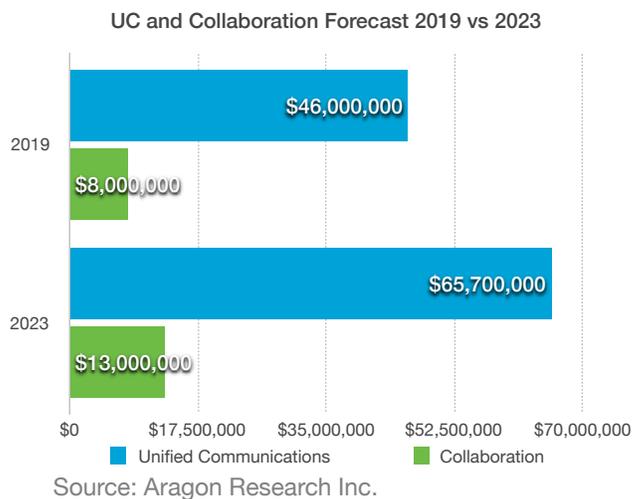


Figure 3: The Aragon Research forecast for communications and collaboration, 2019 vs. 2023.

The Key Elements of a Campus Communications Platform

When looking at UCC, each of the elements of a UCC platform has a key role in enabling a digital campus (see Figure 4). Those key functionalities include:

- Cloud-based telephony
- Messaging platform (team collaboration)
- Video conferencing and meetings
- Campus-wide notifications for emergencies

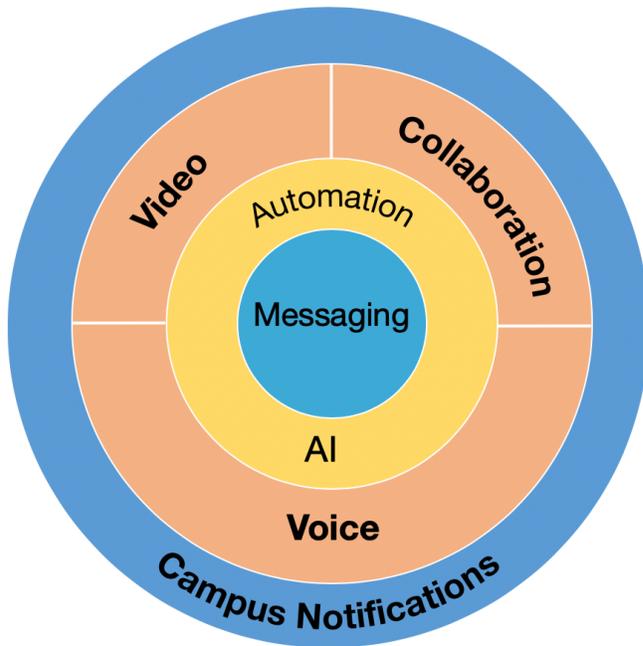


Figure 4: A communications and collaboration platform is a key component of a digital campus.

Voice and email communications are still the primary modes of interaction within the enterprise today, but messaging is closing in on email. On many campuses today, students use messaging with each other, but often have to use email to communicate with the university.

The opportunity, however, is to make team collaboration a common communication method. While classroom teaching is still the dominant form of teaching, the need to conduct class virtually and to provide recordings of sessions means that the need for video meetings will increase.

Prediction: *By YE 2025, team collaboration will be the primary way that people collaborate and communicate.*

1. Cloud-Based Telephony as a Key Element

Just like commercial enterprises, many colleges and universities have aging phone systems that are not integrated with the other communications applications

that make up the UCC stack. The flexibility that a cloud-based voice offering provides is the new battle cry. Voice communication is still the largest market out of all other modalities, but today it is not enough to have a voice-only solution; there is a demand for video and messaging. That said, voice still comprises an integral part of the UCC platform.

Today, the benefits and the innovation that a full cloud unified communications as a service (UCaaS) offering provides are clear. Hybrid cloud served as a bridge, but going forward, the costs of keeping old and new systems aren't always beneficial. In some cases, a hosted offering that gives the benefit of cloud and data privacy will be as popular as a multi-tenant offering.

In many cases, the higher education entity will want to replace an aging PBX and then shift to a cloud based UCC platform. Demand for cloud-based voice capabilities will help to power global expansion for larger universities.

2. Video Conferencing and Meetings: A Key Aspect of Hybrid Teaching

While lecture capture, the process of recording classroom lectures as videos and making them available for students to review after class, has been a trend on many campuses, the need to offer more than just capture is here. Instrumenting classrooms with HD cameras and enabling classes to be taken online is one of the shifts we see coming. UCC providers include HD-based web and video conferencing that is easy to deploy and manage due to built-in intelligence.

While the live experience is part of the solution for remote students and continuing education, it is the access to the classroom recording that will be a key strategy going forward.

3. Team Collaboration: Messaging Is Now Front and Center

Voice and email communications are still the primary modes of interaction within the enterprise today, but messaging is closing in on email. On many campuses today, students use messaging but often have to switch to email to communicate with the university. And while classroom teaching is still the primary method of teaching, the need to offer it virtually to reach a larger student population and to provide recordings of sessions means that the demand for video meetings will increase. The opportunity, however, is to make team collaboration a common communication method for both.

Team collaboration is a dominant form of communication for students well before they land on campus. Often, they use consumer tools (e.g., Apple iMessage, Facebook Messenger, WhatsApp, Snapchat) outside of university applications because the institution they attend has not enabled an enterprise-wide collaboration offering.

On the administration side, many departments have deployed team collaboration, but the university has not standardized applications. Students and faculty need collaboration tools that will allow them to be notified of things instantly from any and all of their university communities, including those times when there are emergencies.

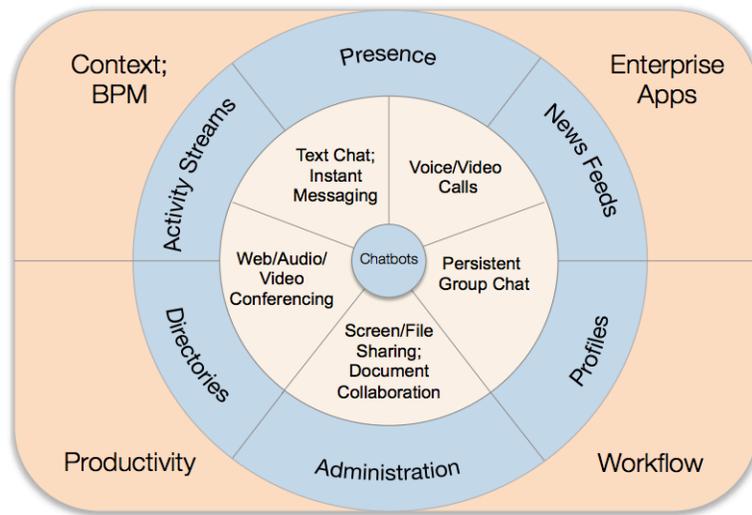


Figure 5: Team collaboration enables fast and efficient collaboration across a digital campus.

Messaging is poised to become one of the starting points for communicating and collaborating on a fully digital campus (see Figure 5). As team collaboration speeds up, the email era is winding down. This shift to real-time interaction provides both an opportunity and a challenge. Colleges that embrace this approach will not only attract more students—they will challenge other institutions that are stuck using legacy email for student-professor interactions.

4. A Communications-Based Work Hub for the Digital Campus

The digital work hub is an emerging category of enterprise-grade software that facilitates and manages the creation, curation, and communication of business content from the individual to ecosystem level. As shown in Figure 5, it provides functionality normally associated with multiple applications—from messaging to content management—within a single interface designed to simplify work.

Communications and collaboration work hubs typically have email or messaging (team collaboration) at the core of the offering. Aragon has predicted that email usage will

shift toward team collaboration as the future way that communication gets done.

One provider of a UCC platform that is also a communications work hub is RingCentral (see Note 5).

5. Campus-Wide Emergency Notifications

In today's educational environment, there is a high demand for effective and integrated campus-wide solutions to emergency notifications. Institutions must be ready for the threat of natural disasters like fires and storms, outbreaks of contagious disease, power outages, cyberattacks, active shooters, and even aggressive protests.

Mass notification systems must be seamlessly interoperable with other administrative systems to ensure they will not create bottlenecks in an emergency plan's execution. Cloud-based systems that make use of effective security techniques to maintain privacy while engaging the student body and staff universally across reliable communication channels are the ideal for an emergency notification system.

What Are the Key Reasons to Make a Shift to a Communications Platform?

The biggest reason to shift to an integrated communications platform is that it will allow campus communities to collaborate and communicate in a seamless fashion. The need for real-time communication is growing, and, for that reason alone, we see team collaboration gradually becoming the primary work modality over email.

People-Centric Collaboration Is About Making All Modes Seamless

Aragon feels that the digital campus is about putting people—students, faculty, and alumni—first, something usually referred to as people-centric collaboration. This means that it is more about collaborating with more than

Note 5: RingCentral at a Glance

RingCentral is a full-service UCaaS and contact center provider that offers global capabilities to organizations of all sizes.

Headquarters: Belmont, CA

CEO: Vlad Shmunis

Revenue (2019): \$903M

Availability: Available now

Key Offerings:

RingCentral Office: RingCentral's core cloud-based UCaaS platform combines team messaging, calling, and HD audio/video meetings in one integrated platform.

- Single app for mobile and desktop
- Open platform with 180+ out-of-the-box integrations and 20,000 developers
- Advanced call management and analytics

Global Office: Full UCaaS service in more than 40 countries, and inbound virtual numbers in 119 countries.

Contact Center: Contact center with omni-channel routing and analytics.

Engage Digital: Digital and social engagement platform.

Engage Voice: Outbound customer contact center.

Website: www.ringcentral.com

one communication modality based on the use case. As AI-based analytics become part of the digital campus communications platform, predictive and prescriptive analytics will help to determine the right communication modality.

Outreach Is Also Omni-Channel

When it comes to outreach, the efforts made must be multi-experience and take into account the technology and modalities that students and faculty increasingly want to use—such as texting, messaging, and video. But when a single interaction occurs over multiple modalities, bringing these interactions together into a unified experience for the prospect is essential to building a positive impression for the university. A UCC platform will provide different areas of the business with multiple outreach capabilities in order to successfully compete in today's digital world.

Student Engagement: Class and Campus

The digital campus is about engagement, and team collaboration has been growing by leaps and bounds at the team and department level. Aragon predicts that the market for collaboration (email, messaging, and meetings) will reach \$13 billion by 2024. This demand for team collaboration is due, in part, to increased product functionality and better integration with other UCC modalities.

We predict that coursework will continue to expand into the digital world. Already, many exams and assignments are conducted through shared classroom portals and virtual workspaces. The future lies both in integrating these existing portals into broader networks of student communication and notifications, and also, with the growth of digital content as an educational medium.

We predict more coursework will revolve around digital content deliverables like podcasts, blogs, and online videos; students will collaborate to maintain shared online projects that can be accessed in real-time. As students

begin to learn through modalities of digital interaction and content that they have already grown used to through consumer technologies, it will increase their engagement with the course material and make the educational process feel more natural.

Alumni Engagement

The opportunity to engage with alumni has never been greater. Increasing their experience via engagement represents a huge opportunity to build loyalty and future revenue streams.

Print has long been the traditional method of communication with alumni, but it falls short of any serious measure of engagement. And while social media can create some conversation through campus, academic, and event updates, it falls short of creating deeper dialogues or group/persona matching. A communications and collaboration platform can connect former students with professors, regional alumni groups, or place them into active messaging groups that instill a sense of community and binding attachment to the school. It can even manage donation solicitation from student-staffed call centers. Data collected over time can improve donation outreach and add character to the personalized messages alumni receive when returning to campus or while attending university-sponsored events.

Emergency Broadcast Notifications

For years, the focus of campus alert technology was text messaging. Now, the next stage of effective emergency notification technology will have to be multi-channel and reliable. With so many consumer technology social media platforms and university communication channels competing for attention, it can be difficult to know what channel students are likely to be tuned into at a given time. As a result, a successful notification program will need to determine not only what channels students are using, but how to directly contact them in the event of an emergency. In this sense, a component of an effective campus alert system is its ability to construct student

communication profiles that enable contact across administrative channels, social media, and legacy communication systems like text messaging. Such systems can present concerns in terms of privacy, scalability, and coordination with other networks; as a result, the challenge will be in finding an interoperable communications system.

In today's campus environment, the need to notify the entire community in the event of an emergency is of the utmost importance. While there are best-of-breed applications that do this, the need to be able to notify people via multiple communication channels is key. The issue is that, in an emergency, we need administrators and first responders to be in lockstep. With many notification systems and disjointed communication platforms, the swivel chair and back and forth can create dangerous situations such as,

1. Inconsistent communications
2. Delays between essential staff and first responders
3. Disconnected messaging

Having a UCC platform allows notification vendors to create seamless integrations, resulting in seamless communication.

Meeting and Class Intelligence and Recording Digitization

Meeting automation is part of the modern UCC approach. Enterprises need more than a collection of features bundled into a suite to accomplish effective management of meetings and calls. It is clear that the market is starting to deliver on its promise.

While lecture capture has become a norm, not all classes are broadcast live. Part of the reason for this is the challenge with scheduling and turning on meetings. Intelligent video meetings will mean that the system will do the work and allow professors to focus on teaching.

Automated transcription of the lecture will also become standard. Video mobility, which is about enabling video meetings from anywhere and on any device, is also becoming a mandatory capability. Making the mobile video meeting as good as the desktop meeting may impact vendor selections.

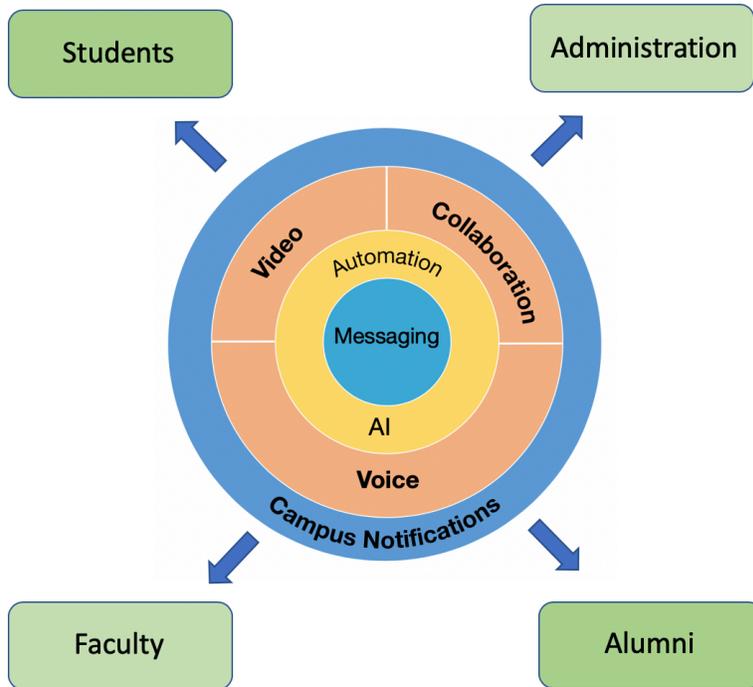


Figure 6: An integrated communications and collaboration platform enables campus communities to interact in a seamless manner.

Aragon Advisory

At its core, a communications-enabled digital campus is about creating seamless communications and collaboration. It allows for calls that are both voice-based and video-based; it enables meetings with users and rooms; it is about the shift from legacy email to instantly-delivered enterprise messaging, which we have termed team collaboration.

- Colleges and universities need to make cloud-based communications and collaboration a key part of their digital campus strategy.
- The need for omni-channel communication capabilities means that voice, messaging, and video meeting functionalities need to be integrated to enable the right communication modality at the right time.
- Enterprises should ask UCC providers for roadmaps on how their offerings will leverage emerging technologies, such as machine learning, to create an environment with continuous improvement.

Bottom Line

In every aspect of higher education, digital transformation is a key strategy, and communications and collaboration can be a game-changer. The need to communicate information to multiple audiences faster using multiple channels is a key reason why a communications and collaboration platform is required. As the campus environment changes to become virtual as well as physical, colleges and universities need to act now to be able to offer better methods of engagement for students, faculty, administration, and alumni.