

A N A L Y S T C O N N E C T I O N



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Role of Communications Technologies in Education

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According to the United Nation's Education, Scientific & Cultural Organization, "education should be a means to empower children and adults alike to become active participants in the transformation of their societies." In the wake of the current economic crisis, tightening budgets are driving education providers to adopt more innovative ways to raise the education standard while reducing the cost of providing these services. This is where communications technologies can play a pivotal role in enhancing teaching and learning, as well as streamlining back-office processes. Technologies such as unified communications (UC) integrating telephony, email, instant messaging and other conferencing solutions support more cost-effective school administration communications applications and devices. Other technologies like video conferencing help students gain access to global experts and support self-directed student learning, while mobility solutions improve collaboration and decision-making for school administration staff.

The following questions were posed by Avaya on behalf of its customers to Raphael Phang, Vice President, Government Insights, an IDC company.

Q. What specific drivers or challenges will the education sector face in the next 12 months?

A. Funding pressures. The education sector has been hard hit with cuts made in both public and private sector funding and reductions in charitable contributions, with increasing tuition defaults likely to exacerbate the situation.

Renewed focus on skills development. However, rising unemployment is reinforcing the importance of retraining and development to ensure that workers have the right skills to participate in the new global economy. This focus has encouraged many mid-career workers flocking to education institutions to better themselves during the downturn, taking advantage of the many training and upgrading schemes being offered as part of government stimulus packages.

Future schools. The need to serve an increasingly diverse student body converges with the public policy focus on raising education standards, and providing opportunities for the disadvantaged. These trends are driving the emergence of "schools of the future", which leverage innovative technologies and business models to reach their target groups.

Q. Considering these drivers or challenges, what process changes will the education sector implement?

A. A key priority for the education sector then is to bring education to diverse groups, in particular non-traditional students and hard-to-reach students in rural or remote areas, through more flexible curricula and innovative lesson delivery. The sector will seek to do this by developing off-campus learning systems, delivery mechanisms and content to meet the needs of mature students for more self-directed learning, and to rely on virtual classrooms in areas where resources are lacking to fulfill basic needs.

At the same time, tightening budgets will oblige education institutions to leverage resources and collaborative networks beyond the school facility, and to seek solutions that contain operational costs and deliver returns while providing better educational outcomes and improving administrative efficiency.

Q. How can communications technologies support these changing priorities?

A. Communications technologies can help in several areas. These include:

- **Video conferencing help bridge the gap.** Collaboration is a key tenet of learning in the modern classroom. Communications technologies such as conferencing solutions, especially video applications allow students to access experts regardless of their location anywhere in the world during physical or virtual classes, to participate in Webcasts, or to share and edit documents in real-time.

These features help educational institutions cope with rising student enrollment through satellite campuses, enhance the educational experience for students by offering diverse teaching and learning methods, and also allow remote students to experience classes staged at the main campus where access to physical facilities is limited or where distance learning is the preferred mode, as is often the case with non-traditional students studying on a part-time basis.

- **Mobile technologies reinforce these benefits.** For example, existing e-learning programs, currently delivered over broadband, can be adapted to a more portable platform to enable mobile faculty and staff while offering a wider reach to remote students.

- **Unified communications support collaboration and decision making.** UC integrating telephony, email, instant messaging and other conferencing solutions also supports operational savings with better returns, by allowing faculty to communicate, collaborate, and make decisions more rapidly. By reducing the need for in-person interactions, unified communications also helps education institutions manage delivery and other associated costs.

Q. What advice do you have for education institutions looking to leverage communications technologies to gain a competitive advantage?

A. Education institutions need to ensure that, in addition to communications technologies being utilized to support internal communications (between faculty members and administrators), solutions exist to reach external constituents (i.e. students, alumni, parents or even potential students). A transformation of this scale within an institution is a process journey and not a one-time event.

- **Start with a vision.** Having a long-term vision of both the real (e.g. financial savings, increased enrolment, attracting quality faculty and students) and perceived (e.g. improved standards, stakeholder satisfaction) benefits is important for developing the right motivations, as are clearly defined performance benchmarks to ensure resources are optimized. From an administrative point of view, the need to address the question of data security and privacy is imperative, and will play an important role in any successful implementation.
- **Be realistic and scope correctly.** Institutions facing tightening budgets will do well to realistically scope their requirements and focus on achieving practical objectives, such as planning for infrastructure to support only the necessary number of users (e.g. student/faculty/administration body), with the practical flexibility to grow. Leveraging existing or pervasive technology options (e.g. mobile communications over public networks) will also help institutions avoid unnecessary costs.
- **Pick a partner that shares your vision.** Overall, institutions will also benefit by seeking out compatible vendors able to support their vision and vendors that can demonstrate the maturity and benefits of their technologies.

Q. How do you see the Asia/Pacific's education sector evolving and adopting communications technologies in the future?

- A. The goals of digital inclusion, which remain particularly relevant in many emerging Asia/Pacific countries, will drive sustained emphasis on communications technology education initiatives. To close the rural-urban divide, education and training content delivered via e-learning will continue to be a fast-growing modality. At the same time, mobile education (or m-education, the paradigm of using mobile and wireless technologies to support and facilitate learning) will emerge rapidly as the next phase of digital learning, presenting significant opportunities to leverage communications technologies.

In a region with economies at diverse stages of development and communications technology maturity, governments will look to enhance their competitiveness through communications technology empowerment. "Future schools" that leverage innovative technologies will also become increasingly common. Such technologies include "on-the-go" mobility and real-time interactivity to promote collaborative and investigative learning. This trend will further reinforce the already strong growth in the IT workforce, primarily driven by China and India, where this growth is three times the world average.

Q. How do you see the North America's education sector evolving and adopting communications technologies in the future?

- A. The U.S. education market is highly fragmented and locally controlled, with the majority of funding coming from state and local governments. For the near term (1-3 years), we see flat funding for education, with the exception of substantial federal funding to state and local governments for new facilities, which may spur IT spending. IT investments will revolve around monitoring and tracking student and teacher performance, teacher certifications, and improved security.

We also see continued investment in online education and certification programs that focus on professional training and certifications outside higher education/university systems. Higher education IT spending will be relatively flat for the foreseeable future as colleges and universities struggle to maintain enrolment and hold down tuition costs. Communications technologies like UC and mobility will play a key role in enhancing the quality of teaching and learning.

Q. How do you see Europe's education sector evolving and adopting communications technologies in the future?

A. The public sector, education is highly affected by the economic crisis, suffering from budget cuts, although these constraints are not reflected in every European country.

There are, several initiatives underway to build an IT infrastructure that integrates both academic and faculty information for students. Mobility and remote access is an important theme, especially in higher education.

The European education system needs to manage resources and students more efficiently, by integrating IT for teachers' and students. In essence students can reap the rewards with an enhanced learning experience from such an integration of communications technology.

Integrated enterprise applications, such as accounting, HR and student management system suites, will continue to be a major focus, particularly for universities eager to improve management. Primary and secondary schools still have to develop their infrastructure (multimedia PCs and connectivity) and fully embed IT in student and teachers curricula.

At the same time, more "sophisticated" solutions, such as virtual classrooms, will experience a slower and more cautious growth, almost only in higher education institutes, because of high costs and uncertain benefits, narrowband infrastructure, as well as weak capability and cultural resistance to transfer teaching material from traditional classes to pedagogically effective virtual campuses.

Q. How do you see Germany's education sector evolving and adopting communications technologies in the future?

A. Bundesländer (regional governments) play a key role in the education sector in Germany, although recent federal reforms in education have enhanced the autonomy of universities and the role of the federal government within the education sector. Communications technology adoption levels vary a great deal between different regional governments and despite some islands of excellence, Germany still lags as a follower in comparison to many other European countries. One reason is that many regions have yet to complete investments in IT infrastructure for primary and secondary schools. While many regional governments have policies to support a virtual learning environment, there are few practical examples of successful implementations, offering further opportunities for the deployment of communication technology.

Q. How do you see Central Latin America's education sector evolving and adopting communications technologies in the future?

A. Education in Latin America is a highly fragmented and heterogeneous market. Outside of Brazil and Mexico, most of the economies have only a few large institutions with most consisting of midsize facilities. This contrasts with many institutions in Brazil and Mexico, who have much larger enrolments. In a recent study conducted among education institutions in the region, Government Insights identified, increasing the efficiency of operations, institutional processes, and increasing transparency are key drivers for IT spending.

In the K-12 segment, computer labs are also a key focus. Funding for "one laptop per child" (OLTP) programs are expected to have a tremendous impact in this area in 2009, especially in Peru and Uruguay, two of the largest recipients of OLTP funding in the world. Total IT spending in the education segment in Latin America is estimated to be well below the billion-dollar mark, albeit increasing at low double-digit rates for 2009. Nonetheless, there are

further opportunities for the deployment of communications technologies infrastructure in the education sector.

ABOUT THIS ANALYST

Raphael Phang is Vice President for Government Insights and is responsible for all aspects of market and business development, research and consulting targeted at Government communities and the vendors serving the public. Government Insights, an IDC Company, was established to deliver research and analysis for information technology trends and innovation specific to the public sector. Raphael has more than 20 years of experience in the IT and professional services industry, working extensively with both Government & commercial clients. Prior to joining IDC, Raphael was with Singapore Computer Systems, holding dual responsibilities as Country Manager for the company's Brunei Operations and as Account Director for the e-Government Portfolio, where he helped transform the business with new partnerships and led it in a new direction that resulted in significant revenue increases.

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