

Aiming High in the Sky before Higher Ed: Cloud Computing and Global Community Collaboration

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Introduction...

Educators are using state-of-the-art technologies aimed at decreasing information illiteracies particularly amongst low income and at-risk urban youth. Local and global initiatives now include *Cloud Computing*.

What is Cloud Computing?

The term "Cloud Computing" is difficult to capture fully due to the debate amongst many experts in both academic and business realms. Basically it is using web-based or web-friendly applications and services beyond your desktop. Cloud computing provides users less worry about local installation and maintenance of a service-cluster with high-end operability.

Some History...

The expansion of cloud computing within the business sector is clear. Undoubtedly, the savings benefit is a motivating factor. Education stakeholder goals of flexibility, seamlessness, cost and/or labor efficiency, and 24/7 access are no different. Educational institutions have cited a savings averaging around 20 percent. Further, cloud computing services are using current technologies in tandem without the costs being transferred to the student users.

Hearing the Call...

Educators are searching methods to reduce in areas ranging from hardware cost to expert staff. Aging equipment and shrinking budgets can result in further tech staff shrinkage and the need for information literacy is at a climax. Collaboration for "Any time for Anywhere" learning initiatives is particularly most pertinent for global outreach when collaborative partners have communication and access issues surrounding the differing continental and regional time zones.

The Needs...

Given the needs for such wide scale access to partners and students in time and geography, system administrators begin by looking into the free, open source and low cost equivalents to many existing software applications and web-based services. By understanding the types of data sources and managerial change issues within any collaborative environment, big first steps to winning the Information Technology (IT) re-design battle is half won.

The Wins...

The Win aspect for education stakeholders in terms of cloud computing inclusion is due to three main factors: 1. Efficient: Streamline and consolidation of IT maintenance. 2. Cost Effective: Upgrade and expansion of software is on OPP (Other People's Property). 3. Integrative: Increased number of simultaneous users for multiple high-level functioning. Thus, using clouds, stakeholders will hit a wider population for both synchronous and asynchronous instruction and resource output regardless of time and "real" physical space.

Problems and Solutions...

One of the most problematic issues for this educational direction involving working in clouds is security issues associated with data. Data has a two-part problem with a two part solution: 1. Capacity/Storage – Share upgrades and strategic plans for growth with cloud host. 2. Trust – Determine what must be kept in-house while assessing authorization and licensing policies of host for infrastructure, platform and software. The reliability, sustainability and trust of the cloud provider are most important.

Current and Future Development...

Current pedagogical practices merging with cloud-based ideology are headed towards increasing interactivity amongst students. Self-learning often referred to as ubiquitous learning is being added to educational models with a shift to have students become active, collaborative and critically thoughtful lifelong learners. Groundwork is being laid for more immersive technologies using mobile devices such as the iPad along with visualization projects and augmented reality experiences using these mobile devices as well. Gaming technology brings all these components of collaboration and varying aspects of virtualization under one umbrella as illustrated in web-based virtual worlds. Cloud computing will make this shift in education less cost prohibitive in both cash and in-kind for all stakeholders. Global community partners have much to gain in preparing Pre-K-12 participants by using cloud computing.