

MOBILE LEARNING AND CLOUD COMPUTING IN EDUCATION

V. SARATHA & J. KRISHNA DIVYA

Headmistress Leaders Private School Sharjah, United Arab Emirates

Research scholar, Madurai Kamaraj University, India

ABSTRACT

All across the globe, students from elementary school through high school are increasingly engaging with advanced wireless devices to collaborate with peers, access rich digital content, and personalize their learning experiences. Mobile learning is a growing trend in classrooms. This trend is creating a more flexible, collaborative, and interactive learning experience in schools and districts. Mobile devices are changing the way educators teach and students process the content. Mobile learning is more than just using a mobile device to access content and communicate with others – it is about the mobility of the learner. According to Mike Sharples, a leading authority in the field, mobile learning can be defined as: "the processes (both personal and public) of coming to know through exploration and conversation across multiple contexts amongst people and interactive technologies" Sharples, M. et al, 2007.

Cloud computing has a lot to do with the Internet. In fact, the Internet has been referred to as 'cloud' in recent years because, after all, everyone can access it. Cloud computing has actually evolved from the original concept of the internet, and its purpose has been made broader. Basically, cloud computing allows people to access the Internet and most – if not all – of its resources anywhere and anytime.

Lawrence Cruz, a writer for Associated Press, defines cloud computing in less technical manner. For Cruz (2011), cloud computing is a collection of applications and technologies which can be accessed and manipulated by a large number of users in real time.

In the field of education, cloud computing is very practical for a variety of reasons. Indeed, cloud computing will enable a certain educational institution to actually make use of the global internet resources for data analysis and data storage. Furthermore, the world today is, quite literally, run by the cloud and cloud-connected technologies. As such, to work independently from this fact is to work with futility.

KEYWORDS: Mobile Learning and Cloud Computing in Education, Advanced Wireless Devices

Advantages of Mobile Learning

There are many tacit benefits of mobile learning but those that can be measured and made tangible include the following.

- Personal, private and familiar (reduce perceived barriers to learning)
- Pervasive and ubiquitous
- Fit into the lives of learners (allow for productive 'dead' time – eg when travelling queuing)
- Portable – allow anywhere, anytime learning

- Immediacy of communication (including speech and data-sharing)
- Allows access to learning by those in dispersed communities and isolated situations
- Contextualization through location-aware features such as GPS
- Allows data to be recorded and learning processes captured wherever they happen
- Access to mentors, tutors and others learners on-the-move
- Perceived as an acceptable way for learners to receive reminders and chasers – and to manage their time
- Bite-sized e-learning resources can be delivered to learners (especially useful for basic skills or work-based learning)
- Abstract (representational) and concrete (environmentally-situated) knowledge can be integrated.
- Peer-to-peer networks make learning more student-centered
- Promotes active learning
- Enable new learning environments
- Increases accessibility for learners with special educational needs
- Encourages reflection in close proximity to the learning event
- Reduces technical barriers to e-learning.

Advantages of Cloud Computing

- Cloud computing allows institutions to access real time information from anywhere in the world in a matter of seconds. In the field of education, this is pretty important as it gives the teachers and the learners to constantly update their stock of information.
- Cloud computing allows teachers and learners to access applications and other useful tools for free.
- Basically, this technology is a particularly new one and, because of this, it is not only efficient, it is also environment-friendly.
- Because cloud computing allows for interconnectivity, students are exposed to openness. In other words, they are able to experience and feel what it is like in the real world. As such, they will be able to learn things more decently and more effectively because the entire learning process is facilitated by a teacher or a mentor.

Mobile Cloud Learning Has the Following Characteristics

- Storage and sharing: Learning outcomes and resources can be stored in the “Cloud,” which provides almost unlimited store and computation capacities. Documents can be commonly edited and shared in the “Cloud,” such as services provided by Google Docs, Live Sky drive, and Office Live.
- Universal accessibility: Learners can study as long as they have access to the network. Mobile cloud learning also makes a low cost access terminal possible, because software, applications, and data are all operated in the cloud

servers. This improved accessibility can greatly benefit developing regions.

- Collaborative interactions: Learners can cooperate anywhere in the “Cloud.” From social learning perspectives, they can collaboratively build common knowledge through frequent and convenient interactions.
- Learner centered: Mobile cloud learning is heavily people oriented, which meets the individual needs of learners. Learners in the “Cloud” select suitable resources and can track their learning progress and outcomes.

Components of Cloud Computing

The cloud computing environment usually consists of the following components. □

- Servers - Hosting servers in the cloud using the corresponding services means operating those servers a safe distance from any disaster. Cloud hosting providers generally have more redundancy of network connections, mirrored sites and other precautions to ensure access under adverse conditions.
- Applications - People that use cloud-based applications like Google Apps or Microsoft Office 365 can log in and be productive from virtually anywhere and any mobile device.
- Online data - Users will tend to keep their data stored remotely in the cloud. It is available from everywhere, and like cloud applications and it can be accessed from any device capable of connecting to the web.
- Cloud backup -Many companies fail to backup critical systems on a periodic basis at all, but it is even more severe when an organization has taken the time to create the backups, but the backups end up getting destroyed at the same time as the servers and data their backing up. Using a cloud-based backup solution provides for rebuilding the systems and resuming normal operations. Under some circumstances, virtual appliances or virtual machine images of existing workloads can be created in the data center and stored in a cloud data center. In the event of a failure of the former, the virtual machines serve as recovery mechanisms that can be reactivated in the cloud.

Disadvantages of Mobile Learning and Cloud Computing in Education

- As the device is too small, it can be easily stolen and may cause eye-strain.
- To get the advantage of all technology we need to upgrade our mobile often. It costs more.
- As a learner we need to get continuous learning resources, but the device need to plug in for charging after 6-8 hours of usage.
- We cant store all the files in our device as it has the limited storage.
- Even though we are saying anywhere any time learning ,It depends on the network connection all the time.
- Learner do not have control to save their data.
- The computer system/network that we are using will be shared by others at the same time. So processing time can be slower than a computer system.

CONCLUSIONS

In the Mobile-Learning the cloud plays a vital role because the data sharing is the very important role of this learning system, so cloud takes the responsibility of sharing the data with out getting trouble in accessing the network during the busy time. The cloud helps to increase the storage space if the data content are posted more by the users and also during peak hours the total number of user who uses the system will be increased so the load has to be tolerated automatically. Some of the companies offer the cloud at free of cost or at economy prices so this cloud computing will helps in offering the very quality high class education at affordable price.

Cloud computing is definitely one of the major innovations that entered worldwide classrooms in recent years. With the ability to cut IT costs and at the same time creates a modern collaborative environment, educational institutions can see some important benefits from moving to the cloud. Modernizing learning processes and introducing the latest technologies in classrooms encourage students to develop skills and knowledge necessary for achieving their academic and professional goals. Together with other forms of technology implementation, the cloud can substantially increase learning opportunities for students all over the world.

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