

# The Role of Cloud Computing in Education

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**Abstract** - Education is the key to strengthening a country's economic growth. Classroom teaching is becoming increasingly difficult in today's Pandemic era. Students' education is questionable during this pandemic. Many private schools and colleges are emphasizing cloud education as an alternative to classroom teaching. Cloud computing technology plays a role not only in higher education but also in primary education. Utilizing cloud computing can enhance the quality of education and provide it to students. The cloud helps to make learning and teaching uninterrupted not only for students but also for teachers. This paper talks about the effective teaching process brought about cloud technology. Youngsters of this generation have developed a great interest in cloud technology because the cloud has become a part of their life.

## INTRODUCTION

The education system of our country is mainly based on classrooms, books, and marks or grades only. Technology is used as the primary key in this pandemic situation. Nowadays the situation is changed, in many schools and colleges, they have internet facility is available on their campus and even teachers use power-point presentations for teaching that improve easy understanding for students.

Cloud-based computing technologies are one of the most actively growing of the modern technology world. The use of cloud technologies in the educational process is becoming more popular and opens up many opportunities for educational institutions, teachers, and students. Not only desktops. Smartphones, tablets and Laptops are classroom tools, and they're all linked to educational resources thanks to cloud computing.

## CLOUD COMPUTING

Hardware, software, and the internet were part of one system that is called cloud computing. In today's pandemic environment educational approaches allow them to access the right services at the right time

irrespective of the device. (Laptop/smartphone/tablet/iPad).

Types of cloud computing:

Cloud computing they are four different categories.

Public clouds

Private clouds

Hybrid clouds

Multi clouds/ community clouds

Public clouds:

A public cloud is virtual resources developed from hardware owned and managed by a third-party company that is automatically provisioned and allocated among multiple clients through a self-service interface. Cloud is open to all through internet service you can access and store information. Example: amazon elastic compute cloud (EC2), Microsoft, google app engine, IBM smart cloud enterprise, windows azure service platform. The public cloud is low cost compare to other clouds. Public clouds are shared publicly so less security.

Private clouds:

The private cloud is used by the organization to create its own data center internally. The private cloud is also known as the internal cloud. The private cloud provides high-level security than another cloud. Private cloud performance is high speed and storage capacity.

Hybrid clouds:

Hybrid clouds are a combination of public clouds and private clouds Example: google application (Gmail, google apps, google drive, office365, AWS (amazon web service) MS office on the web & one drive).

Community clouds:

Community cloud allows access to a group an organization to share the information between the groups of organization/ community. Example: health care organization, educational organization, etc.,

Cloud service models:

Cloud services have three different they are:

IAAS(infrastructure as a service)

It is one of the services in cloud computing services. It is also called hardware as a service.

PAAS (platform as a service):

Platform as a service provides a runtime environment. It is easy to create, run web applications. It includes both infrastructure and platform services.

SAAS (software as a service):

SAAS is a software distribution model. It's also known as a demand service. SaaS provides many services like business service model, document management, customer relationship management. Example: mail service, social network.

**CLOUD COMPUTING IN EDUCATION:**

Cloud computing is widely used in the education sector.

1. Students
2. Teachers
3. Administrators

Students:

In today's modern age students get advanced learning while learning using technology. Cloud computing makes learning easier for students. Cloud computing makes learning easier for students. Also learning anytime anywhere is cloud computing technology greatly helps students to learn when they want. Peer group is easily accessible to students and is also used for their group discussion. Students can approach experts in any country easily, to discuss or ask their questions through cloud computing technology. Classroom learning alone is not enough to gain a clear understanding of a subject. They learn with interest while learning using technology. Students learn on their own using technology. Technology Encourages students' self-learning. Many cloud apps translate words from one language to another like English to Tamil with meaning particular words with many examples. Students can surf the net for getting notes, pictures, various materials like textbooks, reading articles at any time. It can easily download used for learning.

Teachers:

Teachers understanding of the principles of innovation and their background training play an important role in the degree of implementation of curriculum innovation. A change in teachers' beliefs and understandings is an essential part of any educational innovation. This will enable us to share innovative teaching and learning practices and demonstrate examples of new technologies that have revolutionized how teachers learn and the way to deliver of teaching.

Cloud technology is a promising tool to make the teaching process more interesting and effective. Investigator strongly believes if we adopt this technology as a part of our teaching process then it would surely fill the gap between students and teachers. It would make the student market-ready. Thus, it would not be an exaggeration to say that cloud is an important and effective tool for to teaching process. Teachers must try using other materials as teaching resources. Teachers' technical knowledge is very important in today's modern times to perform excellent teaching to students. Teachers can send study material, assignments to students through technology. Technology greatly helps teachers to improve themselves. Technology helps motivate students. Technology reduces the workload of teachers. In today's world of technology, cloud knowledge is one of the most essential for teachers because students are spending more time on mobile and computers. It can be said that cloud technology helps teachers to teach a lesson without making them bored so that students can use student's time effectively. Cloud technology can be very useful to teach students at anytime and anywhere in any situation. Teachers can use cloud technology to easily communicate with students. Teachers can create a non-threatening environment to encourage both shy and talkative students to participate. In short, teachers can help students catch the passion for learning.

Administrators:

Cloud computing is used to collect information from educational institutions, store stored information, retrieve stored information easily, and secure information. Technology also helps companies to integrate teachers and students. Cloud computing is used to send data/ information safely. Institutions are their information and workloads would probably

easily complete their workloads through the cloud. Separate cloud computing offers the scalability and shared resources of the cloud. To achieve true cloud scalability in a private cloud, administrators must forecast demand. Technology can allow educational institutions to put a domain name in their name.

#### ADVANTAGES OF CLOUD COMPUTING RELATED TO THE LEARNING-TEACHING PROCESS

Cloud technology is low cost

To integrate students/ teachers/ peer groups

Microsoft provides teachers, learners, & alumni provides students, staff, faculty, and alumni with long-term, primary e-mail addresses and other applications that they can use to collaborate and communicate online—all at no cost to your education institution.

Microsoft Business Productivity Online Suite.

#### CONCLUSION

In the modern age, we cannot walk even a step without the help of computers and the internet. So teachers should be aware of cloud technology could have a significant role to play in educational development. Technology utilization in distance education has demonstrated its significance in the transfer of knowledge for both the instructors and learners. This is also made possible through the use of the internet which helps change the traditional teaching approaches into more modern methods when integrated with pedagogical instruction. The rapid change in the learning environment is the result of speedy developments in cloud computing technologies that have affected all areas of our life. We can make out that cloud computing technology has made many innovations in the field of teaching and also made a drastic change from the old paradigm of teaching and learning. In the new example of learning, the role of the student is more important than teachers. The concept of the paperless and penless classroom is emerging as an alternative to the old teaching-learning method. Nowadays there is the democratization of knowledge and the role of the teacher is changing to that of the Facilitator. We need to have interactive teaching and this changing role of education is inevitable with the introduction of innovative teaching methods.

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