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Using Cloud Technology to Maximise Resources for Education

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ABSTRACT

The platform for delivering and consuming services, as well as the way in which students and educators engage with information technology resources, are all made more accessible via cloud computing. It represents an immaterial paradigm change that introduces novel, crucial components to educational models and settings that are absent from more conventional technological frameworks. This stands for the shared or rented use of computer power on a distributed network of servers that run programs and store data. In today's classrooms, both students and instructors face this difficulty. Our current focus is on using e-learning platforms such as Moodle to do this. More storage space is needed for this one item alone. File size and type restrictions apply to instructors who want to contribute additional materials. In order to keep storage servers in good working order, updates should be performed periodically. Optimal maintenance cost and increased availability may be achieved with the use of cloud-based solutions in education.

Keywords— Teaching models, learning environments, cloud in education, cloud-based tools, optimizing resources.

I.INTRODUCTION

The successful implementation of many modern pedagogical approaches is a major problem in today's classrooms. Incorporating new technology is essential for preparing pupils for the trends of future. Hybrid or blended learning takes a holistic view of education, integrating students' interests and needs with curriculum-appropriate techniques and technology to foster skill development in both students and educators. Keeping pupils interested and involved in what they are studying is essential, even if it is not the role of the instructor to provide entertainment. Taking stock of one's own abilities and shortcomings as a teacher is the first step in developing an approach that can meet the demands of a wide range of pupils with varying degrees of proficiency. Teachers will discover what fits their personality and the curriculum best as they hone their teaching techniques and incorporate them with efficient classroom management strategies. [5].

II. INVOLVMENT OF TECHNOLOGY IN TEACHING

Technology should be a part of excellent education, as we saw in the beginning. These days, everyone has access to technology. There are many educators out there that are eager to learn more. However, if instructors want to impart their expertise to certain student bodies, an intermediary platform such as Moodle should be put in place in higher education. However, due to the fact that Moodle uses local servers to store data, there are some storage constraints. Concurrently, there has to be an update, such the deletion of obsolete files, at regular intervals, hence, each time, the instructor must upload. Old materials would be unavailable to him.

2.1 Importance of Technology for Students

Students, with the right usage of mobile devices and apps, may be better prepared for the workforce of the future. Students may build digital citizenship skills, work together more effectively with their peers and teachers, and connect with others who learn in different ways when technology is used in the classroom. Using mobile devices keeps students interested since they can crawl, and integrating innovative technology, like as VR, with conventional classroom teaching may improve the quality of education.

Students now have easier and faster access than ever before to current information because to mobile technologies. Instead of just sitting back and letting students learn, today's educators play an active role in guiding and supporting their students. Owning or borrowing equipment enables students to enhance their decision-making abilities and gain ownership of valued possessions, which in turn encourages them to be more responsible. To get the most out of it, however, you need digital citizenship training.

Coding and teamwork among teachers and students are only two examples of the many new abilities made

possible by technological advancements in the classroom. Thanks to technological advancements, modern education is more dynamic and student-centered than ever before.

2.2 Self Organised Learning Environment

Using the cloud in the classroom helps keep technology costs down and promotes self-directed learning among students. The first step in incorporating cloud computing into our daily classroom activities is to inspire our pupils to make use of the available tools. The following benefits will be ours after we have achieved our objective.

2.3 What do we learn with above deliberation

Acknowledging students' brilliance and motivating them to become experts in their areas of interest are two of the most important things you can do to help them learn. You may do this by posing thought-provoking questions and giving them the freedom to find their own solutions. Improving pupils' reading comprehension may be achieved by having them read and understand content that is meant for a more serious audience. Motivating students to put forth effort may help them gain agency, self-assurance, and long-term involvement. Another way that schools might encourage group work is by having students complete assignments and then present their results to the rest of the class.

Also, think about making tests more mimic real-life situations by making it possible to use resources like dictionaries and the internet. This change in emphasis from standardised testing to addressing real-world issues has the potential to transform education. For students of English as a foreign language (EFL), speech-to-text software may be a useful substitute for language laboratories or self-pronunciation evaluation tools.

III. Use of cloud in the learning environment

Cloud computing's potential in the classroom is becoming more well known. There is a need for cost optimisation algorithms that uncover special properties of digital learning environments, since organisations active in the field sometimes face significant budget limits.

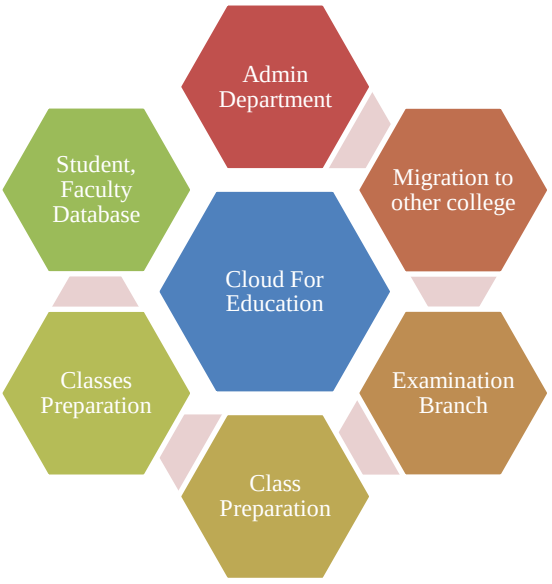

Fig-1: Cloud Based Educational Services

User has to establish a connection to the cloud network via GPRS, Bluetooth, or Wi-Fi (Figure 2) in order to get the necessary subjects. Then, depending on the topic chosen, the necessary reading materials will be downloaded to the device. Data may be retrieved from the cloud centre in text, video, or audio format. Through the use of self-service tools, subscribers may choose which files to download or retrieve from the data centres.

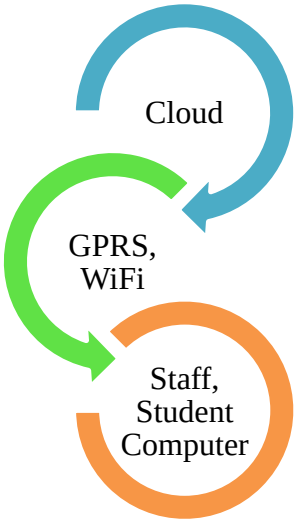

Figure 2: Process flow in education cloud

3.1 What are the programs and resources available on the cloud?

Tools and programs hosted in the cloud are those that can be accessed online, often using a web browser. There is a wide spectrum of these, from simple webpages to elaborate OLEs that encourage extensive group work. Many of them don't cost anything at all for educational purposes, or they may charge for more sophisticated features, but the fundamental ones are free. There are online learning environments that may be used to supplement any course or topic, and there are also subject-specific ones (for Math, English, Science, etc.). These days, more and more things are offered "on the cloud," including services, tools, and apps. Examples of internet-based cloud-based office productivity packages (word processors, spreadsheets, etc.) include Google Apps and Office365, respectively, from Microsoft and Google. More and more schools are embracing internet-based cloud data storage services like Google Drive Apps for Education and Microsoft Onedrive. Services like Google Play and Apple's iTunes/iCloud provide cloud storage and other features, while mobile applications make it easy to access and sync files and folders across many devices. The term "cloud computing" describes the underlying technology that makes it possible to access software and other resources stored in the cloud. School Young students flourish in a technologically dynamic environment, and principals and instructors are all too aware of this. With the advent of cloud-based tools and apps comes both new opportunities to enhance pedagogy and new problems in maximising those opportunities.

Table-1 Tools/Application Focus and Examples of Cloud-Based Tools and Applications

Focus Area	Examples of Cloud-Based Tools/Applications
Communication	Microsoft Teams, Slack, Zoom
Collaboration	Google Workspace (Docs, Sheets, Slides), Asana, Trello
File Storage & Sharing	Google Drive, Dropbox, OneDrive
Learning Management	Moodle, Schoology, Google Classroom
Project Management	Jira, Monday.com, Basecamp
Video Conferencing	Cisco Webex, Google Meet, Microsoft Teams
Development Tools	GitHub, GitLab, AWS Cloud9
Data Analytics	Tableau Online, Google Analytics, Microsoft Power BI
Customer Relationship Management (CRM)	Salesforce, HubSpot, Zoho CRM
Marketing Automation	Mailchimp, Marketo, Adobe Campaign

3.2 Comparison of Schoology, Edmodo Schoology and Google Classroom

Schoology, Edmodo, and Google Classroom are prominent learning management systems (LMS) widely used in educational settings. While each platform has unique features tailored to facilitate teaching and learning,

they cater to different needs. Schoology excels in comprehensive course management, Edmodo focuses on fostering collaboration, and Google Classroom is renowned for its simplicity and integration with Google Workspace.

Key Comparisons:

Ease of Use: Google Classroom stands out for its user-friendly interface, while Schoology and Edmodo require a steeper learning curve.

Collaboration Tools: Edmodo emphasizes social networking-like features for student-teacher interactions, making collaboration its core strength.

Content Management: Schoology offers advanced tools for course creation, grading, and analytics, making it suitable for structured learning.

Integration: Google Classroom seamlessly integrates with Google Workspace, while Schoology and Edmodo offer broader third-party tool support.

Accessibility: All three platforms support mobile and web use, ensuring flexibility for teachers and students.

IV.CONCLUSION

The primary objective of this study is to explore various teaching approaches and technology in order to maximise resources while achieving high-quality results. As we've already established, in order to prepare their pupils for the problems of the future, teachers will need to use new strategies. The process of teaching and learning does not occur at set intervals; rather, it is ongoing. Therefore, pupils should be able to reach their teachers at any time.He will not lose any data on the part of the instructor. The capacity for students to study independently will be enhanced.

From what I've seen, we can really zero down on SOLE. The present generation of pupils is not prepared to be spoon-fed. Something fresh and accessible is what they need. The availability may be achieved by using the cloud.

App marketplaces are available on both Schoology and Edmodo, allowing users to pay to add third-party programs and applications. We can simply incorporate it into our educational system.

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