Optimizing Resources in Teaching and Learning using Cloud Technology

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Abstract— **Cloud Computing is welcoming to use the services delivery and consumption platform as well as the mode teachers and students interact with IT resources. It signifies a major intangible shift that presents new essentials in teaching models and learning environments that are not present in traditional technologies. This represents the lease or free usage of computing resources on a network of remote servers where applications are executed and data is stored. Now a day in education it's a challenge for students and teachers. Now we are trying to achieve through some E-Learning techniques like Moodle etc.. Here only thing it requires more storage. If teachers want to share more information there is some restriction in file size and type. There should be periodical update for effective maintenance of storage servers. By introducing cloud based tools in education we can optimize the maintenance cost and increase the availability.**

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

I. INTRODUCTION

In present generation teaching is a big challenge for succesfull achivement of different trendy methodologies.it is necessary to involve new technologies to make the students fit for future trend.In Hybrid, or blended style follows an integrated approach to teaching that blends the technology and interests with students' needs and curriculum-appropriate methods.which will develop skill sets of both students and teachers. Although it is not the teacher's job to entertain students, it is vital to engage them in the learning process. Selecting a style that addresses the needs of diverse students at different learning levels begins with a personal inventory— a self-evaluation—of the teacher's strengths and weaknesses. As they develop their teaching styles and integrate them with effective classroom management skills, teachers will learn what works best for their personalities and curriculum[5].

II. INVOLVMENT OF TECHNOLOGY IN TEACHING

As we saw in introduction for effective teaching we should involve technology. Nowadays technology is in everybody's hand. There is lot of teachers in the world who wants to explore their knowledge. But teacher wants to reach their knowledge to specific group there should be interactive mediator between the group and the teacher like Moodle in colleges. But in Moodle there is some storage restrictions because they are maintaining local servers to store the

information. And at the same time, there should be some periodical update like removing old files.so the teacher has to upload every time. He would not get a chance to review old materials.

A. Ten Reasons Why Your Students NEED Technology in the Classroom[3]

1) If used properly, mobile devices and the applications they support will help prepare students for their future occupations.

2) Integrating technology into the classroom is an operative way to connect with students of all learning styles.

3) It gives students the chance to enhance the collaboration with their classmates and instructors by encouraging teamwork.

4) Using technology in the classroom gives teachers and other faculty members the opportunity to develop their student's digital citizenship skills. It's one thing to use mobile devices, it's a completely other thing to know how to use them correctly and responsibly.

5) Integrating technology in education helps students stay engaged. Most students today have been using mobile devices like tablets and smartphones to play and learn since they could crawl. So it only seems logical to align today's classrooms with the way that your students want and are used to learning.

6) Combining new tech like VR (virtual reality) with traditional classroom instruction is one example of how the introduction of new technology can enhance the learning experience and create new opportunities.

7) When mobile technology is readily available and performing correctly in the classroom, students are able to access the most up-to-date information quicker and easier than ever before.

8) The traditional passive learning model is broken. With technology in the classroom the teacher becomes the encourager, adviser, and coach.

9) Technology helps students be more responsible. Owning your own device or borrowing the school's devices gives students the opportunity to improve their decision making

skills as well as taking ownership of a valuable (and often times expensive) device. Again, this needs to be complemented by proper digital citizenship training to see the best results.

10) Technology transforms the learning experience. Students have access to an incredible amount of new opportunities. From learning how to code to learning how to better collaborate across teams and with their instructors-- technology empowers students to be more creative and be more connected. New tech has super-charged how we learn today.

B. Self Organised Learning Environment (SOLE) [2] :
By using cloud in education we can optimize the cost of technology as well as we can encourage students towards Self organized learning. If we want to involve cloud in our regular class work first of all we need to motivate students to utilize the resources. Once we obtained the goal we can get following advantages.

Lessons we can take away [7]
1. Give students credit; they are often smarter than we think.
2. Instead of spoon-feeding children ready solutions pose engaging, provocative questions and let them try to work out the answers by themselves, not passively consume.
3. Allow them to develop knowledge and competence (including linguistic competence) in areas of their interest.
4. Students will read and often comprehend much of the material normally intended for 'more serious' audiences. Doing so can boost their reading comprehension (indeed, many teaching materials overly simplify content and language).
5. Reward effort. A little encouragement can go a long way; it empowers learners, builds confidence and leads to sustained engagement.
6. School is a place not only for competition, but also collaborative learning. Children like to share their discoveries and newly learnt knowledge. Teamwork can be enforced by giving one desktop to 4-5 children, assigning them a task, and asking them to report the findings in front of the class.
7. Make space for the internet in the syllabus and pedagogy.
8. Consider overhauling some exams to allow access to resources such as the internet or dictionaries, if the aim of the assessment is to replicate everyday tasks. Given the wash back effect that exams exert, this also means the focus of education should shift from test-taking (TT) towards solving more real-life problems.
9. A pretty neat alternative to the language lab or software in self-assessment of pronunciation skills is using speech to-text software (if the goal is EFL rather than ELF).

III. INVOLVING CLOUD IN EDUCATION
There is a growing awareness around the utilization of cloud computing in education. As organizations involved in the area typically face severe budget restrictions, there is a need for cost optimization mechanisms that discover exclusive features of digital learning environments [6].
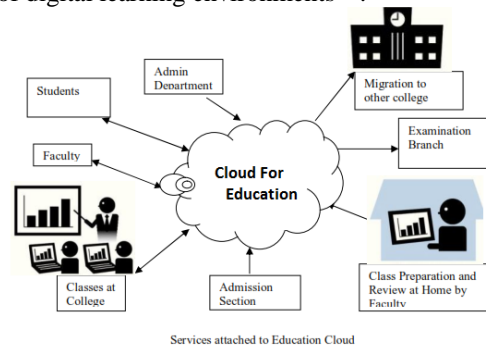

Figure 1[10] :Educational Sevices in cloud

In this process flow (Figure 2) The user has to connect to GPRS / Bluetooth / Wi-Fi and connect to the cloud network and get the required topics and based on the selected topic the materials will be downloaded to the devise for the reading process. Users retrieve the data either in the form of text/video/voice from the cloud center. The subscribers are select which they want to download or retrieve from the data centers with the help of self-assistance [4].
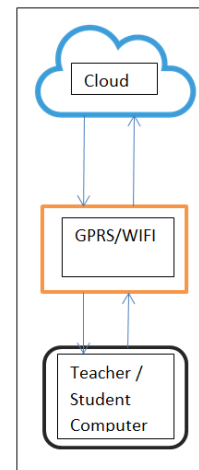

Figure 2: Process flow in education cloud

A. What are the cloud based applications and tools? [8]

Cloud based tools or applications are online or web based applications that are available generally via a web browser. They range from basic websites to complex and highly collaborative Online Learning Environments (OLEs). Many are free for education or may have basic versions which are free, while possibly charging for more advanced functionality. Some are subject specific (for Maths, English, Science etc.,) while others such as online learning environments can be used to support any subject area or topic. Today more services, tools and applications are being provided 'in the cloud'. For example, both Google and Microsoft now offer internet cloud-based office productivity suites (word processors, spreadsheets etc.) in the form of Google Apps and Office365. Internet based cloud based data storage services such as Microsoft's Onedrive and Google Drive Apps for Education are increasingly popular with schools. Mobile apps for smartphones, tablets and other devices facilitate simple access

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to and synchronization of files and folders across multiple devices, while services such as Apple's iTunes/iCloud and Google Play offer cloud storage and other services. Cloud based tools and applications are provided using a technology generally referred to as cloud computing. School Principals and teachers are only too well aware that technology changes and young learners thrive in that changing world of technology. Cloud based tools and applications bring flexibility and new possibilities for improving pedagogy as well as a new set of challenges in how to make best use of the potential of the cloud. Here you will find a brief overview of cloud computing and some aspects to consider when deciding if it is right for your College.

Tools /Application Focus	Examples of Cloud based Tools and Applications
Portal for educational content	Scoilnet.ie
CPD Platform	TeacherCPD.ie
Productivity applications	Google Apps for Education, Microsoft 365
Online Storage, File Sharing	Dropbox, Google Drive, iCloud, Microsoft OneDrive
Virtual Learning Environment /Online Learning Environment	Edmodo, Schoology, Schoolwise, Google Classroom
Maths Applications	Khan Academy
Video Sharing Service	Youtube
Blogging Platform	Wordpress, Kidsblog
Online Presentations	Prezi
Surveys	Survey Monkey
Sharing presentations	Slideshare
Microblogging	Twitter
Photo Sharing	Instagram
Schools Administration System	Vsware.ie

Examples of just some Cloud based Tools and Applications that are used in Education

B. *Let we have a glance with Schoology vs Edmodo Schoology vs Google Classroom* [9]

Schoology and Edmodo follow UX best practices and deliver a friendly, somewhat Facebookish interface that will cause no problems on either side of the e-Learning spectrum. No cluttered dashboards, no spreadsheet-style menus – everything is bright and clear. Likewise, an average Internet user will be at home with Google Classroom's UI, which is reminiscent of Google's other services. First and foremost, Edmodo and Schoology are full-fledged LMSs. That means you will find therein all customary teacher modules like assessment, discussion panels, announcements, schedules, grading, etc. the Google solution harnesses the power of all relevant Google apps

and services applicable to the learning and knowledge sharing process. Google Apps for Education is recruiting more and more schools and districts these days, and Google Drive integration is becoming a must. It's worth mentioning that both Edmodo and Schoology allow instructors and learners to access their Google Drive accounts for educational purposes.

IV CONCLUSION

Main theme of this paper is to optimize the resources and obtain good quality by using different teaching methodologies and technologies. As we discussed above now teacher has to adopt new approaches to make the students for upcoming challenges. It is not a hourly or periodic process of teaching and learning it's a continuous process. That means teacher should be available 24/7 to the students.at the of teacher end he won't lose his data. Students will improve their ability towards self-organized learning.

According to my experience we can concentrate more on SOLE. The students of current generation they are not ready for spoon feeding. They need something new and availability. By involving cloud we can make the availability.

Both Schoology and Edmodo run app stores that help you to plug in external apps and programs for a certain fee. So we can use in our education system very easily.

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