Digital School – A Web Application for Digital Learning

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Abstract

In world like ours, where NASA finds water on the moon and when technology is a part of everyone's daily life, many things have evolved in the field of education too. Learning style nowadays has been improved in many aspects such as Physical, logical and virtual. There are many ways to improve the teaching techniques like smart board, digital learning and virtual reality. Many children, who live in the interior part of a country like next to villages, are always backward. They lack good education because good institutions are mainly found in cities. For these children, travelling to far off places maybe be difficult as transportation will also be difficult. But, by using Digital education or Digital Learning, the students achieve instant communication with the teachers electronically. This helps the students interact with the teacher from anywhere and everywhere. Many students have got benefits by using digital learning in their studies. They learn it easier and faster by using different technology devices that become a part of their studies. Therefore, it has become of great concern and source of inspiration for us as students to get technology into education. This experiment started with a search in different social networking sites. Some surveys were also made and parents, teachers, students and some specialists in the field of education were interviewed. Some interesting facts were also mentioned in the Internet which caught our eye. It was surprising to see that the advanced and developed countries had reached great heights in modern education. In this research, we are focusing about digital learning and discussed the following points: What is digital learning and why it is

important? Features of digital learning and the difficulties that are faced. Our experiences to apply digital learning to design a web application. Studying by digital learning is an interesting technology which can makes the subjects easier to understand. The basic digital learning doesn't need advanced technology or devices. It could help many students especially the ones who live in rural are 'One Step for man, giant leap for mankind.' Hence by working together in this great project we could use technology to its advantage in education for us and for the coming generations too.

Keywords: Digital learning, E-Learning, Blended learning, Open learning, MOOC

Introduction

Throughout history, educational methods have evolved, and the three most important axes of the educational system are the teacher, the student, the method of education. There is no doubt that the technology is considered in our current reality as one of the most important sources of learning because of features difficult to enumerate. The Khan Academy is one of the most famous educational platforms that have helped many underprivileged students complete their education after wars and economic conditions have deprived them of their educational rights (Thompson, C., 2011). The site currently provides more than 4,000 lectures in the form of videos covering various disciplines. The site has been translated into 23 languages, while the sections have been translated into 69 languages. There is also the Udemy platform (Cetina, I. et.al., 2018), which contributes the training and education of more than 80,000 visitors a day, and more than 19,000 trainers and professors participate in its programs. The availability of these educational and other platforms is evidence of the ability of the technology to deliver the educational message to suit the requirements of the educational stage and its current generation. The provision of electronic content will help the students to develop his creative skills. They are also a catalyst in developing the teacher's ability to understand and understand the students' abilities. Digital education also contributes to increasing parents' awareness and gives them free access to this electronic content, which motivates them to follow their children, learn about their absorptive capacities, develop them, and address their shortcomings (Arkorful, V. and Abaidoo, N., 2015).

Nowadays there are no home without technical devices (laptop, tablet, telephone devices), all technical means that the student can handle with skill and proficiency, but can be employed and

accepted in the scope of education, which helps him to absorb a lot of subjects, and increase the proceeds cognitive. Therefore, digital education in some countries may be a huge project, but it is easy to apply due to the availability of technology, accessibility, and knowledge of its use by all. All that remains are its application and understanding of its importance by some parents and society. The introduction of any addition to teaching methods does not necessarily mean the abolition of other means, such as: the book, which is the source of basic learning accompanying the student, because the advantage of digital education in addition to the outcome of knowledge in the student, not the basis to replace the book, or even reduce the role of the teacher. Technology and e-learning are an integral process that is not useful without a key role for the teacher, student, and book, which is the source of the first knowledge (Sun, P.C. et.al., 2008).

Digital Learning

What is digital learning and why it is important?

Digital Learning is learning facilitated by technology that gives students some element of control over time, place, path (Bates, A.W. and Bates, T., 2005). Digital Learners know that learning is not restricted to the school day or the school year, learning is not restricted within the walls of the classroom, learning is not restricted to the pedagogy used by the teacher, and learning is not restricted to the pace of an entire class of students. Also, digital learning is an education program that combines online digital media with traditional classroom methods, and it is more than students using a laptop or a teacher using a smart board to show presentations. Digital learning requires a combination of technology, digital content and instruction. The Internet and the wide variety of technology tools/devices have given students the ability to learn anytime, anywhere and everywhere. Digital learning encompasses many different facets, tools, and applications to support and empower teachers and students, including online courses, blended or hybrid learning, or digital content and resources (O'Byrne, W.I. and Pytash, K.E., 2015). Additionally, digital learning can be used for professional learning opportunities for teachers and to provide personalized learning experiences for students.

Digital learning offers creative options for teaching and learning to build knowledge for those students who cannot attend traditional classroom (Greenhow, C. et.al., 2009). Also, it enhances communication and supports collaborative learning among students: through email and electronic publishing boards where students communicate with each other and with their teachers and kind of cooperation with various schools. Its flexibility, efficiency support the role of the teacher as a guide to the education process.

A simple comparison between traditional education and digital education is given in Table 1.

Table 1. Comparison between Traditional Learning and Digital Learning

Traditional learning	Digital learning
Enables you to see how individual students and the group are progressing and interacting, instantly. This means you can respond directly, and even change things on the go.	Gives you a chance to extend learning long after the class has finished.
Helps nurture students' 'soft' skills, such as interpersonal relationships, speaking in front of a group, and collaborating.	Allows you to add more depth to a topic, students can not only review what they learnt in class, but also reinforce and enrich their understanding.
Can also be a noisy environment that hinders students' behavior and concentration.	Is a way to test and probe students via polls and online discussions and give on-going feedback.
Relies – to an extent – on a common pace of learning. This can take students at either end of the spectrum (fast or slow) out of their ideal path.	Allows a student to carry out one-to-one conversations with a teacher that they might be reluctant to do in class (or that, quite simply, there might not be time for).

Features of digital learning and the difficulties that are faced

Digital learning is more than just providing students with a laptop. Digital learning requires a combination of technology, digital content and instruction (Hedberg, J.G., 2011).

- Technology: Technology is the mechanism that delivers content. It facilitates how students receive content. It includes Internet access and hardware, which can be any Internet access device – from a desktop to a laptop to an iPad to a Smartphone. Technology is the tool, not the instruction.

- Digital Content: Digital content is the high-quality academic material which is delivered through technology. It is what students learn. It ranges from new engaging, interactive and adaptive software to classic literature to video lectures to games. It isn't simply a PDF of text or a PowerPoint presentation.

- Instruction: Educators are essential to digital learning. Technology may change the role of the teacher, but it will never eliminate the need for a teacher. With digital learning, teachers will be able to provide the personalized guidance and assistance to ensure students learn and stay on track – throughout the year and year after year – to graduate from high school. Teachers may be the guide on the idea, not the sage on the stage.

How digital learning can improve the education

Different technologies can improve learning by augmenting and connecting learning activities (Wu, H.K. et.al., 2013). For example, in a geography lesson two classes in different schools may link up via the internet to explore cultural differences in relation to a global issue such as pollution or energy supply. The groups could work together to understand not just the issue itself, but it's impact on communities and individuals by talking to real people. In situations where bandwidth is limited this could be done at a whole class level via video or even over email or SMS (Short Message Service) messaging. Digital technology can often also be exciting for learners and offers a potentially more engaging alternative. At the same time, it is important to be aware that some learners may be less confident in learning with digital technologies and steps need to be taken to ensure equality of access. Digital technology offers immediate feedback for both the learner and the teacher.

Challenges of digital learning

- A lot of time and resources are currently being invested into technologies and applications that have yet to be proven to be effective or efficient when compared to more traditional classroom learning contexts.

- Teachers and schools need to think carefully about when, why and how to use technologies as well as evaluating their efficiency and effectiveness.

- Implementing and then maintaining technology is costly particularly as systems can quickly become out of date.
- There may be problems with the existing infrastructure, for example internet connections may be inconsistent and/or slow.

Our experiences to apply digital learning in designing a web application

Our project (Digital School) seeks to develop education with the latest developments through the integration of technology in education where the focus is on all parties of the educational process. Teacher and student and educational materials seek to develop it through the integration of technology in the educational process and connect the teacher and student through communicating with each other and exchange ideas and opinions .We will focus on two technical aspects in our project, a website for communication between teacher and student, exchange of questions, opinions and ideas, as well as discussion. A remote site that allows each teacher to add educational materials from video, photos, writing, and PowerPoint, voice recording and tests as well as interacting with students. It will help teachers to use technology in the educational process and transform the curriculum into interactive electronic curricula. It trains the teachers and students to communicate electronically with each other and help students to love technology. The website also encourages them in education and interaction with school activities and to interact with the teacher like direct contact with him

.

Our system includes the following:

Admin can manage all the users. Admin can add, modify, update and delete in this system. Also, can add an important link for students and teachers that help them in educational process.

Teachers can login and register to the system. Also, can update their profile, can chose the subject resource and upload importance recourses for the subject like (power point, video, audio, pictures, activities paper, quiz, etc.) Also, they can receive message from the students, and search for other teachers and communicate with them.

Students can login and register to the system. They can update their profile and check for the subject online and download and study from the website and search for the subject. They can attempt small quiz and see their result immediately. They can contact the teachers and send message for the teachers and communicate with them in any time.

Figure 1-5 represents the different screens of the Digital School project.
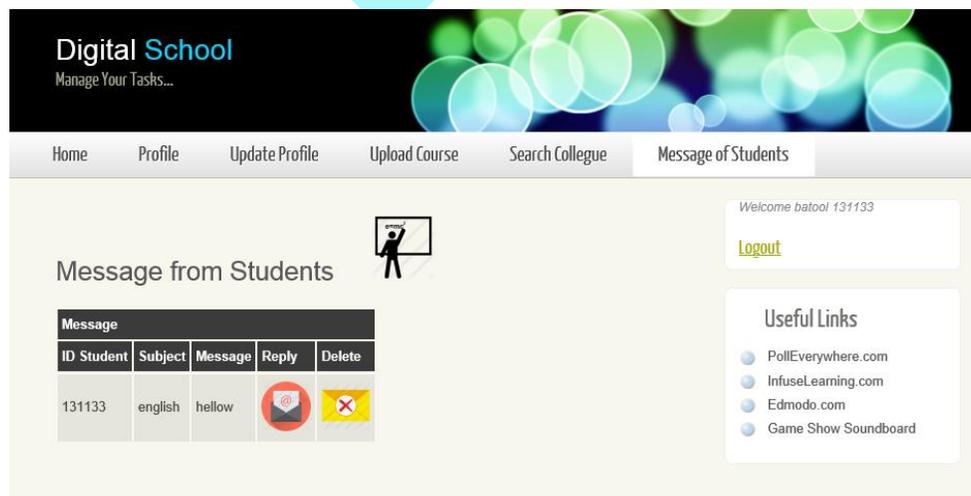

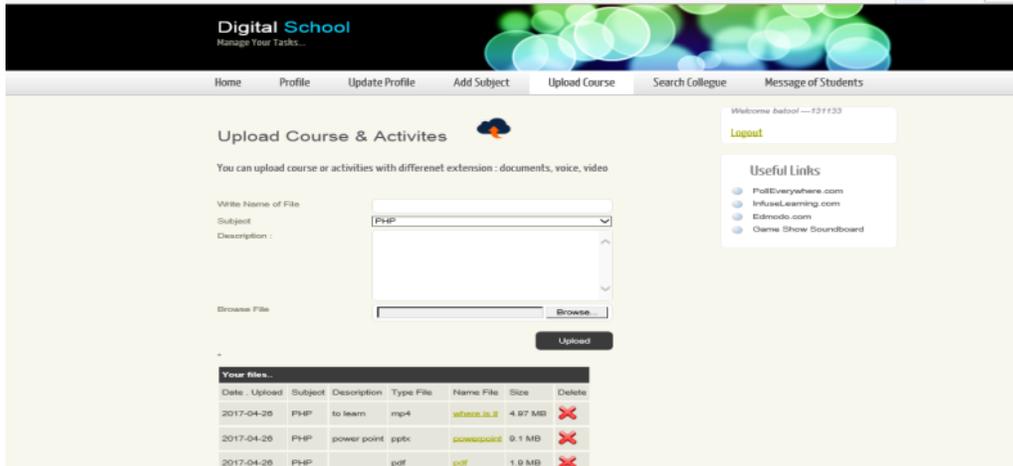**Figure 1. Add New Subject screen**

Figure 2. Student Message screen

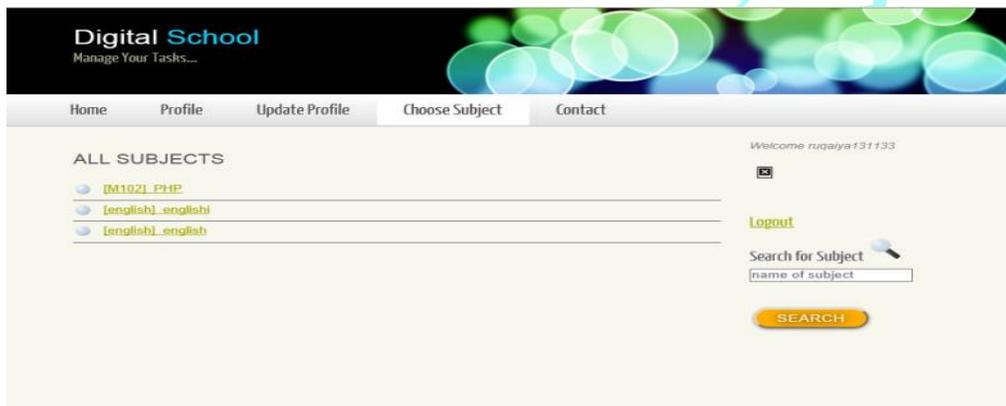**Figure 3. Upload Course & Activities screen**

Figure 4. Choose Subject screen

Figure 5. Learning resources screen

Results and Findings

One of the main focuses of this research is the studying by digital learning, an interesting technology which can makes the subjects easier to understand. Digital learning is not just a change of technology. It is part of a redefinition of how we as a species transmit knowledge, skills, and values to younger generations of workers and students. This research makes a few predictions of how digital learning and the functions it serves will continue to develop. Learners will have access to millions or billions of knowledge modules. Some will be web pages with simple text and graphics. Others may include multimedia simulations. In many fields, digital learning has become the default way to conduct training or to provide education. Digital education contributes to making the student more active and independent in their learning and more responsible. This will change the role of the student from being a learner to a learner as well as the role of the teacher from expert to collaborator and facilitator. Teachers should be trained to integrate new technologies and resources available online.

Conclusion and Future

To conclude our research paper, we would to approve that the education develops in many ways where the new technology helps the student to study easily by using different ways. Also, Digital Learning enable students to learn anytime and anywhere. Add to that it offers opportunity to raise educational standards in schools. Also, schools can allow teachers and learners the freedom to explore potential new uses of devices and systems as well as combinations of technologies into novel digital. Teachers and learners should be encouraged to share their practice with each other in the classroom and more widely. Teachers can make the best use of technology in the classroom by developing their awareness of a range of digital technologies and considering carefully both how and why they can be used to support students' learning. Effective selection of software and devices is only part of the story. The consideration of what learning will be achieved and how the technology may help is fundamental to its effective deployment as you know Digital learning is becoming increasingly prominent in tertiary education.

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