



## Digital Education and Learning: The Growing Trend in Academic and Business Spaces—An International Overview

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### Abstract

The world is become Digital day by day and thus activities, features and sectors and different spaces are highly associated with Digital Tools, Techniques and Technologies. Education domain becomes highly technology enabled in recent past and this strategy is rising out and as a result various concepts, areas and domains have been created viz. Education Technology, E Learning, Online Education, Blended Learning and as a whole this concept and this area may be called as a Digital Education/Digital Learning. Internationally many universities have started educational programs leading to Bachelors and Masters Degree in respect of Digital Education and its subfields (mentioned above). The awards are offered in different subjects and are tagged with concentration and major in this area. The Digital Education becomes an important area of research as well due to its importance, many universities have started research program leading to PhD and other professional doctorate degrees. This study is concentrated on Masters degrees in the field of Digital Education and Digital Learning which are available internationally, based on selected research methodologies. This paper emphasizes the role, growth and values of Digital Education and Learning including future growth and stakeholders in this field.

### Keywords

Digital Education, E Learning, Higher Education, Digitalization, MSc (Digital Education), International Universities, Professional Degrees

### Introduction

Digital Education and Learning may be defined as a broad concept that deals with the educational affairs and learning with the help of Digital tools and technologies. And here Information Technology tools play an important role; and among the tools most important are Database Technology, Networking Technology, Communication Technology, Multimedia Technology, Software Technology and so on. Today Digital Education and Learning is required are different spaces and sectors viz. Higher Educational Institutes, Universities, Colleges enormously; though in developed countries and nations and in recent past schools system has also applied Digital Education concepts [1], [8]. Among the most common form of Digital Education and Learning; most important and valuables include adaptive learning classroom technologies, e-textbooks, learning analytics, learning objects,

open educational resources (OERs), technology-enhanced teaching and learning etc. Within Digital Education, *E-Learning* (also called as Educational technology) is concentrated on theory as well as practice of educational approaches that assist in the communication of knowledge, and its development and exchange among the learners [2], [3], [9]. The values of Digital Education have been increased also in the corporate houses and organizations in recent past as a part of their following—

- General Training with the assistance of the Technology;
- Higher Studies with the assistance of the Technology;
- Continuing Education and Skills with blended learning and so on.

Similar to the corporate houses and organizations the applications and integration of the technologies into the Higher Educational Institutes are also important and valuable in different context and there also advanced E Learning and Digital Education may be employed [4], [5]. Due to the need and emergence of the technologies in different sorts of education, research and training many universities have started programs in the field with the level of Bachelors, Masters, Doctoral Degrees with various nomenclatures (though many subjects are smaller than Digital Education) viz.—

- Education Technology
- E Learning
- Virtual Learning and Online Learning
- Online and Blended Learning and so on.

Currently many universities also been started programs in this field with different focus and levels viz.—

- Major & Minor
- Honors
- Concentration
- Specialization etc

### **Objective**

The current paper is conceptual in nature and interdisciplinary in context and thus mainly carries following aim and agenda (but not limited to)—

- To learn about the basic of Digital Education and Learning including its meaning in general form.
- To know about the basic function and features of Digital Education and Learning in general context.
- To learn about the benefits and advantages of Digital Education and Learning in general context.
- To learn about the applications and integration of the Digital Education into different space, sectors and systems.
- To gather information about the stakeholders of Digital Education and Learning and its rising form.
- To know about the latest tools and technologies in respect of Digital Education and Learning and future scenario.
- To dig out about the latest methods of E Learning and Digital Education and general form of the education in simple sense.

- To know about the educational opportunities available in the field viz. *Digital Education* including Education Technology E Learning, Virtual Learning and Online Learning, Online and Blended Learning and so on.
- To learn about the universities offering educational programs in the field in India with basics of curricula components.

### **Digital Education & Learning: Fundamentals**

Digital Education and learning is any type of learning and educational systems that is supported by the technology. It is a kind of instructional practice using effective technology. Digital Education encompasses the application of practices and that may be carried by the combination of blended and virtual learning. There are many similarities in online learning, e-learning, digital learning and among the strategy (any one or combination) may be the following are useful—

- Adaptive learning
- Badging and gamification
- Blended learning
- Classroom technologies
- E-textbooks
- Learning analytics
- Learning objects
- Open educational resources (oers)
- Technology-enhanced teaching and learning
- Mobile learning
- Personalized learning
- Online learning (or e-learning)
- Virtual reality

It is worthy to note that the tools and strategies are increasing day by day and useful in different sorts.

### **Definitions and Meaning of Digital Education**

The concept of Digital Education and Learning is changing rapidly and the meaning of the Digital Education is tough enough to discuss. In generally Digital Education may be defined as “Digital Education is a practice, technologies and field responsible and dedicated to the use and promotion of the Education System as a whole including the E Learning and Online Education concept, it is more than technology enable teaching-learning, it is about the application of IT and Digital Technologies in Educational management, administration and leadership [6], [7].

- Educational technology may be defined as a theory as well as practice of educational approaches to teaching-learning.
- Educational technology is a field of study that assists in the communication of knowledge, and its development and exchange of views in generally.
- Educational technology is using different kind of tools and technologies that uses student as well as curriculum management. Moreover this may also define as an education management information systems (EMIS) for the educational promotion.
- Digital Education is helpful in the promotion of the application of technologies in back-office management viz. HR Management, budget management, and Learning Record Store (LRS); and these are required for the data storage and analysis.

Hence the concept of Digital Education and Digital Learning is about the technologies in education systems and conceptual affairs and strategies towards the educational promotion and development including better and enhanced teaching-learning affairs.

### **Synonyms and Digital Education**

There are many synonyms in Digital Education and Learning and among these few important are include Online Education (This is the application of Computing and IT in use and promotion of educational delivery in online mode), Virtual Learning (Similar to the Online Education this is responsible for the online education but may not be internet based), E Learning (This is only dedicated to the educational affairs; mainly teaching and learning with the help of Information Technology Components), Education Technology (This is similar to the E Learning but the nomenclature Education Technology is treated as a field as well), Blended Learning (This is a combination of Manual Education using physical means and also online means).

This is worthy to note that Digital Education and the concept is rising and gaining more in recent past and treated as a field of study rather tools/ technologies.

### **Methods of Digital Education**

Digital learning is responsible for the enhancing learning experience and combines traditional methods (but not limited to the following)—

- Blended/hybrid learning
- Online learning
- Flipped learning
- 1:1 learning
- Differentiated learning
- Individualized learning
- Personalized learning
- Gamification
- Understanding by Design (UBD)
- Universal Design for Learning (UDL)

The above mentioned technologies and tools are using in Common pedagogies, or practices of teaching, that combine technology and learning.

### **Technologies behind Digital Education**

There are different kind of tools, technologies and resources that are useful and enhancing traditional education systems into new one and also digital learning environment healthy and smarter. Below mentioned are resources and tools may be helpful for the 21st century teachers and educational institutions (but not limited to the following):

- RSS or Social Readers
- Google+ Communities
- YouTube Channels
- iTunesU
- Digital Pocket
- Zotero
- Cloud-based Word Processors (i.e. Google Drive)
- File-sharing platforms (i.e. Dropbox)
- Evernote etc

### Benefits of E Learning

Digital Education and Learning is an emerging and valuable service in modern age education systems and it is normally comes with different kind of attributes and advantages viz.

**Time:** Learning with the help of Digital Education and Learning is gaining popularity. The main advantage of the electronic education systems system is anytime and anywhere availability.

**Place:** Learning with the help of electronic means not able to offer in the walls of a classroom. The Internet and similar technologies are helpful in making anywhere and everywhere learning and education.

**Path:** Learning in today’s context not only restricted only in pedagogy used by the teacher. Today advanced tools and technologies various applications and software are responsible for the creation of own style. New kind of learning technologies gives up-to-date information and for betterment we need better E Learning technologies.

**Pace:** The advance IT components viz. Database Technology, Web Technology, Multimedia Technology, Software Technology allows students to learn at their own pace with interactive and advance level of study.

### Stakeholders of Digital Education

Digital learning is more than that of a laptop and projector based education. Digital Education is a combination of technology, digital content and instruction and among these few important are include but not limited to the following—

**Technology:** Technology is the core of Digital Education and among the technologies few important are include Database Technology, Web Technology, Networking Technology, Multimedia Technology etc for the delivery of the content nicely. It includes different kind of tools and components as well.

**Digital Content:** Digital content is the vital for the Digital Education and similar educational systems viz. E Learning, Online Education, Virtual Education etc. Without content nothing possible in Digital Education and Systems.

**Instruction:** Technology may change the role of the teacher but an instruction is always important and required. The education, teaching-learning is about the instruction and Digital Education and Learning plays a lead role in this context [6], [10], [11].

### Digital Education and Educational Programs: World View

Internationally the need and role of Digital Education and similar technologies are rising and the need is also increased in recent past due to several benefits of the Digital Education and similar subjects. According to this specified study it has noted that many universities internationally offer educational program in the field and as per the methodology adopted in this research work only educational program nomenclatures as ‘Digital Education’/ ‘Digital Learning’/ ‘E Learning’ has been studied and mapped. Table: 1 in this regard offered in details.

**Table: 1- International Universities offered Digital Education & Learning Program as per methods adopted**

Sl. No.	Name of the Program	Institute/ University	Remarks	Country
1	MSc (Digital Education)	The University of Edinburgh	1Year (Relevant Bachelors Degree)	UK
2	Master of Digital Learning	Charles Darwin University	2Year (Any Degree/ Relevant are	Australia

			preferred)	
3	MEd (Digital Education Leadership)	Seattle Pacific University	1 Year (Any Degree)	US
4	MEd (Digital Learning and Leading)	LAMAR University	1 Year (Any Degree)	US
5	Master of Professional Practice (Digital Learning)	DEAKIN University	2 Year	Australia
6	MS in Education (Digital Age Learning & Educational Technology)	John Hopkins University	1 Year (Any Degree)	US
7	MEd (E Learning)	Massey University	1 Year (BEd/ Any Degree)	New Zealand

It is worthy to note that the programs in the Digital Education and Learning are offered in different form; and degrees among the general stream context popular with the nomenclature of Science and Education. Though very few universities offer the area within Social Science tag and few offer directly to the subjects viz. Master of Professional Practice (Digital Learning). As far as the duration, most of these are 1 Year based and few are 2 Year based. As far as the curricula are concerned it is the combination of Education, Technology and Management Sciences. Though it is important to note that few curricula are concerned and focused on core of Technology and limited educational affairs and few have provided importance on education and next to the Technologies. Few are skill based and few programs conceptual. The Table: 2 in this regard offered sample curricula in International Universities.

**Table: 2- Curricula offered in the International Universities offered Digital Education & Learning**

Universities	Papers/ Courses
MSc Digital Education The University of Edinburgh	<b>Compulsory Papers</b> An Introduction to Digital Environments for Learning (compulsory for all students) Research Methods (compulsory for those studying for the MSc) <b>Option courses may include:</b> Digital Futures for Learning Education and Digital Culture Digital Education: Strategy & Policy Digital Education in Global Context Course Design for Digital Environments Introduction to Digital Game-Based Learning Assessment, Learning and Digital Education Understanding Learning in the Online Environment Learning Analytics: Process and Theory Wider Themes in Digital Education
Master of Digital Learning, Charles Darwin University	Digital Technologies and Project Management in Education (Core) Research (Core) Internship (Core) Elective Papers Web Development & Programming System Management New Media New Media Web Development
MEd (Digital Learning and Leading) LAMAR University	Concepts of Educational Technology Applying Educational Technology Portfolio Leading Organizational Change Disruptive Innovation in Education Creating Significant Learning Environments Digital Learning in Local and Global Contexts Assessing Digital Learning and Instruction Digital Citizenship Resources for Digital Environments

	Instructional Design in Online Learning Special Topics - Technology Synthesis of Digital Learning and Leadership/Capstone
Master of Professional Practice (Digital Learning) DEAKIN University	Digital Learning, Designing and Assessment Research Design, Development and Methods Digital Learning Professional Expertise Critical Thinking Communication Digital Literacy Innovation Problem Solving Team Work
MS in Education (Digital Age Learning & Educational Technology) John Hopkins University	<b>Core</b> Technology and The Science of Learning <b>Electives</b> Culturally Responsive Teaching Emerging Issues in Digital Age Learning Evaluation and Research in Digital Age Learning Advanced Applications in Digital Age Learning Advanced Seminar in Digital Age Learning <b>Specialization</b> <i>(Online &amp; Blended Learning)</i> Instructional Design for Online Learning Designing & Delivering Online and Blended Learning Environments Gaming and Media Design for Learning <i>(Digital Age Learning Leadership)</i> Data Driven Decision Making Technology Leadership for School Improvement Integrated Media into Standards Based Curriculum

### Suggestion and Future Potentialities

The growth of modern education is remarkable and noticeable, day by day the education systems is getting smarter and advanced with latest Information Technology systems. Universities are moving efforts towards new age education systems and here smarter and digital technologies become integral part. As far as this topic is concerned following are few possible and required suggestions—

- Universities should provide good amount of innovations in the curricula and components in Digital Learning and Digital Education.
- Specialization may be started in the allied and related departments and programs viz. MSc-IT (Digital Education) or MSc-ICT (Digital Education) or MSc-Information Science (Digital Education) etc.
- Similar to the Computing and IT oriented program’s potentiality as a Specialization the same may be started with Management and Commerce field viz. MBA (Digital Education), M.Com (Digital Education), MBA (Digital Education and Leadership).
- Universities according to this study noted that few are offered different kind of attitude and approaches towards education and programs. Few universities are offered skill based components into the curricula and few are conceptual and research oriented.
- Industry and academia integration may be established for better and healthy result Digital Education learned and degree holders and thus this efforts may be established.

### Conclusion

The development of any kind is truly depends on solid and healthy promotion of education, training and research. It is about the application of Information Technology components into the education and allied affairs. Universities and organizations are now a day’s moving efforts towards introduction of

the new age education and modern systems in education [2], [9]. Digital Education and the concept is rising rapidly and the technologies involved into this. Research is going-on in these areas to improve the development in modern age systems and here e-learning and similar systems are valuable and worthy. Universities in developing countries may establish special focus for the development of research and education in this field.

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