

Potentialities and Challenges of Using Internet and Digital Technologies in Teaching Learning Activities

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Abstract

The internet and the digital technologies are modern technological devices which have been very useful for the modern human beings. This article does constructive analysis of the usefulness of internet and digital technologies in the field of teaching and learning. This article is a systematic review that follows content analysis of the different national and international level articles which deal regarding the issues of the challenges and opportunities of the digital devices in the field of teaching learning activities.

The themes which have been explored from the review of the literature have been thoroughly analyzed in logical and argumentative way. They have been systematically organized for the sake of generating new knowledge. The article comes to an end with results and findings in the conclusion section along with some recommendations of the researcher.

Key Words: Argumentative, Generating, Digital Technologies, Constructive, & content

Introduction

Internet and digital technologies are the ICT tools or devices which have been rapidly growing into the global context. They have been the integral part of the modern human beings. There is no such field which has been untouched by the technology (Livingstone, 2012). They have been working as co-partners to the modern human beings for various ways. They have been working as agents for the social transformation. They have made our life convenient and easy and fasten the pace of life. However, there are several positive and

negative aspects of using digital devices and products such as internet, computer, mobile phones, tabs, telephones, smart phones, goggle, blogger, twitter, muddle, Wikipedia and so forth (Ng, 2015). Such devices are useful for sharing knowledge and information, scientific innovation, tools for motivation, effectiveness of the teaching learning activities and many others.

However, integration of the ICT tools in teaching learning is just like acquisition of knowledge and information. It is a gradual process which needs continuous efforts from the teachers and their skill of integration of technological devices. This can't be taught in isolation rather it has to be the part of modern pedagogy (Kundu & Bej, 2021).

In one hand this article talks about the necessity of the integration of the digital tools in education so as to foster cognitive development of the learners, enhance motivation, develop interest on learners, make them open to the entire world, enhance connectivity, develop twenty-first century skills, learn life skills and enjoy the opportunity of online learning. But on the other hand this article talks about the problems of integration and challenges such as lack of knowledge of the technologies, problems in using such tools, lack of teachers trainings, and some of the barriers of using new technologies (Phillips, 2015).

This shows that modern technologies are neither good nor bad in themselves. It demands learners and teachers hard work and continuous endeavors to be familiar with such devices. Regular practice and keen love to the technological devices along with pedagogical connection with such devices will support in enhancement of the technological skills and for the professional development of the learners and of the teachers.

The article *Study on Digital Education in India* rarely presents negative aspects but on the other hand the article only raises the issues such as insufficient funding for digital devices, and lack of their proper management as its negative aspects (Bandyopadhyay & Sen, 2011). However the article valorizes the scope and usefulness of the digital education system. According to the article, the learners are eagerly using and enjoying such devices such as computers, laptops, mobile phones and so forth. This further indicates that it enhances audio visual aids, learners creativity, their technological skills and the learners are

enjoying various modes of online classes such as Zoom Cloud Meetings, Seminars, Video Conferences and so forth (Gond & Gupta, 2017).

The article seems to be missing many noble digital devices and their complicate using procedures. It seems to have very limited view of the modern digital technologies such as 3G mobile, blogger, Moodle, I-phone, tabs, smart boards, internet, and so forth. Similarly, it doesn't seem to be clear about the negative effects like, dependence, social diversity, and social fragmentation, lack of natural and creative ways of learning.

Similarly, the article which deals about the *Perception of the Turkish Teachers on Digital Education* states that despite poor knowledge of the teachers and lack of better digital facilities, it highlights the scope of digital education. This article focuses that digital education motivates the learners, inspires them and creates interest. It further makes them creative and connects the learners to the global society, enhances their communicative skills, creates global awareness, and makes them interactive. It also makes them familiar with the up-growing digital devices and the ways of using them in learning. It enhances the pace of learning and saves teachers time and effort in teaching activities. The use of audio-visual aids makes the classes interesting and effective (Çelik & Aytin, 2014).

Although this article valorizes the scope and potentialities of modern digital devices, the author misses out some of the major challenges regarding the cognitive ability of the learners, teachers' awareness of the noble digital aspects such as use of projectors, smart boards, e-library, blogger, 3G mobiles, data packages, and so forth.

Likewise, the article *Technology and Education* concerns its study in the advanced countries such as United Kingdom, United States, England and other western countries. This shows that the large numbers of people in such countries are technology friendly. More than seventy percent people are found using technology in teaching learning activities. They believe that the technology can be used in universities, schools, communities and homes. The government and the policy makers spend large sum of money for the distribution and management of digital devices. Despite some challenges they focus on the use of digital devices in teaching learning activities. They believe that technology not only teaches them

content, skills of pedagogy, rather it promotes their professional skills and economic growth (Bulman & Fairlie, 2016).

This article shows that the use of technological devices in education is distinctly higher in the advanced countries. It means the developing countries like, Nepal are still lagging back in the field of digital education. There can be several factors behind this fact.

In the article the *Internet connectedness and Inequality*, the author claims that the digital devices can create gap between have's and have's not. This kind of digital divide can create problems in the society (Jung et al., 2001). As majority of the people from Nepal are poor, it can be a serious challenge even in the teaching learning activities. Majority of the people may be deprived from the education itself. So, we need to take this issue into consideration while moving towards the digital education.

So, the concern of this review article will be finding out the causes for the poor use of digital devices in the developing countries like Nepal. This review will carry out some of the lacking which can be with the policy makers, government, teachers, students' and with the stakeholders regarding the use of digital devices in teaching learning activities. It will also give some factual suggestions to all the concerned individuals and the institutions. Ultimately the research findings will support for the improvement and better management of the digital education. The article also makes some suggestions for the awareness of digital literacy.

Methodology

This paper is a systematic review paper based on content analysis rather than meta-analysis. The introduction section will present about their contributions and the researcher does evaluation of the findings of the themes related to the ICT based education. The article clearly answers the Wh. questions such as what, why, how, and whom. It follows the procedures such as designing review, conducting review, analyzing review, structuring review, and synthesizing review (Snyder, 2019).

Twelve research articles on scope of digital education in the global context are reviewed. While going through the review article, first of all I explored the percept,

developed concept and gone through the process of analysis. It is a systematic review article which does systematic analysis of the individual research articles considering the need of the experts and new researchers. It will also be beneficial to the decision makers, stakeholders and policy makers. Extension of subjective specific language and the subject matter will be given special focus.

It follows systematic procedures where I have decided my position as a neutral critic or analyzer. I have developed the paradigm of my study within the scope of digital education in the global context in general and context of developing countries like, Nepal at specific level. Furthermore, the article will focus on both challenges and possibilities with some remedial measures to overcome the challenges. The process will go through very general to specific level. Comparison and critical analysis will invite necessary results regarding its growth, barriers, and necessary actions for the improvement (Hopia et al., 2016).

This article will concern about the themes: *Scope of Internet and Digital Education, Possibilities of the ICT Blended Learning, Digital Education in Nepalese Context, Challenges of Digital Education, and Necessary Suggestions for the Improvement of Technology-Based Education.*

The selection of the research topic covers all the title of the themes whereas the introduction section of the review paper imparts brief information related to the themes and finally the discussion and analysis section makes the critical study of the thematic areas. At the end, the concluding section justifies the necessity of the study and gives some necessary suggestions regarding the enhancement of the Digital Based Education especially in the context of Nepal.

Content Analysis

Scope of Internet and Digital Education

The countries like, Germany, United Kingdom, Japan and other western countries do have high level of computer access. The access to computers helps not only in teaching learning activities but also supports in income generating activities. The use of ICT

Possibilities of the ICT Blended Learning

Digital technologies have been supporting the learners enhancing their skills such as learning vocabulary, spellings, pronunciation, comprehension, and their power of analysis of the text. It increases learners' educational skills and promotes global awareness. In case of learning second language, digital technologies are found very effective tools. Along with the knowledge of the subject matter and language, it enhances the digital awareness in the learners (Dhital, 2018).

The given reference clearly focuses on the possibility or the positive aspects of the digital education. Its possibility can be measured from very global context to the local context. This is an inspiring article for those who are recently progressing into the world of digital education. The growing use of internet and world wide web has supported for the development of the modern digital devices (Zhu et al., 2004). The devices such as computers, projectors, tabs, android phones, etc. have been very effective tools for the teachers to deliver their content to the students.

ICT has become the building block of the modern society. Several countries of the world have clearly understood the significance of ICT. This article also talks about positive and need based relationship between ICT and education. It supports for the face to face learning, self-paced learning, and collaborative learning. Its importance can be seen in the fields such as psychology, linguistics, medicine, business, anthropology, history, computer, science, and so forth. It encourages the learners for the independent learning opportunities (Kumar, 2008).

The outcome of this article also presents some positive aspects of the digital education. However, this article doesn't mention about the negative aspects of the digital education. There are several possibilities such as online marketing and online shopping. This article seems to be biased towards the significance of the digital education. This shows that even the government of Nepal should allocate enough budgets for the up-lift the education through digitalization. Bottino (2004) in her article *British Journal Educational Technology* deals about challenges of the integration of ICT tools in classroom teaching and in

pedagogical implication. However, she also focuses on the development of the cognitive skills, change of the nature and the process of acquiring knowledge. She highlights the positive aspects such as better management of the classroom context, school environment and individual ability of the learners. According to her it helps in promoting interest, reading ability and results of the learners.

Digital Education in Nepalese Context

Nepal is trying its best to integrate digital tools in teaching learning activities. Policies of the government are getting reformed looking at the global scenario of the education. Nepal is a developing country having very few cities and large numbers of sub-urban and remote villages. 68% of the land area is covered by the hilly region and 15% of the land area is covered by the Himalayas. This report shows that there are so many remote places in Nepal. Access of technology and digital education in such places is very challenging task (Wood, 1965).

Despite living in the technological era, our country needs to improve technological aspects from the level of development trainings are being conducted on regular basis. After the impact of covid-19, Nepal is also rapidly moving towards digital education (Dawadi et al., 2020).

Nepal government and the policy makers seem to be initiating some of the digital educational plans. However, there is still a vast gap between these policies and practice in the field. The policies at execution level have to be given special priority.

The use of the technology is beyond the reach of the poor people. Similarly the people from rural communities of Nepal suffer from irregular supply of the electricity. Majority of the teachers and learners of our country are unaware about the use of modern digital devices. We don't have sufficient digital materials, trainings, and suitable curriculum to impart ICT based education to the majority of the learners (Joshi, 2017).

This shows that despite acknowledging the need of ICT based education, there are so many challenges and hindrances in the context of Nepal. The government has not allocated enough budgets for the management of online classes and technology based classes. Lack of

ICT labs, lack of desired curriculum, materials and lack of well trained teachers are the major obstacles for digital education in Nepal.

Challenges of Digital Education

The teachers and the learners from developing countries like Nepal face the problems such as psychological and pedagogical challenges, health hazards, weakening the creativity of the learners, gap between the real world knowledge and the knowledge from the world of ICT, lack of technological knowledge, selection of appropriate materials, authenticity of the sources (Tursunaliyevich & Rahmat, 2021).

We need to be very selective while using these technological devices. There must be proper time limit so that the problems could be handled in time. Public awareness programs through seminars, conferences, and trainings are brought in to practice as soon as possible.

Furthermore, there are problems such as lack of collaboration between students and teachers, integration of ICT tools in education, lack of necessary teaching materials and contents, lack of motivation and financial support, adverse effects of artificial intelligence, poor operational skills and low software competence (Joshi, 2017).

It seems that the teachers and the learners should be made clear about the integration of the pedagogy and digital education. The management of ICT lab and provision of e-library can be very effective ways for the promotion of digital education in Nepalese context.

There is no provision of ICT classes in compulsory level. Even today, ICT is taken as the optional and the part of non-formal education. There are only micro level policies regarding implementation of ICT based education. There is problem of integration of ICT education in the teaching learning activities (Panthi & Belbase, 2017).

The above mentioned suggestions make us clear that the teachers and learners are facing several challenges regarding ICT based education. There need of the academic transformation through digital education. So, learners from Nepal are deprived from modern opportunities and are economically back.

Necessary Suggestions for the Improvement of Technology Based Education.

ICT can be useful for the collection of better learning materials, for better classroom performances, enhance interest and quality of the learners, and to be familiar with the ICT tools (Thapaliya, 2014).

ICT can be used for the sake of students' motivation and to avoid learning difficulties. The knowledge of the ICT tools can promote research activities and makes the learners creative (Rowe, 2006).

ICT has to be incorporated in the curriculum and the materials should and systematically selected for advanced and better digital education. It also helps in innovation and research related activities of the learners (Tondeur et al., 2007)

The knowledge and findings of the articles not only valorize the scope of the Computer and ICT based education they also provide necessary suggestions for the improvement of the digital education system.

The government should allocate enough budgets for the ICT labs, tools and ICT based classrooms. Similarly, the policy makers and curriculum designers should be well aware about the burning need of the digital education. ICT based trainings, Wi-Fi, facilities, internet facilities, electricity facility, data provision and computers and laptop distribution programs should be made effective. Provision of e-library, smart boards, digital contents, etc. should also be given priority. Financial aid to the learners, teachers and institutions can also support in ICT based education. This support might blur the gap of digital divide created by digital technologies.

Conclusion

Thus, this review paper reflects the output of the critical review made on the 12 articles along with the analytical remarks of the researcher. Most of the articles unanimously reflect the message that the use of ICT has been the integral part of global society. The trend of the ICT is growing rapidly in present time. The developed nations already have technological access and the developing nations are also moving towards digital education.

The review paper states that the technology does have both challenges and opportunities. However, in the developing countries like, Nepal there are several barriers and hindrances. Digital divide, lack of awareness, lack of better management, poor policies, and lacking in implementation level are the serious challenges of ICT based education.

So, the review paper has mentioned some suggestions as the finding concluding remarks of the study. Budget allocation, necessary trainings, awareness program about digital education, integration of ICT in policies, curriculum, text books, classroom management, ICT labs, and e-library have been mentioned as the key suggestions for improvement of the digital education.

Therefore, our country, Nepal as a part of global village should catch the rapidly growing trend of the ICT based education. This will help in production of creative and skill oriented human resources.

Eventually, the findings of the review paper will be beneficial to the policy makers, stakeholders, academic institutions, teachers and students as a whole.

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