Online Classes as a Paradigm Shift in Teaching and Learning Culture

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ABSTRACT
This article shows a shift that is brought about by the integration of information and communication technology (ICT) in teaching and learning activities in Nepal. The objective is to investigate how online classes have transformed traditional teaching models. It reviews the effectiveness and challenges of online classes as the world is rapidly moving to the digital era. The policies and plans of the Government of Nepal are directed to integrate ICT tools to transform traditional models of teaching realizing the necessity and importance of using technology in education. The proper application of technologies has transformed the practices and procedures of all forms of venture within education, business, governance, and personal life. Online classes apply flexible delivery modes to help and address the issues of the diverse potential learners by providing multiple pathways and opportunities for those seeking further education in future although they have some challenges. During the COVID-19 pandemic, all schools and universities in Nepal have switched their regular classes into online classes to give continuity in teaching and learning. This pandemic can be an opportunity to accelerate technology-based learning in academic institutions, developing online teaching and learning infrastructure.

KEYWORDS: ICT, online learning, paradigm shift, traditional teaching model, virtual context

INTRODUCTION

The system of teaching and learning evolved from the origin of human species. The first example of teaching was the Gurukula system, which dates back to ancient times in the Indian subcontinent. In this regard, Thareja and Thareja (2014) show that in the Gurukula culture, the focus was given on a cordial relationship between teachers and students, not on infrastructure and students that could follow the role model of the teachers. During that time, teaching matters were limited in comparison with the present, such as spiritual knowledge, religious practices, and life skills. From that time onward, the practice continued making many changes in methods and came in today's advanced form which gives emphasis in many more things. In the earlier civilizations, the process of teaching and learning was much more complicated and slower in comparison with the modern era. As the world is dynamic, so does the teaching and learning process. Some

changes are radical and easy to notice while others are gradual and difficult to notice. Regarding the earlier practices of classical western education, Marrou and Marrou (1982) report that western education began with the Greek tradition, by the contribution of philosophers like Socrates, Plato, and Aristotle who also started teaching pupils in traditional modes and continues even today. During that time, teaching was predominantly oral and there was no development of written materials. Passing through different periods and episodes, the practice has come into this present form, reflecting the progressive transition. Many courses were developed, numerous studies were done and discussions were conducted to impart knowledge from one to mass and vice versa.

The use of computer technologies has increased a collaborative learning because various tools help people to be connected easily. The reference of digital humanities can be traced which formerly called 'humanities computing' that focused on collaborative scholarly activities at the intersection of computing in education. In this regard, Deegan and Hayler (2016) report that everyone in this world uses digital tools and resources which are faster and easier being special which have made everything available in digital form. It means that digital humanities include collaborative, transdisciplinary, and computationally engaged research, teaching, and publishing by using digital tools. At the same time, they appeal new methods of studies of the humanities with the recognition that only the printed word is no longer the main medium for knowledge production and dissemination. It employs a technology-cultivating relation with humanities and the digital culture. Similarly, ICT tools can be used in the teaching and learning process making collaborative learning, with the realization that there is other more effective mode of teaching and learning. The revolution in science and technology has enabled not only in online ways of teaching but also in the use of multimedia and expansion of pedagogies.

With many innovations, expansion and practices, online classes could be conducted bringing educational institutions into homes. In this regard, Harasim (2000) reports that the invention of the web in 1992 made online education accessible providing new methodologies of teaching and learning beginning with a paradigm shift in attitudes towards online education in the 21st century. At the same time, it has become easier and faster means of communication and collaboration resulting into new forms in all the aspects of life. The increasing access of web has made a revolution in educational sectors and many virtual universities have been established in the world. It helped in the process of spreading knowledge from one person to the mass and people begin to get knowledge sitting in their rooms instead of consulting libraries or reading books.

With the increasing access to computers and networks, educators recognized that cyberspace could be shaped for online education as a separate field and began to enable students to socialize in this new space. Such activities led to online collaboration breaking the traditional methods of teaching and learning. Larreamendy-Joerns and Leinhardt (2006) maintain that online education binds with distance education contributing democratization, liberal education, educational quality, and the advancement of the scholarship of teaching. Some universities and schools have already applied for online courses and to some extent have replaced the traditional face-to-face learning. The advancement of digital technology has modified the fundamental activities of education, scholarship, research and service to society quite significantly, and has created new channels of communication throughout the universities and societies by electronic mails, chat rooms, web conferences, and electronic mails. In the context of Nepal, Pangeni (2016) maintains that the use of ICT tools can enable academic institutions to create distance learning in Nepal and provide students in remote areas with access to education. Since its beginning, many designers, inventors, practitioners,

implementers, commentators, and scientists worked hard and their achievement has created the virtual world where new types of learning space have emerged. Shakya, Sharma, and Thapa (2017) in the context of Nepal included that online education is popular being effective, more resourceful and cheaply available for both learners and instructors since they can acquire more information accessing the internet in any parts of the country. Similarly, Jha, Shakya, Maharjan, and Chatterjee (2019) report that the right use of ICT assists students in the knowledge building process, gaining better results, increasing interest in quality education, and making them able to solve problems.

The spread of COVID-19 has brought a significant transition in each aspect of human life including economy, politics, education, and even culture. Such an epidemic has made the face-to-face mode of teaching impossible so that many schools and colleges throughout the world have started their teaching and learning process in online mode. Some countries have suspended their regular classes and have replaced them by online modes of teaching. In this regard, Basilaia and Kvavadze (2020) report that Georgia became the first nation in the world that has fully suspended face-to-face learning applying online mode to fill the gap of learning after COVID-19 pandemic. Similarly, Bao (2020) shows that after the COVID-19 pandemic, Chinese schools and universities shortly switched their conventional physical classes to online learning and many other countries followed the idea to continue their educational activities. Physical classes have been presented as a threat to spread coronavirus and then an alternative way is essential to maintain social distancing to prevent and control the pandemic. The purpose of this research is to show how a large number of students in Nepal who are at home in such pandemic can be taught and changes can be brought. The rationale of the study lies in process of alleviating many parents' concerns about their children's education because some private schools and universities in Nepal have attempted to teach their students using available ICT tools such as Viber, Zoom, Meet, Teams, Skype and Messenger in response to the pandemic. The challenges caused by the COVID-19 pandemic can be opportunities to transform our conventional mode of education to technology-based by developing online learning infrastructure.

METHOD

This study highlights the research questions such as, how online classes have changed traditional modes of teaching and learning, in what ways ICT tools help in making the learning process easier, faster and more reliable. The study followed the review method in design with analysis of the policies, reports, frameworks, action plans, and practices of the Government of Nepal about the integration of ICT in education. Some documents that focused on introducing ICT in educational sectors in the context of Nepal after the COVID-19 pandemic were analyzed to find out the changes that have taken place while dealing with complexities in the pandemic. Then relevant practices and changes are summarized as to recommend what kinds of strategies can be used in the future to make them more effective and applicable in all parts of the world. Some research articles related to the issues of online classes were studied and reviewed to find experiences of practitioners, what kinds of difficulties they faced and how could be used effectively and how they were differences from face-to-face classes. Articles were selected to analyze focusing on world's context in general and Nepal's context in particular related to distance learning, virtual learning, digital learning, online education, and eLearning. The main focus was mainly on how the use of ICT tools has brought changes since they were first installed, why their use is increasing day by day and what kinds of students are benefitted by them or they have only become supports of traditional classes. With references to the efforts made by many universities and schools in Nepal

after the COVID-19 pandemic to teach students using different ICT apps had been a great source of information. The author's own experience of teaching and learning in the online mode covers some issues related to the subject.

RESULTS AND DISCUSSION
Online Education in Nepal
The history of distance learning in Nepal traces back to 1958 with adult education through radio (Pangeni, 2016). Distance Education Centre was established in 1994 and its 2007 and 2014 amendments supported to establish Nepal Open University in 2016. There were classes on radio, TV, printed media and centres for open schools focusing the students out of the mainstream of formal education before people had access to the internet. *Information Technology Policy 2000* focused on distance learning with the development of information and technology planning to make IT accessible to all (Ministry of Science and Technology, 2000). Then, *National Curriculum Framework for School Education 2005* emphasized about using ICT tools to teach various subjects in schools including it as a separate subject and made a vision of school education including important aspects and open education encompassing the various aspects (Ministry of Education and Sports, 2005). Even in 2006, Open and Distance Learning (ODL) Policy was made by the government of Nepal to enhance learning in a remote area by the use of visual devices.

ICT in Education Master Plan 2013-2017 made effort to develop skills on ICT to both students and teachers to improve classroom delivery, increase access to learning materials and improve effectiveness and efficiency with a vision of producing globally competent manpower educational governance and management (Ministry of Education, 2013). Similarly, *School Sector Development Plan 2016-2023* made a plan to equip all the schools with ICT infrastructure and teachers with ICT knowledge and skills to transform traditional to modern methods of teaching (Ministry of Education, 2016). Moreover, *National Education Policy 2019* has aimed to produce competent and skilled human resources for the transformation of the country (Ministry of Education Science and Technology, 2019). However, the majority of schools and universities are unable to start online classes due to the lack of ICT infrastructure and ICT illiterate teachers (Maski Rana, 2018). Due to lack of adequate funding, only a few educational institutions are equipped with ICT facilities. The policies, plans, acts and documents of the Government of Nepal made emphasis about ICT integration in education but it did not allocate sufficient budgets in educational sectors to make them equipped with ICT tools. If the government installed ICT tools educational institutions, it would be easier for them to go online and they could give continuity in teaching and learning process in such a pandemic situation.

Many efforts were made in the past to enhance online teaching and learning because the major interventions in ICT are oriented to create ICT friendly education. For the application of ICT in teaching, all the students and teachers need internet facilities and some claim that students, especially from remote areas, do not have its access. Similarly, *2019 Digital Nepal Framework* reported that according to Nepal Telecom Authority, almost all the people have mobiles in 2020 and internet users were 60% in 2017, in 2018 there were 9.3 million Facebook users and more than 6.4 million registered users on YouTube and almost all people will have internet access by 2025 (Ministry of Communication and Information Technology, 2019). For this reason, online classes are likely to equip face- to- face classes and bring changes in the teaching-learning process. *National Education Policy 2019* also aims to produce competent, skilled human resources for the transformation of the country to a developed one through

competitive, technology-friendly, employment-intensive and production-oriented human resources (Ministry of Education Science and Technology, 2019). Similarly, there are many other policies, plans, frameworks, documents, reports and acts of the Government of Nepal to increase the use of ICT in education for effective outcome realizing the fact that without technical knowledge no human resource can be skilful to meet the demand of 21st century.

Academic institutions in Nepal have begun online mode of teaching to facilitate traditional methods of teaching and learning. In the past, there was no provision of teaching using ICT tools and all had to follow face-to-face methods using a whiteboard, marker, chalk and talk but these they have many kinds of ICT tools such as Zoom, Meet, Teams, Skype, Viber and Messenger which can make the process easier, faster and more inclusive. Some of the institutions have been using new materials after they were introduced such as multimedia projector, audio, video, smartboard, and electronic pens.

Some of the institutions have been trying to install ICT tools to make teaching and learning more effective. Similarly, the oldest university of Nepal, Tribhuvan University established Open and Distance Education Centre in 2015 intending to provide access to quality higher education to mass people through open and distance learning mode and students who want to upgrade qualification without quitting jobs (Tribhuvan University Open and Distance Education Centre, n.d.). Increasing use of technology enabled to start online classes by establishing Nepal Open University in 2016 to expand the access of education to mass people who are unreached to conventional education by utilising ICT in distance online learning mode (Nepal Open University, 2016). Therefore, teaching and learning are not limited only in classroom premises and many students connected with the internet across the world are studying being taught by teachers of any university in the world using various ICT tools sitting in their rooms. In such a context, the change from traditional to online education is very suitable and also the need of the day to address the students of diverse nature and needs. Even in such COVID-19 pandemic situation, teaching and learning process can be made by the online method as alternative mode including all the students. These government policies and an increasing number of users of the internet and social media show that within a few years Nepal is likely to enter a digital age in the educational sector.

The Use of ICT in Education: A Shift to the Virtual World

Distance education has a long history but online education is a new phenomenon having steadily grown in popularity to the point that majority of students even in developing countries are familiar with it to some extent. Showing some waves of online education till present, Picciano (2016) maintains that, in higher education, the development of digital technology has made integration including data communication system and collaborations among faculties who have a vision of what technology can do for mankind. Instructors, instructional designers, administrators and academics have a special interest in evaluation because critics have questioned the merit or worth of online education from its inception. Lowenthal and Davidson-Shivers (2019) report that omitting some doubts related to the effectiveness online classes, the educators developed and delivered high-quality education with the best approaches to accelerate the increased need for effective learning by various tools. For this reason, it is very urgent to develop fastest and reliable tools to include a large number of students making it more equitable. In this regard, Allen and Seaman (2017) show that distance education continued its pattern of growth ranging from public to private institutions by increased enrollment in higher education every year. Making review on students' performance, Magalhãeset al. (2020)include that has when compared with traditional homework there are more

benefits of online homework for teachers and students and students' performance is higher in the online compared with the traditional pattern.

Showing the relevance of online course in the present context, Pathak (2016) mentions that ICT has made a revolution in education making a roadmap for the transformation of traditional universities by creating literature and research in the digital system, applying internet-based educational models. Digitalization is inevitable in higher education that has been made possible by the ICT revolution and its integration in education. Even in the process of teaching in the traditional model, the virtual mode can be blended creating multiple formats and comparison can be made for different modes of instruction to find their effectiveness. In this regard, Bacos and Grove (2019) suggest that the use of online approaches in traditional classes helps in quality improvement and teaching the same course in multiple formats and provides opportunities to find the strengths and weaknesses of each design and by drawing comparisons between approaches, instructional designers. For this reason, it is beneficial to try to apply ICT guided practices even in a favourable situation to deal with modern issues. While examining students' preference, Harwood et al. (2018) report that online courses can be equally effective concerning student satisfaction and performance outcomes and recommended to academics to apply for the intensive online course as an alternative.

Academic institutions need to be concerned about the diversity of current and potential learners. It is urgent to provide a range of options for their engagement because relying only on a single mode becomes less effective and boring as increasingly flexible delivery modes are available for all providing multiple pathways and opportunities for those seeking further education. In this regard, Gillett-Swan (2017) reports that online classes have challenges but they support the isolated learners being flexible through a group presentation and collaborative learning. There has been a hot debate about the effectiveness of online classes in Nepal among academics, administrators, students, parents and different reactions have been found. The main factors for creating the problem are the lack of infrastructure and skill about using new technology. Rana, Greenwood, and Fox-Turnbull (2020) in context of Nepal show that to some extent use of ICT tools has transformed the conventional culture of teaching by creating new methods and opine that if schools and universities are equipped with ICT tools, change in teaching practices can easily be brought by including many teachers and students. Students, teachers and administrator find online classes are more flexible, less time consuming and can be handled with jobs. In such classes, many international experts can be invited as guest lecturers who would be unavailable in face-to-face classes to make teaching and learning more effective and less boring.

In Nepal, the majority of the students come to urban areas from rural areas because almost all the higher educational institutions are located in urban areas. Some students cannot attend real or face-to-face classes can be engaged by online mode and the students of rural areas can take classes from their homes. By the provision of such classes, students can save their money because they have to spend lots of money on accommodation in towns. Due to the increasing use of ICT apps, there is a great chance of creating a shift in the educational sector from traditional to virtual mode. Digital media will change all the things, many of our practices begin to disappear, and all will be acquainted with the digital world eventually.

Challenges and Opportunities

The implementation of any new technique has both challenges and opportunities. Similarly, online classes have both factors, for the progress, it is necessary to develop skills, and the obstacles can be overcome utilizing the opportunities. Showing both

benefits and challenges, Mupinga (2005) asserts that the major drawbacks of online classes include lack of personal interaction, challenges of technology, need for students' self-direction and motivation, the inexperience of many faculty members with the demands of web-based instruction, and lack of adequate student and faculty training. Similarly, Karkar-Esperat (2018) shows that students had reported the feeling of isolation, lack of peer support, lack of constructive feedback, lack of language and culture exchange minimal interaction, lack of immediate support and problems of hardware and software. Likewise, Toliver (2011) includes that students were more fluent in social media, and video games than in learning settings and their involvement in the collaborative learning process was low. This means many studies have not been done to know the outcome of incorporating new technologies in learning process but many students seem to involve in many video games.

Mainly, web-based online classes enable students to pursue their studies without attending classes and they can access course information and assignments, e-mail the instructor and classmates and submit and receive assignments. Many students due to, geography, financial problems, family obligations, work requirements, or other limitations cannot attend real classes select distance education to suit their social and work and enjoy the flexibility of time and space. Showing both challenges and opportunities, Riley and STACY (2008) opine that online classes help students to have easy access across the world making the environment of collaborative learning, interaction with scholars and creating student-centred instruction. Mulryan-Kyne (2010) affirms that large classes in some universities create problems for both teachers and students and teaching and learning process becomes less effective and online classes are sure to solve the problem. Even in some classes, more than two hundred students are being admitted and online classes can be alternatives in this regard. The techniques used in online classes incorporate self-assessment tools that help students work on their own to improve their skills. Aithal and Aithal (2019) report that online classes provide academic institutions autonomy which gives opportunities to improve their quality of services to spread globally and prosper strategy depending on their present status and future plans. Even in pandemic situations, online classes can help to continue teaching in the future although they may seem difficult at first for those who have little knowledge of using ICT tools.

CONCLUSION AND RECOMMENDATIONS

The advancement of science and technology has played a significant role in making our daily activities easier including teaching and learning. The use of digital devices has played a great role to support and enhance collaborative learning being more efficient and effective. Online classes have become possible by proper use of ICT tools which have been rising in academic institutions throughout the world and many students have been enrolled. Over a few decades of experience, it is realized and accepted to apply the online mode of teaching to enhance quality, using limited resources and infrastructure through flexible place and time usage. Many students who due to various reasons were unable to attend real classrooms became able to join by the integration of ICT tools in education and many kinds of learning materials have been available to them. For this reason, all academic institutions need to make many efforts to adopt online mode to include all the students and to continue classes even in pandemic situations. Realising its importance, the government of Nepal seemed to have made many efforts to implement ICT tools in the teaching-learning process though they were not fully successful. Academic institutions in Nepal need to utilize such COVID-19 pandemic situation as an opportunity to transform conventional mode to effective mode of

technology-based teaching as they have realized its necessity and have been attempting to go online in such context. So, it is essential to make a shift to virtual mode, coping up with new kinds of tools which are developed day to make the process of learning easier. With certainty, it can be asserted and recommended that online courses will become increasingly more popular as we become better at developing them and students gain more knowledge. Therefore, the focus needs to be given for the development of e-infrastructure in academic institutions and teachers need to be skilful in using them by training and regular practice, to be shifted to the virtual teaching-learning process.

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