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UNCONVENTIONAL PATH OF TEACHING IN HIGHER EDUCATION DURING PANDEMIC SITUATION

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Abstract

Covid 19 Pandemic has made all the educational schools across the world adapt teaching online. Courses are conducted online, examinations are conducted online, and assignments are submitted through email. For countries like India, this is a good opportunity to strengthen internet connectivity across rural India. Every village and town in India should be digitally connected for better interaction between the students and teachers. Some of the students are quick to adapt to this system and some take a little longer time to acquaint with this system. India should establish a good infrastructure for online education.

When any new education system is introduced in any country, it will take some time for the students to adapt to the system. The greatest advantage of such a system is education can become global. In India at present institutes like IITs, IISc and NITs can globalize online education while universities, initially, can nationalize online education. Fundamental structural changes should be made in the curriculum/syllabi and academic programs should be popularized to attract students across the countries. Skill development should be part of the curriculum in engineering and science degree programs. It may not be possible to deliver laboratory courses through the online course but, in this article, I have provided a possible solution to this. This will create future entrepreneurs. Thus this article discuss about the alternative way of teaching in higher education during pandemic situation.

Keywords: Covid-19 Pandemic, Alternative way of Teaching, Online Assignment, Skill development

Introduction

For educators, the COVID-19 Pandemic is a quintessential adaptive and transformative challenge, one for which there is no preconfigured playbook that can guide appropriate responses. Education leaders must swiftly design responses – and with specific contexts in mind – as the pandemic runs its course. This brief discusses the second module of a series which presents the results of a comparative analysis of emerging educational needs and responses as the pandemic unfolds across countries around the world. The overall goal of this series is to facilitate the rapid design process and implementation of adaptive responses to the emerging education challenges, and to protect young people's educational opportunities during and following the pandemic. The first module, published end of March 2020 – A framework to guide an education response to the COVID-19 Pandemic – is a tool to support education leaders based on a cross-national survey conducted between the 18th and 27th of March 2020. The survey assessed educational needs, priorities, implementation challenges and emerging responses, and was the first of a series of surveys to monitor the evolution of responses to emerging needs in the education sector. It presents a first set of online educational resources to support the continuity of teaching and learning during the 2019-20 COVID-19 Pandemic with education leaders around the world. The resources were compiled from responses to the same survey used to produce the first module, and additional online sources were included to enhance the list in

order to support the continuity of learning for students who have access to the internet and digital devices. Subsequent modules will include a curate catalogue of radio and educational television resources, and a module to guide the implementation of effective education responses. We hope these resources help those collaborating across institutions and countries in the important and urgent task of supporting students' opportunity to learn during this challenging crisis shared among humankind.

Literature Review

E-Learning in Higher Education

Nowadays, the higher education system is in a continuous process of change, universities having to keep pace with the needs, desires, and requirements of students. Thus, information technologies and E-learning systems are seen as essential factors in carrying out the activity of universities, these institutions investing more and more in online systems and devices.[1] However, in the technology era, one of the main challenges of universities is the integration of innovative E-learning systems so as to reinforce and support both teaching and learning.[2] Due to its complexity, multiple definitions are proposed for the concept of E-learning. In a simple way, E-learning means using information and computer technologies and systems in order to build and design learning experiences.[3] Similarly, ElmarieEngelbrecht describes E-learning as a concept that uses electronic media represented by the internet, CD-s, mobile phones, or even television, in order to provide distance learning and teaching.[4] In short, E-learning refers to transferring knowledge and education by utilizing various electronic devices,[5] and the concept can be better understood when is integrated into a context in which technology is used in order to meet people's need to learn and evolve.[6] Early forms of distance education date back to 1840, when Isaac Pitman used mail and a shorthand technique in order to teach and collaborate with students,[7] and it is taught that the term E-learning began to be used in the educational field in the mid-1990s.[8] Taking the previously mentioned aspects into account, this type of online learning can be viewed as a natural development of the concept of distance learning.[9] A more complex and inclusive definition states that E-learning can be considered a particular form of teaching and learning, that integrates electronic resources and mediums whose role is to foster development and to make education and training more qualitative.[10] E-learning is also viewed as a system used for formal teaching, or a network where information is sent through electronic resources to a large audience. The main elements that ensure the functioning of such systems are computers and the internet.[11] Offering a wide range of possibilities for sharing information and uploading documents with different formats, E-learning has certain features that facilitate and nurture the learning-teaching process. Because it is a web-based system, the installation of additional tools is not required, and once uploaded; the content is available for users at any time.[12] In this regard, the variety of technological tools that are available today allowed the development of many types of E-learning. Some of these types were identified by Horton, and are represented by individual courses, that people take on their own without having classmates, virtual classes, that are constructed similarly to a traditional, face to face course, learning games, where the process of understanding and assimilating information is done through activities that are simulated, blended learning, that combines traditional and online classes, mobile learning, or knowledge management, which refers to the online distribution of documents and materials that are meant to educate not just individuals, but large numbers of people, communities, and organizations. Thus, being a complex process, E-learning includes elements such as technological tools and design, e-learning platforms, content, and users/ participants. E-learning differs from traditional or other methods of learning because, according to Oye et al., it does not only focuses on instruction but also on learning that is adjusted to individuals .[13] In other words, while traditional education is more teacher-centered, with the development of E-learning a shift towards a student-centered education can be seen.[14] Differences between traditional and online learning may also be acknowledged in terms of principal sources of information, assessment, or quality of education. While in traditional education, students are evaluated only by teachers, who also represent their main source of information, and the quality of education is dependent on teacher's knowledge and skills, in online learning, the evaluation may be done with the help of tools and systems, students can procure information from various documents uploaded on the platform, and the quality of education is

influenced by the level of training that teachers Sustainability 2020, 12, 10367 4 of 24 have in using technology, and also their teaching style.[15] Cheung and Cable identified and described eight principles that stand at the core of effective online teaching, such as: encouraging contact between students and faculty, collaborative learning, quick feedback, active learning, task time—encouraging students to allocate more time for completing tasks, high-expectations—the teacher should communicate their expectations in order to encourage and motivate students, diversified learning, and technology application.[16] Considering that, the evolution and use of systems and technologies favored the development and expansion of educational opportunities,[17] the use of E-learning in higher education and student's perception of the usefulness of this type of learning became subjects of interest for many researchers. Relevant in researching the use of E-learning is the Technology Acceptance Model (TAM), which proved to be helpful in analyzing and comprehending the way students intend to use E-learning.[18] The model was developed by Fred Davis, who believed that the extent to which people accept the integration of technology can be an essential factor for the success of information systems. The model provides information and explains the relations behind the features of a system, the way people behave while using it, and the attitude that people may have towards using the system—which is influenced by perceived usefulness and ease of use.[19] A study,[20] focusing on student's perception on the implementation and integration of E-learning platforms while using TAM model as a theoretical background, revealed that all students were of the belief that the E-learning module they took was useful and easy to use, stating that they understood information, and navigated and accessed documents effortlessly. A similar study based on the TAM model and developed at the University of Jordan, confirmed that both perceived usefulness and ease of use directly influence the attitude that students have towards using E-learning. Furthermore, TAM was also used to investigate teachers' perception of E-learning, a study[21] showing that together with their previous experience, the perception teachers had regarding E-learning affected their behavior and the way they actually use it. With regard to the use of E-learning in higher education, generally, the literature provides results in favor of its usefulness, effectiveness, and positive influence on student's performance. According to a study on the impact of E-learning on students and teachers,[22] most of the respondents, represented by teachers, believe in the potential of E-learning to enhance the educational process and affirm that it improves collaboration and communication with students, and that it offers flexibility and helps students to better understand the lectures. Investigating students' attitude towards E-learning, Dookhan revealed that their attitude was positive and that it improves when they perceive that E-learning systems are easy to access.[23] Another study [24] pointed out that, when used as an additional method to traditional classes, E-learning enhanced students' learning experience and increased their engagement with the lectures. A research focused on comparing traditional with online learning[25] showed that a high percentage of the students who completed the survey stated that they have assimilated more information in face-to-face classes than online, but they positively perceived their overall online experience, even though they have encountered difficulties while using E-learning platforms. However, while most studies highlight positive attitudes towards E-learning, similar studies concluded that students were of the opinion that online courses do not have the same value as courses taught in the classroom,[26] and that students would rather accept blended learning, a combination of online and face to face classes, rather than only online learning.[27]

E-Learning Platforms in Higher Education

The E-learning process in higher education is done with the help of various online platforms. Over time, many notions were used to describe online learning, such as Computer-mediated learning [28], Web-based training, E-learning systems, and Learning Management Systems.[29] Regardless of their name, all these systems have the use of the Internet in common, and certain features that allow registration, assessment of the activities of learners and teachers,[29] and that also facilitate Sustainability 2020, 12, 10367 5 of 24 the delivery of lectures and interaction between students, their colleagues and teachers. Among the most important functions of online learning platforms are forums that allow student-teacher communication and collaboration in an asynchronous way, web conferences that allow video, audio and written communication, and chat, where users can send

messages and receive responses in real-time.[30] A Learning Management System is seen as a software that operates and encompasses many services that are meant to aid teachers in managing their lectures and courses,[31] and they were created in order to monitor and evaluate students, give grades, to monitor course attendance or additional administrative actions that can be demanded by educational institutions.[32] These systems can be divided into two categories: open source-Moodle platforms, and commercial or proprietary, where platforms like Blackboard are included.[33] Designed to offer students, teachers, and administrators a system that can help them create an enhanced and customized learning climate, Moodle is considered a web-based flexible learning environment that facilitates collaboration between users.[34] Through these platforms, teachers can upload and supply students with information and resources to which they would not have had access during face-to-face classes, and students can easily share information, state their difficulties and receive feedback.[35] Thus, Moodle includes diverse features such as forums, chats, private messaging, and higher education institutions can use it as an additional method to traditional education, or for exclusively online learning.[36] Therefore, Moodle platforms are easy to access and use and they are known to have a positive impact on students' learning performance, Martín-Blas and Serrano-Fernández showing in their study that students who used Moodle during the academic year had better results and higher grades than students who weren't asked to use it.[35]

Limitations

The study provides, from the students' point of view, relevant information regarding the way the educational process took place in Romanian higher education institutions in the context of the pandemic, information according to which the online teaching-learning process can be improved. However, the study also has some limitations. One limitation is represented by the fact that the sample was non-probabilistic and the research was conducted only on two Romanian universities. Thus, the results cannot be generalized to the entire Romanian higher education system. Furthermore, the two universities had some experience with the E-learning platform prior to the Coronavirus crisis, even though only the basic tools of the platforms were used before the pandemic. It would be useful to broaden the sample to other universities from Romania, in order to be able to generalize results but also to make comparisons according to universities, fields of study, previous experience of universities with online learning, according to the existence of training programs for teachers during this transition period. Furthermore, it would be useful to conduct a longitudinal study that would allow us to see how universities adapted to teaching and learning exclusively online, if and how teachers adapted (teaching style, interaction with students), and if students' attitude towards online learning improved.

Conclusion

The study on the impact of the COVID-19 pandemic on teaching and learning across the world concludes that although various studies have been carried out, in the case of developing countries, suitable pedagogy and platform for different class levels of higher secondary, middle and primary education need to be explored further.

Internet bandwidth is relatively low with lesser access points, and data packages are costly in comparison to the income of the people in many developing countries, thus making accessibility and affordability inadequate. Policy-level intervention is required to improve this situation. Further exploration and investigation on effective pedagogy for online teaching and learning is an area for research. Need for developing tools for authentic assessments and timely feedback is found to be another area of study. The affordability and accessibility for all the learners of varied economic background is identified as a challenge, for which the educational tools developer could focus on customization. The policy level intervention is also vital. Education system across the world including Bhutan needs to invest on the professional development of teachers, especially on ICT and effective pedagogy, considering the present scenario. Making online teaching creative, innovative and interactive through user-friendly tools is the other area of research and development. This would assist and prepare the education system for such uncertainties in the future.

The lesson learnt from the COVID-19 pandemic is that teachers and students/learners should be oriented on use of different online educational tools. After the COVID-19 pandemic when the normal classes resume, teachers and learners should be encouraged to continue using such online tools to enhance teaching and learning.

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