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Utility Of Technology In Higher Education: Recent Contours In Teaching Learning Process

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ABSTRACT

Life is the gift of God and technology is the gift of human. Technology in today's era has a significant role to play, it not only saves time but also makes work easier which can be effectively felt in every stage of our daily life. Besides technology form one of the basis of economic growth as it lessens the burden upon the human and at the same time reduces the instances of mistakes. The ambit of technology has widened so far that it has touched the educational sector too. This has revolutionized the whole educational sector wherein the teacher student relation has been more enjoyable and at the same time has eased the imparting and acquiring of education. With the inclusion of computer application in the curriculum in the primary level itself, it gives a scope to the students to get accustomed to use of technology in education. And gradually, as they learn more, they get inured how to apply technology in acquiring education by attaining its optimum utility. The use of technology has become very common in higher education now a days as it helps the students in the attainment of maximum knowledge within limited resources and time, thus making them more self-reliant. This article aims to find out the role of technology in higher education and how far it has benefitted the teachers and the students in the process of imparting and acquiring education.

KEYWORDS: *Education, Technology, Pedagogy, Students, Teachers, Teaching, Leaning.*

INTRODUCTION

In the present scenario, education and technology has become practicably indispensable. The use of technology has become such predominate in the field of education that neither the teacher nor the students can think of sticking to the traditional means of education especially in the higher education. The teachers too are concocting in the innovative use of technology for updating their pedagogies for imparting education and teaching and on the other hand the students are busy exploring the various facets to technology to attain

knowledge. The prerequisite of technology particularly in higher education can be visibly seen as necessity. It can be felt too when we see the teachers and students packing their bags with their laptops or tablets inside. Technology has given them the access to the attainment knowledge in the most hustle free process by exhausting the minimum time. It was enhanced the teacher-student interaction conveniently as well as effectively which is redefining the educational ambiance (Wikramanayake, 2005).

METHODOLOGY

This paper is based on both doctrinal and non-doctrinal research. For empirical, data has been collected from students pursuing post-graduation and under-graduation. Responses of 50 such students and 50 teachers has been recorded, 25 students and 25 teachers from under-graduation and 25 students and 25 teachers from post-graduation. The survey was conducted in the month of September, October and November 2023. A questionnaire was set to record responses and based on those responses the observations were reduced to writing and further suggestions has been chronicled.

DATA ANALYSIS AND OBSERVATIONS

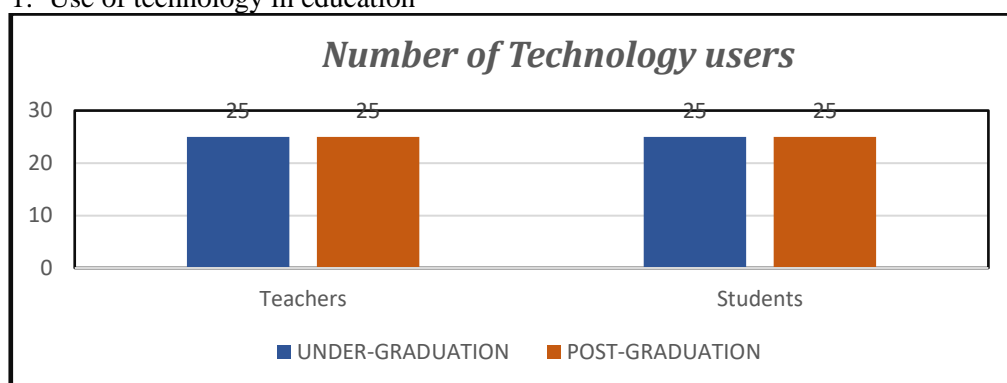1. Use of technology in education

Table I: Table showing the number of users of technology in Education

The survey clearly shows that each and every one has opted for the use of technology in imparting and acquiring education. Books are undoubtedly the rich source of knowledge, however, buying, carrying and preserving books have become more uneconomical and hectic. Most of the responses stated that unless the book is one of the famous books, it becomes difficult to judge a book by its cover or only looking at its content. And again, in case they migrate, it becomes very difficult for to carry them. Thus, most of them preferred reading e-books and online open access journals and in certain cases blogs for quick reference. Even the teachers were of the opinion that they get an opportunity for quick references besides numerous sources for class notes and class preparation. In addition to this, writing projects, articles, research works, dissertation and thesis requires the use of technology. During this pandemic, the technology acted as the only bridge between the teachers and the students for the teaching learning process. The constant labour and ideas of the teachers knitted the evolution of innovative pedagogies to impart education and means of effective evaluation for the multifaceted development of the higher education (Al-Bataineh et al., 2016).

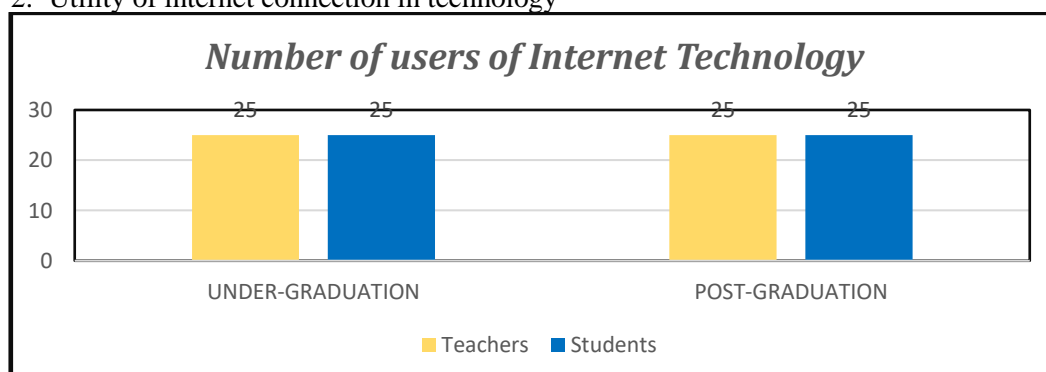2. Utility of internet connection in technology

Table II: Table representing the number of users of Internet for UG and PG courses.

The survey says that the internet has an imperative role to play when it comes to use of technology in higher education. Each and every stakeholder agreed to the use of internet while taking the aid of technology. That is why the internet providers have shifted from 3G to 4G and now at 5G even so as to ensure fastest and constant internet connectivity for better utilization. In its September 2021 data, the Telecom Regulatory Authority of India shows that there is 794.88 million broadband subscribers including both wireless and wireline. The top five service providers are Reliance Jio, Airtel, Vodafone-Idea, Atria Convergence and BSNL. There has been a net addition of subscribers' base in the wireline category which has increased by 11745 subscribers and on the other hand there has been a decline in the wireless category by 338701 when compared with the published data of August 2021 (Telecom Regulatory Authority of India, 2021). The possible reason may be due to the lockdown when the stakeholders might have found the wireline services relatively more economic and apt.

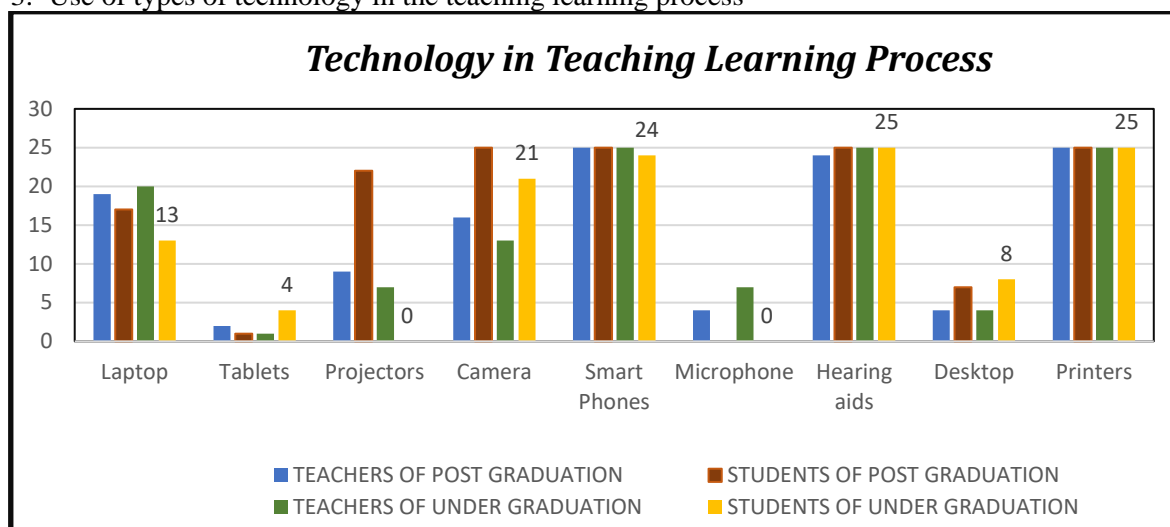3. Use of types of technology in the teaching learning process

Table III: *Table mapping the different modes of Technology with the concerned users.*

The chart clearly reflects the extensive use of technology in the teaching learning process especially post pandemic. The data evidently echoes that all the teachers as well as the students use either laptops or desktop or tablet. This was quite expected because we require them for writing assignments, dissertations or articles. And likewise, each and every stakeholders use printers for the hard copies of the same. Use of projectors have been found less among the under-graduation teachers and students, the probable reasons might be limited resources provided by the colleges or the Universities and may be less incidences of use of projectors for presentations purposes and might stick to traditional methods. The post-graduation students, on the other hand, profoundly use the projectors especially for presentation purposes. There might be less use of projectors even among the post-graduation teachers either because of lack of availability of projectors or they might prefer the chalk duster method of teaching even today. However, it is interesting to note that our next generation teachers are extensively using them which would likely to increase the data in near future. The visual presentations indeed create an impact in the minds and enables better communications. The use of camera is maximum among the students than that of the teachers, this may likely because of the use of scanners by the teachers, the capturing of notes or presentations by the students by the way of taking photographs, use of camera by the students to scan documents. Nevertheless, as pedagogy, this pandemic, many teachers have shot their videos and have uploaded in different platforms so as to give the students a feeling of classroom teaching. All except one agreed to have using smart phones, in fact, the bar phones these days have become absolutely obsolete. The most obvious reason for not using smart phone is budgetary constraints. In case of microphones, it is basically the teachers who have used microphones, the reason being clear words and instructions can be heard by the students while imparting education. Similarly, all agreed to have been using hearing aids for better hearing of words and instructions so as to avoid mistakes and create less disturbances for others. Thus, it stands proved that teaching learning process involves the extensive use of technology in the recent times and the stakeholders are in constant practice to improve the means and its acceptance.
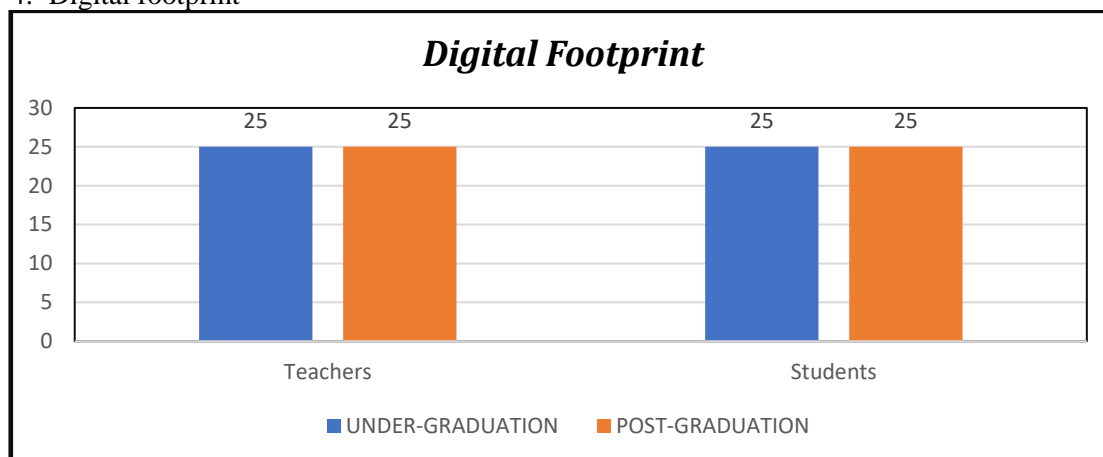
4. Digital footprint

Table IV: *Table comparing the UG and PG students leaving digital footprints.*

As the survey was conducted post pandemic, each and every stakeholder affirmed that they mostly depended upon the digital media in educational sector. In fact, as education was completely dependent upon the digital footprint during this pandemic, a steep rise in the frequency was recorded in its usage. 64.1% usage of digital devices was recorded for more than three hours wherein 71% were engaged in regular education and the others were engaged into evening education. The digital interface has drawn a new meaning to education as education around the clock and at any platform. This has significantly increased the development in learning process as they serve as the means of better connectivity with the teachers all over the world and seek help for their assignments. On the other hand, the teachers too get an opportunity to refer to different study materials for their class preparations, adopt new innovative ideas or pedagogies of other learned professionals and impart education effectively among their students at any point of time. Digital technology has somewhere withdrawn the time bar or limitations of the teaching learning process (Ekinci et al., 2019).
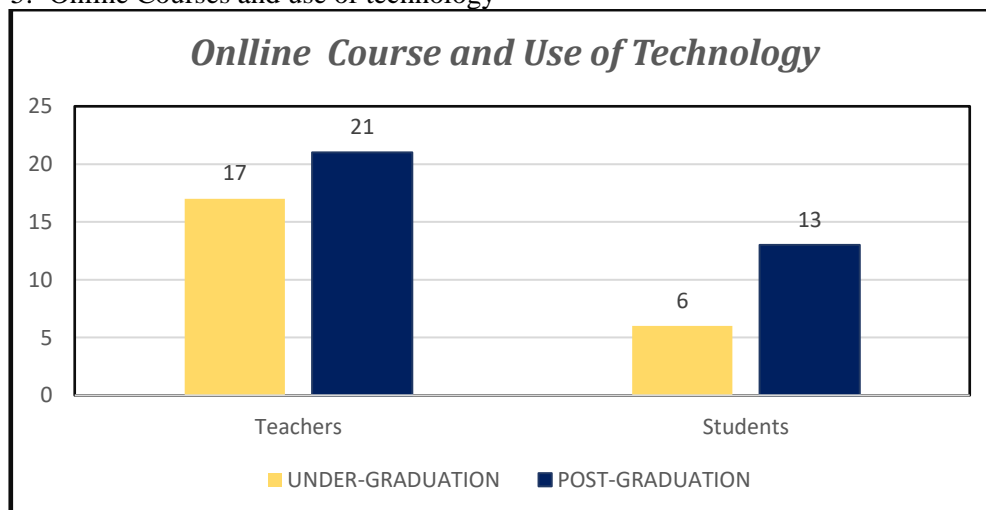
5. Online Courses and use of technology

Table V: *Table comparing the online content availability for UG and PG courses.*

Now a days due to the profound use of technology, online courses are readily available offered by different Universities and organizations. However, they were not very popular initially in India. But with the outbreak of the pandemic, these online courses became very popular. Many universities have subscribed themselves with the online courses providers so that their teachers as well as the students can pursue such courses freely for their awareness and educational enhancement. At the end of the completion of the courses, all the candidates are provided with the certificate which gets added to their curriculum vitae. Many such massive open online courses (MOOC) gained popularity and acted as a saviour to reduce the gap between the teaching and learning process. Many teachers as well as the students also registered themselves with Coursera, Byjus, LinkedIn, Udacity, Unacademy, Skillshare and others, just to understand, accept and lean the use of teaching tools in e-learning. And they have actually implemented those standards which they have learned from those

courses to meet the challenges of online studies for better imparting of education and at the same time better evaluation of themselves and the students as well (Mali, 2016). The teachers across the world learned from each other's failures and challenges and motivated themselves for the improved and better ways of teaching. In this way, the teachers as well as the students realized and leant the better ways of e-teaching and optimum utilization of technology as a tool for teaching and learning process. The popularity amongst the post-graduation was relatively more compared to the under-graduate and the most probable reason are unawareness and reluctance because the students once they step in post-graduation, they tend to be more serious and aware of the different leaning opportunities. Similarly, the teachers of the post-graduation have to keep themselves updated with the trending needs of the students. Nevertheless, this pandemic almost everyone, be it students or teachers have taken the opportunity to utilize the extra time available to them back at home to enhance their curriculum vitae by opting numerous online courses and at the same time gather maximum skill and knowledge for better exposure to employability and credit. And at the end of the day, it was observed most of the teachers and learners find themselves in a better place in the use of technology in the educational sector.

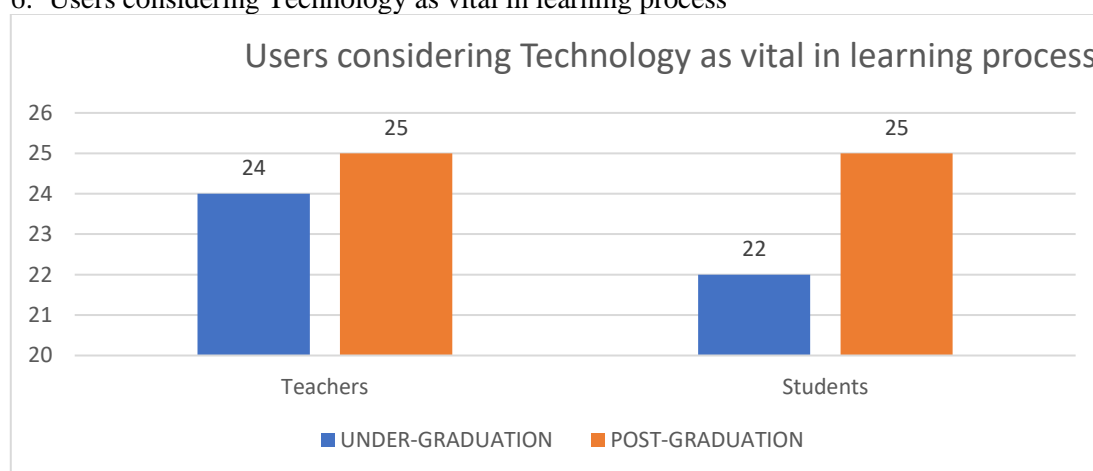6. Users considering Technology as vital in learning process

Table VI: Table illustrating the users considering technology as vital for learning process

Surprisingly, even agreeing to the fact that all of them use technology in the teaching learning process, there were few who did not feel the importance or the role of technology in the teaching learning process. The most probable reason must be the orthodox outlook to stick to the traditional methods of teaching and learning wherein still few people are of the opinion that the chalk duster method and the use of conventional library is the best way of the teaching learning process. Another reason may be the inability to adapt to the fast moving vicissitudes in the technology in respect to teaching wherein both the advantages and disadvantages are involved and the students are likely to get exposed to the depravities very easily. Thereby, in most of the cases the concerned parents try to restrict them in the use of technology. Stakeholders can also be of the opinion that technology makes us lazy and dependent. Moreover, the lack of adequate resources and access commonly forms excuses for not using technology in the educational sector. Nevertheless, the best part is all the stakeholders of the post-graduation agreed to the importance of technology in the teaching learning process as they are pretty aware of the fact that in the higher education, they require some extra inputs or additional support that might not be possible to derive from the traditional teaching learning process. Nobody denies the importance and need of the traditional teaching learning process, however, to keep a pace with the progressing society there is a need to update oneself so as to widen the scope of the prospects especially after the completion of higher studies. Besides, merits and demerits are the two sides of the same coin, one needs to adopt the visions and push down the vices to progress in life. In fact, technology makes are life easy and enjoyable when it comes to teaching and learning, thereby the role and importance of technology cannot be denied as the extra output can only be achieved through technology (Raja & Nagasubramani, 2021).

ADVANTAGES OF TECHNOLOGY IN TEACHING LEARNING PROCESS
After analysing the data and having conversations with all the stakeholders the following can be considered as the advantages of the use of technology in the teaching learning process (Budhwar, 2017).

a. Active and easy learning – Use of technology in teaching and learning is always enjoyable. Both teachers and students find it easy to have access, improve the quality, promotion as well as absorption of knowledge. Audio visual teaching and learning creates good impact on the minds of both teachers and students and the use of innovate pedagogies help the teachers to develop the content and delivery of knowledge. Technology is also helpful for keeping good track for records available at any time for inspection. In short, technology helps to maintain the quality of education and at the same time records the volume of knowledge.

b. Leaning in collaboration – The extensive use of technology gives an opportunity to both the teachers and students to have closer interaction between them round the clock regardless of the territorial barriers. Furthermore, the teachers as well as the students of varied culture and nation can collaborate with each other to enhance their knowledge and skills and thereby create global awareness. Technology has enabled teaching and learning process beyond the school and college time and has made possible the contribution of the peers in the best possible manner in a sustainable way.

c. Integrated creative teaching and learning – Technology has created scope for both theoretical and practical approach of teaching and learning wherein the teachers play an important role in the creative development of the content of the courses. With the aid of the technology, the existing information can be manipulated in such a way so as to create a tangible content attracting the stakeholders in its best innovative sense. Thus, eliminating the traditional teaching of creating steep demarcation between theory and practical, technology aids to develop integrated content pioneering pedagogies in the teaching and learning process.

d. Evaluative teaching learning – Technology enables to evaluate easily without creating errors and also saves time and labour. One of the most important aspects of teaching learning process is the evaluation and if it is done correctly within time it creates better impact on the education delivery system. Technology helps to record feedbacks and thus learn from the mistakes in a sustained manner. One gets a chance for self-evaluation too and thereby makes one self-reliant.

e. Eco-friendly and Economical – Buying and preservation of books demand papers and special care. On the other hand, technology is more eco-friendly and economical to use. Thereby, people prefer to use technology which serves the multi-purpose attainment with respect to all aspects of education as one time investment can give them almost lifetime returns.

DISADVANTAGES OF TECHNOLOGY IN TEACHING AND LEARNING PROCESS

Likewise, there are few disadvantages too. Few of them are as follows (Raja & Nagasubramani, 2021) -

a. Deteriorating in speaking and writing skills – Teachers as well as the students is becoming over-dependent on technology which affects their writing skills. The extensive use of tech-based pedagogies and the short cut used to write messages limits the art of speaking and writing which is affecting the teachers as well as the students. As we take help of software very often, the grammatical mistakes, vocabulary and bad handwriting remains persistent in one.

b. Use of unfair means – Another major drawback in the use of technology is the rising instances of cheating. Very often due to the lack of resources and software plagiarism cannot be checked and very easily students get escaped. They always tend to copy and paste in their assignment rather than actually taking the labour to read and thereafter write it. Thus, academic plagiarism is at high instances now a days. Government in fact had to issue guidelines to curb this menace. Moreover, high tech gadgets like smart watch, calculators, mini cameras and others have incited the delicate minds of the youngsters to cheat for smartly.

c. Loss of focus – Teachers as well as the students uses technology not only for teaching learning purposes but also for their recreation. Previously, when people did not have much access to technology, reading books and writing used to be their favourite pastime which in return used to enhance their creativity and whenever they got access to technology they used to utilize it in its best possible way. But with the easy access to technology now a days, people utilize them for varied reasons which has somewhere reduced the focus in the stakeholders to use them for educational purpose only. Moreover, the stakeholders are limiting themselves to technology only rather than other co-curricular activities which are extremely important for our overall development.

d. Health issues – Extensive use of technology creates negative impact on health too. Headgears impair hearing, laptops impair sight, mobiles impair heart and many other. Thus, it is scientifically advisable not to stick to extensive use of technology, which is becoming extremely common in the present situation. Again, loss of focus from the co-curricular activities is affecting the physical and mental development of the stakeholders.

e. Expensive – As found in our observations that in certain cases, the stakeholders have found it expensive to get hold of technology and in many cases the stakeholders could not avail their benefits because they did not have access to it. It is true that buying technology is expensive and in many cases the colleges and universities do not give access to such resources uniformly to all which indeed is a major limitation of the use of technology in educational sector.

CONCLUSION

As mentioned earlier that technology has both positive and negative impact in teaching and learning process, however, it cannot be denied that it plays a significant role in the educational sector. The importance of technology has been visibly felt during the pandemic as it acted as the only means to connect the teachers and the students eliminating all the barriers. Moreover, from the survey we can conclude it on the positive note that at the present scenario more than 90% of the stakeholders agree to the use and role of technology in the teaching learning process for their constructive development and almost all have agreed that they have taken the help of technology in various forms in their teaching and learning process (Teras et al., 2020). Thus, it stands proved that in the contemporary time, education and technology especially in higher education are inseparable. Although there are few limitations but it can always be ignored by utilizing technology in its best possible and optimum way.

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