



Knowledgeable Research –Vol.1, No.9, April 2023

Web: <http://www.knowledgeableresearch.com/>

Importance of Integration Modern Technology in Higher Education

¹Rajarshi Roy Chowdhury ,
Former student Department of Education, Bankura University,
Bankura, West Bengal, India.

²Arun Kumar Singha,
Assistant professor, Department of Education,
Hariharpara Hazi k.khan college, Hariharpara, Murshidabad, West Bengal, India.
Email: rajarshiroychowdhury636@gmail.com

ABSTRACT

Presently most governments and private institutions have integrated the smart classroom approach in their campus to bring smart learning to their student learning experience. Due to the advent of this educational technology students are naturally tempted to be inside the classroom and learning occurs better than traditional classroom learning. This chapter has identified the challenges of how students handle the situation while working with technology and it explores a potential solution to overcome hurdles faced by students and educators in higher education. This problem-solving solution may help for sustainable development. This paper explains present technological advancement, its importance, and its application. This chapter concludes that there are numerous advantages in implementing the technical aspect of education but at the same time need skills to solve the technological issue.

Keywords: Educational technology, Teaching, and learning, Smart classroom.

INTRODUCTION

Teaching is one of the main aspects in developing education across the board presently, which can play a very vital role in bringing new dimensions to the entire perception of education. Today many educational institutions are providing quality technology to foster the importance of computer literacy, starting from students to educators. This effort to implement the quality of education all across the field may push deprived society into a fruitful society. The scope of information communication technology has been developed by getting enormous assistance from government and institutions as a result of which many local governments and non-governmental organizations are offering the best education-related to hardware and software such as computer, mobile phone, and internet connectivity which connect the entire world to be a part of one unit. All these provisions will lead to the maximum level of growth and development that will pave the way for solving social

problems. Now all the educational institutions have realized the significance of the integration of new education technology in the field of education. Today institutions are trying to implement the integrated computer program that has now reached its full-fledged activities. Acquisition of new technology and integration of new technical features related to software and hardware tools in higher education has been increasing tremendously .while integrating this technology has brought in front many new challenges to the educational communities. Communication technology has plenty of advantages over bringing brand new techniques in the educational field that has created a new dimension in the field of teaching and learning. It helps very much to facilitate the process of learning including document disposal, speed process, paperless work, everlasting data storage, and anytime anywhere access have emphasized the importance of educational technology in higher education. aThe purpose of this chapter is to address the problems regarding the integration of new technology and provide fruitful solutions to society. This chapter also describes many new features of technology in Higher education. This paper discusses the most challenges faced by the educational institutions trying to implement the technological approach in the classroom environment and this chapter has provided appropriate solutions to solve all these problems effectively by analyzing the very latest technology and it has mentioned detailed information about technological application and importance in the learning communities.

OBJECTIVES OF THE STUDY:

- 1.To study the purposes that can be served by Modern technology in the field of Higher Education.
- 2.To study the regarding the integration of Modern Technology in Higher education.
- 3.To discuss the challenges for implementation of the integration of Modern Technology in Higher Education.

METHODOLOGY OF THE STUDY

The present research is a review-based study. The data have been taken from different govt. reports, published scholarly articles, unpublished non-peer-reviewed articles of related aspects, newspapers, relevant books, and internet sources.

APPLICATION OF EDUCATIONAL TECHNOLOGY IN HIGHER EDUCATION

1. Integration of artificial intelligence. Artificial intelligence is a process by which thinking like a human by analyzing the previous errors and performs better than that. Now almost all technology has been trying to integrate with artificial intelligence that will bring the learning process effectively with the on-the-go process then never before, this automatic process will improve the guidance and. A better learning environment will also bring powerful learning outcomes sometimes even better than a traditional learning approach. Due to its human-like behavior in analyzing, interpreting, and correcting the process and doing a better multitasking job it has produced a new dimension to the entire teaching and learning process. It also performs the activities such as curriculum designing, preparation of study material for individual students and gives appropriate guidance for the students.

2. Smart classroom. In the Smart classroom, all the devices are inbuilt with Internet and Wi-Fi connectivity that enable the student to hook up with all countries and even at the end of the world smart classroom connect the different kinds of experts across the world at the same time and provide effective communication and interaction among the student that brings a most advanced way of learning in Modern era. The devices like projected tools namely overhead projector, LCD projector with internet connectivity make electronic learning easy and comfortable in their zone.

3. Online class. In many developed nations, the teaching and learning process occurs online rather than in a traditional physical classroom. Presently there are several online platforms available such as social media, many mobile applications, WhatsApp, Twitter, and Instagram serve as main resources for online classes and it has created a vibrant learning experience just like in traditional classroom environment and gives the most powerful learning experience like in classroom learning. In addition to this, it has brought learning at any time anywhere in which students can feel in their comfort zone and it makes them learn joyfully. It offers to reach to the unreached peoples from the different places at the same time many people can get together and share their ideas effectively that will save the money for Poor and underprivileged peoples, even the students from the mountain and coastal areas through the

internet connection can communicate with each other from the end-to-end approach. Moreover, very easy clarification of doubt is possible through whiteboard animation; live interaction with the subject is export, and animated videos will enhance a great learning experience among the students.

4. Virtual reality. By using this particular device we can enjoy the presence of real place-like experiences this virtual reality technology offers by managing robots from a distance and learning through a three-dimensional and 360-degree view of images give an exciting learning experience as they were in a real place. These gadgets are available online that are inbuilt with Computer-Based simulation, and it creates a real-life-like environment around the users. Now this VR is being practiced in the driving and piloting process.

5. Video conferencing. The help of the most advanced camera feature enabled devices used to communicate all around the world with face-to-face interaction. Video conferencing comes in handy when it is not possible to get together at the same place and this method has been used in online classes, seminars, workshops, and so on. Even official meetings and inquiries have been conducted through virtual conferences .

6. Television. TV Which can telecast both pre-recorded and live videos by which one can learn education-related programs. How many channels offer programs related to scientific findings and inventions. With the help of satellite direct live telecasting is possible across the world. Through television programs, students can engage themselves and achieve their goals to fulfill their needs many governments launched their channel to offer education programs in vast areas. Education technology increases student participation in all areas curricular, co-curricular, holistic leadership development, and Scientific thinking. The latest educational technology uses a variety of tools to enhance the entire system through investigation. Analysis that solves emerging problems. Most commonly used devices

1. Digital whiteboard 2. Ultra high definition 3. Smartboard 4. Projector 5. Tablet 6. Phonetic ear 7. Clicker response system.

IMPORTANCE OF EDUCATION TECHNOLOGY IN HIGHER EDUCATION

Educational technology is one of the key aspects of higher education. Whether we like it or not, it has a major role in developing education as a whole. Now the prevalence of technology is everywhere, and it has become mandatory for all to learn some basic computer literacy.

1. People. Students, educators demand technology Using technology now becomes a part of all lifestyles. It has created an indispensable need for all due to its enormous applications in various fields. As it has a faster mode of disposal of any task at the same time, facilitating a user-friendly approach makes all people appeal to it.

2. Professors and educators prefer technology Since learning and teaching are becoming very easy through technology all the professionals like to adapt tech to offer a superior quality of education.

3. Students of all grades prefer technology Modern technology not only helps students acquire knowledge but also they learn multi-tasking skills required to speed up the entire process. Now it seems that the real virtual world can not function on its own without the integration of new technology such as cybersecurity. Students from all walks of life love to engage with audio and video learning. so it is not surprising that all domains of education will go online platforms for teaching and learning processes.

4. It has no limitation It has plenty of advantages over the teaching and learning process as it offers many ways to acquire a concept. It comes up with an innovative way to instruct and it keeps them engaged in an educational process consequently the way of learning changed through the simplified application of software and hardware tools. As online cloud computing offers plenty of documents to be stored and retrieved large amounts of data on the internet it allows for maximum output across the virtual student's communities. It has the highest advantages over traditional classrooms in terms of the availability of resources and easy access to information. The conventional method has very limited scope available as compared to virtual education in which a multidimensional approach is possible through the extended scope in various dimension.

5. Student can be learning situations, students find it difficult to go at their own pace of learning in a traditional classroom. In such cases, the integration of technology will help higher education students to be able to go with their learning speed and ability as it offers individualized learning material that can easily be picked up by all categories of pupils especially slow learners find it easy to achieve their goal. It allows going back over

previously recorded concepts for better understanding and enables students to cope up with the tough situation.

6. It can enhance better cooperation between educators and pupils. Students can maintain better and cordial relationships with teachers and their classmates when subjects are integrated with technical aspects. As it offers a more meaningful and fun way of learning it creates a smooth functioning, conducive learning environment, and happy ambiance in learning. Technology helps to boost collaboration through a multidimensional technical approach. With the help of software developers, educational software tools are created in such a way as to improve relationships.

7. Online exam It comes in handy when it is not possible to get together at the same place. With the crisis-like pandemic situation prevailing over the period, then there is an only option in front is to take tests online because it will help us anywhere activities at the same time from different places. At present 2020 owing to the COVID-19 pandemic situation prevailing all around the world, all nations have adopted the online mode of testing. In India, all universities and colleges go online as per the instruction of the government. Perhaps many of us begin to feel that it is the most effective way of teaching and learning process than in traditional approaches. Writing tests from their places give some advantage to overcome psychological barriers like fear and anxiety can be reduced to a large extent and eventually it will pave the way for better performance better result can be expected since learning become at their disposal. This is what we witnessed in today's online exam showing its great outcomes.

8. Easy availability and multimedia resources Different resources of teaching and learning materials are available online in the form of digital storage, digital library, and software application through cloud computing. Since each student has a different way of learning style technology, bridge this gap as well by providing appropriate teaching and learning materials. Now searching and receiving data becomes very easy due to the advent of cutting-edge technology and it connects the entire world in which anyone can get their information at their fingertips. That's making it globally united and bringing multiple resources for the teacher. These fascinating features cannot be obtained from traditional resources like books and notes. This is what the main reason all the professional attempting to integrate the new technology whereby students are engaged with exciting new features makes them joyful learning at every

time⁹. Technology keeps students motivated and engaged. The students of this era are considered to be more technological learners than 20th-century students hence technical integration becomes compulsory in all walks of life. Recent research shows that students are better focused and learn faster in the virtual world than in the traditional mode of approach. The new technical learning concept has the potential to achieve their goals and stay motivated in the learning process. As they learn from self-motivation, the learning leads to long-lasting and boosts self-confidence to accomplish difficult tasks on their own. It creates some necessary life skills such as problem-solving. Decision making. Creativity and helping others.

10. Technology is essential to succeed outside of the classroom. Because of its high accuracy and applicability, we need to accept the incorporation of new concepts. Whether we desire it or not, it has created a situation that everyone has to learn some basic computer literacy. Since higher education, students are better off learning through incorporation of new ideas and it necessitates the implementation of technical programs in all domains.

PROBLEM AND SOLUTION

Educational technology provides many advantages but at the same time, it presents a parallel challenge to the students. To solve this problem some solutions have been suggested as below.

1. Difficulties in reading electronic text. Many educational devices with displays make it difficult to read text outdoors. Working In sunlight with a low brightness display makes it blur appearance as a consequence of that difficulty in the reading text but this does not happen indoors. This problem of visibility can be rectified by choosing a high-resolution display with an auto-brightness mode that can bring better visibility in a bright environment as well so that electronic text can be readable everywhere.

2. Memory storage. This storage space needs to save all kinds of documents and videos but with little space, only a limited number of data can be stored, especially in the context of uploading and downloading files. The performance of a multi-tasking procedure needs adequate space. This particular problem can be solved by increasing hard disk and RAM space. More than 4gp RAM would be perfect for multitasking and more than 500 GP hard

disk makes it enough for large amounts of data storage, which enables rich data transfer and high-quality educational content can be processed simultaneously.

3. Comparability problem. It has two main elements when it comes to comparabilities, such as software and hardware compatibility. Good comparable devices can perform the better function of software applications and can support all kinds of external devices such as printers. Headphone and Speaker etc... with the integration of the latest electrical parts and updating with latest version software could enable comparable function. Today in the globalized market, even at a low price better-featured devices are available.

4. Durability and availability of spare parts. The device made with quality material can be expected to be durable whereas a poor material device cannot work up to one's expectations. Availability of original parts to replace damaged ones is difficult when it comes to imported products. To handle this situation indigenously made products would be preferable to imported products so this approach will ensure durability and availability of spare parts.

5. Quality and accuracy of the content. Since the content in the electronic devices can be edited and modified. An unauthorized third party can intrude and change the original quality and accuracy of data. This problem can be prevented by enabling a high-security password that will protect devices from hackers. presently many devices available with the most advanced security features like face unlock and fingerprint technology that ensures the highest protection from intruders.

6. Ownership of the product. Some universities provide a rental device for their students. When the duration of the ownership is less than required by students, then they have to encounter massive issues like data loss. To avoid this problem higher education must ensure to provide appropriate duration as per their level of learning pace. Increasing ownership rights will help them achieve their goal.

7. Health risk. This is a major concern about the long-term use of technology on pupil health. It has created mild to severe health issues in students with continuous use of devices like laptops and Mobile phones that cause radiation. Recent research revealed that several health-related problems including skin disorders. Cancer and infertility. Perpetual use of mobile displays on reading electronic text causes eye dryness. computer eye syndrome, eye irritation, and headaches. To stay away from these problems, the brightness of the monitor should be reduced to the maximum. Frequent eye blinking hydrates the eye and stops eye dryness. Eye exercise might reduce all health-related issues also every 15 minutes take the eye away from

the display and see the distant object may give eye muscle relaxation. While sitting in front of the computer one should sit uprightly to avoid back pain.

8. Copyright issue. Copyright is a legal process enacted by all local governments to ensure ownership and right to use for a particular period and even for a lifetime. Usage rights give ownership protection from unauthorized persons. A lot of information is available from the EBook library and website. When you copy of exact content and use it on another platform might cause copyright issues moreover without the permission of concern the author will be subjected to legal action as per enacted copyright law. Hence care must be given whenever you take information from an unknown source and agree to the terms and conditions to get prior permission from the author.

9. Bandwidth. It refers to the internet speed, with high-frequency bandwidth allowing for the maximum and faster process of files that is possible through technology like 4g, 5g and fiber optics. By using high-frequency bandwidth, we can avoid slow-speed internet and handle large amounts of data with high speed.

10. Professional development. Research and development have developed a lot of new technology to face problems. When tackling new situations we need to upgrade with these emerging technologies. To update technical skills, one must take a pre and in-service training program that enables professional development. For instance, traditional classroom teachers are not aware of how to use educational technology effectively, in such cases, the integration of proper orientation programs such as seminars and workshops will lead to professional development. Thus the attitude of accepting new to the old can bring a radical change in educational technology.

11. Failure to use technology effectively. Technology can be used in formative and summative assessments. That provides ongoing and entire details about students' performance. The use of technical skills enhances the accuracy of the assessment. When there is a failure that leads to inappropriate evaluation. So to avoid all these mixups one must be properly trained in computer literacy and also with the integration of most advanced technology like artificial intelligence may prevent failure of use technology in some areas. With the help of AI manual error can be reduced to a large extent.

12. Overcrowded class. Whether it is an online class or a traditional classroom if over the strength of students creates unwanted confusion and distraction as a result difficulty in classroom management and slow network speed is encountered in the context of large

numbers of students are present. This problem can be eliminated with a restricted number of students in a class.

13. Teacher innovation. In all classes, each student has a different way of learning style so a personalized teaching approach is necessary for each student. To meet the needs of each student, educators must choose an innovative approach by integrating educational technology such as electronic text readers. Audio. Visual. Computers and projectors have the potential to attract all kinds of pupils hence teachers must be aware of using technological skills along with traditional methods of teaching.14. Expenses and interrupted power supply. Smart classes need highly equipped devices which might cost very lot. To reduce expenses for the economically weaker section, government and non-governmental organizations should help economically through a program like a scholarship and a stipend so that economically poor students can get maximum benefits out of that.

CONCLUSION

Integration of technology into education is considered to be cost-effective with exciting features whereby students can develop their life skills and attitude that is essential for growth and development. It enhances instant access to knowledge so that one can achieve their goal. AS far as developed nations are concerned implementation of education technology is much better than in developing nations. As per present statistics regarding the integration of educational technology is happening slowly in developing countries, this attitude should be changed to bring the quality of education for all. We have to understand the importance of technology from its massive application point of view. Though it has many challenges in various domains, adequate measures should be taken to solve the problem by the concerned authority. All higher education labs must be equipped with advanced devices to motivate the students for inventions moreover Students, teachers, and parents all must work together to achieve the desired goal. The main proposal of this chapter is to emphasize the significance of technology to implement this program all across colleges and universities to make a positive impact in higher education. This article aims to highlight the unique features of technology associated with software and hardware application. This paper identifies challenges while

attempting to integrate the technology and offers appropriate solutions to overcome the problem. The major findings are that when applying technological skills in higher education needs expenditure and skill especially in developing countries and to meet these needs enough funds should be generated by concerned governments and also it recommends that setting up a cloud computing system because it has mainstream technology in higher education.

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