Impact of media and technology in education system

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INTRODUCTION

Media, in general, can be described in simple terms, like a movie was good, the book was sad, or the Internet is informative, and how did we ever live without it! Psychologists, on the other hand, look at media from a theoretical perspective by bringing social cognitive theories to media which suggests that individuals are proactively involved in their development, and can, therefore, exercise control over their feelings, thoughts, and actions.

With respect to media, there are many issues of concern to students, parents, educator, government and society at large. The various effects of different multimedia on the cognitive, social and moral development of children with respect to technology. People want to know whether various new technologies are more effective for teaching and learning than mere traditional classroom approach. Some technologies are more motivating than others and can be used to increase access or reduce cost of education.

The use of media and technology in the classroom can help in bridging the gap between teacher and students, between reader and texts and between students of various skill levels.

Using media and technology in the classroom well has many potential benefits like:

– Provide access to information where access was once limited and non-existent, e.g. via digitized rare books, archives and manuscripts, collections, assistive technology etc.

– Help conveying information, concepts and process more effectively, e.g. via data visualization, animation and simulation.

– Enable self-paced learning and sensitize different learning styles.

– Make students thinking more transparent and helps teachers get immediate and continuous feedback on student progress.

– Provide the opportunity for students to learn digital citizenship: how to evaluate online sources and how to interact with public.

Some functional "Key Terms" related to Media and Technology are as follows:

– E-Distribution system
– Virtual reality

- Blended learning
- E- learning
- Web Based Learning
- Virtual Gaming
- MOOCs
- Cyber safe

Functions of media:
Providing information:
These media help in disseminating information for the mass. People acquire different knowledge very quickly.

Providing vocational information:
Media help in providing vocational and professional information to a larger group of the community.

Spreading awareness and civic responsibility:
People can be aware of different problems of the society and their role in changing society through mass media. People know their rights and duties for the nation clearly.

Educational programmes:
Mass Media help in forming suitable habit for different programmes and they utilize their leisure time in a productive way. It also influences the behavior of the people through different programmes.

Role as a non-formal agency:
Now in an advanced society mass media are not treated as informal agencies of education. They are called non-formal agencies due to its wide coverage of educational items in a systematic way. It is viewed that these media can substitute the classroom teaching in future.

Technology in education system:
As Technology grows, there are many ways that it can be applied to different things. Education is no different. There are many technological advances that have changed the world of education in the 21st century. Knowing about these advancements and the impact they have on education around the world can will show just how essential technology is to education. These different technology uses in the class room have a vast impact on the overall education of students around the world which will be shown.

Online classrooms:
This is one of the first things that many think of when it comes to technology and education. There are many ways that this has been implemented in all levels of school. There are classes that children can take online while they are still in school to earn extra

Fig. 1 : Types of media and technology
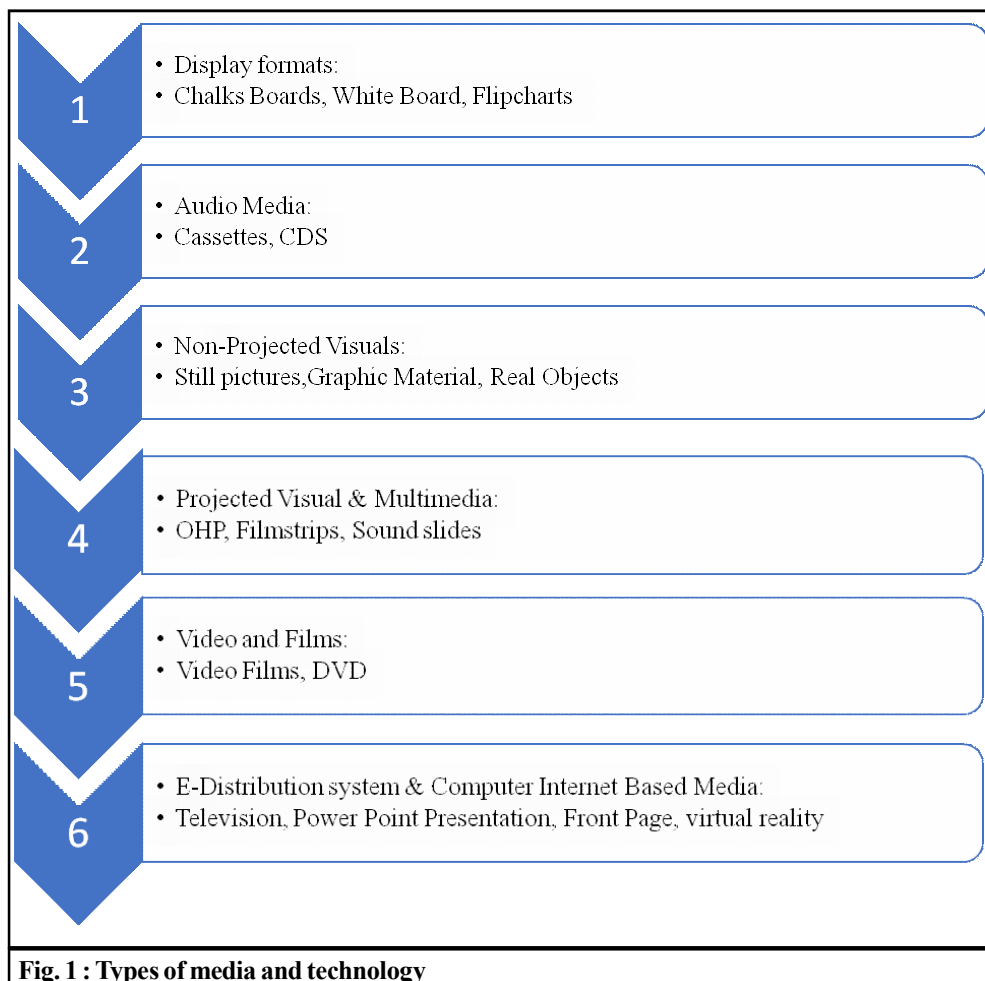
credit. There are even online schools that children can do from home as well. An online class can also be a benefit to students who have certain issues, such as attention issues or are hard of hearing. This is because while a person may not ask the teacher to repeat themselves or may not have the option during a physical class, when they are watching a prerecorded lecture, they are able to rewind and to see and hear the information again. This can help them to get a better understanding of the lesson which is the main goal.

Learning with Blended learning:

Blended learning is about effectively integrating ICTs into course design to enhance the teaching and learning experiences for students and teachers by enabling them to engage in ways that would not normally be available or effective in their usual environment, whether it is primarily face-to-face or distance mode. In many cases the act of "blending" achieves better student experiences and outcomes, and more efficient teaching and course management practices. It can involve a mix of delivery modes, teaching approaches and learning styles.

Advances in technology provide new opportunities for teachers to design and deliver their courses in ways that support and enhance the teachers' role, the students' individual cognitive experiences, as well as the social environment; three key elements in successful learning and teaching. Blended learning technologies can:

– Broaden the spaces and opportunities available for learning;

– Support course management activities (e.g., communication, assessment submission, marking and feedback);

– Support the provision of information and resources to students;

– Engage and motivate students through interactivity and collaboration.
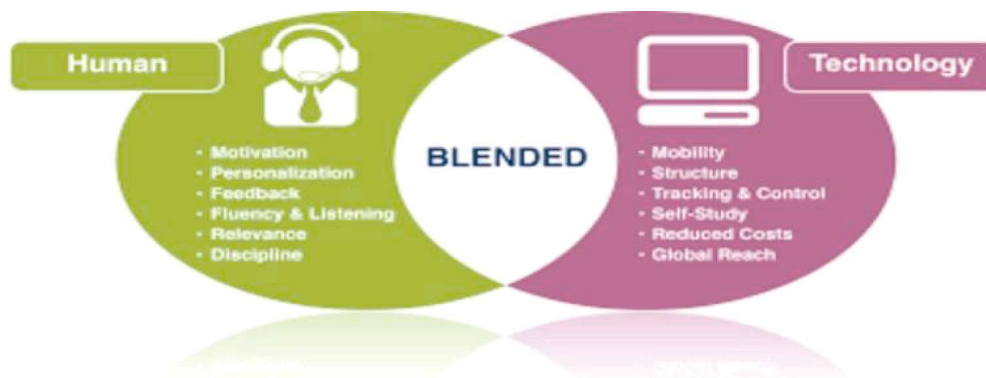
Learning with Online Learning (E-Learning) Resources:

With the advancement of computer and communication technology, Electronic learning has entered into the field of modern education. It has created a number of online learning resources for students and teachers. E-learning is a general term, which can be defined as a specific mode to attend a course or a programme of study, where the students rarely or never meet face to face, nor access on campus educational facilities, because they study online. E- learning increases access to the subject-matter and knowledge through online learning.
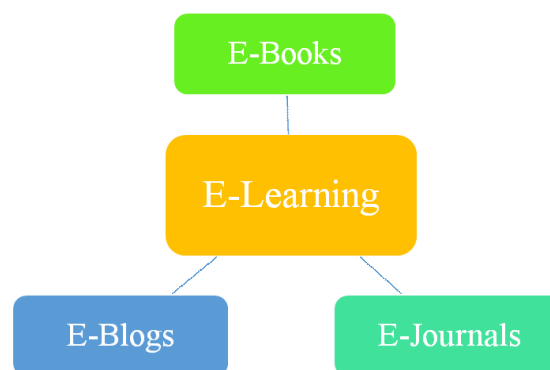
– **E-Book** is a book whose contents are in an electronic format. It is a small portable device onto which the contents of a book in electronic format can be downloaded and read.

– **E-Journal or E-Zine** is a journal published in electronic form. E-Journal is often

used interchangeably with terms like 'online journal', 'academic journal', 'E-Zine' and 'Academic open access E-Journal'.

– **E-Blogs** is a frequent chronological publication of personal thoughts and web links. E.g. Adublog is a kind of blog written by someone with a stake in education. These weblogs cover topics related to education and contain educational resources. These blogs are written by or for a teacher; blog maintained for the purpose of classroom instruction or blog written about educational policy.

Some important edubloggers of the international fame are given here:

– Stephen Downes
– J.N. Farmer
– Will Richardson
– Michael Feldstein
– J. Fraser.

Web Based Learning:

Web Based Learning environment may be designed for distance as well as face-to-face learners. Web-based learning is one way to learn, using web-based technologies or tools in a learning process. In other words, learner uses mainly computers to interact with the teacher, other students and learning material. Web-based learning consists of technology that supports traditional classroom training and online learning environments. "Pure" web-based courses are wholly based on computer and online possibilities. In this case all the communication and learning activities are done online. On the other hand, web-based courses may have some face-to-face sessions besides the distant learning tasks. In this case they are called blended courses as they blend web-based activities with face-to-face activities.

Learning with MOOCs:

MOOCs (Massive Open Online Courses) can be seen as a term or word related to the scalability of open and online education. A massive open online course or more commonly known as MOOC is an online course that is accessible via the web and offers unlimited participation. According to Educause (2014), a massive open online course (MOOC) is a model for delivering learning content online to any person who wants to take a course, with no limit on attendance. MOOC incorporates both the traditional and modern course materials for learning such as videos, readings, projects, assignments and many more.

The first method that MOOCs can be used in learning is that teachers can conduct online classes via MOOCs. All students can take up the same courses at home, do the same assignments and sit for the same online final exams. Teachers at school can use this as a side-learning whereby it is done at home but is discussed in class. Students learn on their own through the online courses and they can bring up their issues during class at school. Other than that, teachers can also assign students to different online courses and that they are to complete those courses together in a specific amount of time. The objective of this is to later on share their different knowledge with each other and gain from each other. They can also share their final projects with one another and create a discussion out of the activity.

The Tablet in Place of Text Books:

There are several schools that have started moving to tablets instead of textbooks in the classroom. One school for example is Clearwater High School. The high school first made the switch four years ago and the results have been outstanding. For instance, the cost for the books was significantly reduced.

While tablets can be a great source for textbooks in the classroom, there is much more that they have to offer. A survey of 150 teachers during the 2014 to 2015 school year stated that 87% of them felt that the tablets made a significant improvement to the learning environment.

Instant Messaging and Texting:

While texting may be frowned upon during class, there is a major benefit that it can provide for the learning experience. It can allow the student the ability to communicate directly with teachers as well as other students. This can help them to get a better understanding of the subject matter. They can even ask questions that they were too afraid to ask in class.

The involvement of teachers on these sites varies drastically depending on where the school is. There are some schools where there is no requirement for faculty involvement which can lead to less beneficial results than those where teachers are required to be online with the children for a certain time. It can help to not only help enrich the student's understanding but also help to strengthen the bond and trust they have for the teaching faculty at the school.

Computer, Multimedia and ICT in the Classroom:

Computers have become an essential part of life for most parts of the world. Even in third world countries. Many have started using computers to help improve the education. The impact of the computer in the classroom is far reaching.

Students can engage in games that can help them to learn lessons. In fact, there are

many educational games out there that are so fun for children that they do not even realize that they are learning while they playing. With this, there are games that can help to improve mental acuity, which can be a huge help when it comes to learning.

Virtual Gaming and Its Impact on Education:

For many, video games and virtual reality bring up an image of relaxation and time for fun. The truth of the matter though is that they also have their place in the classroom. They are important for those who are going into digital and video game programming. However, the reach of this technology reaches even further.

There are virtual reality games out there that can help people learn technical skills. One of the biggest examples of this is with virtual gaming for surgical students. By being able to practice the surgery in virtual environment they are able to get the experience they need for operating on a live human being.

Learning with Virtual Reality:

The early stages of development of any new technology or theory are often confounded by controversy over what that technology actually involves. Any definition of VR is further confounded by an assertion that it is not a technology, but other set of emerging phenomena which are enabled by another set of rapidly developing technologies and informed by yet another complex set of socio-cultural influences. VR is a set of rapidly developing computer-generated phenomena in search of a definition. Popular representations of VR (in advertising and movies) are unrelated to today's VR capabilities. The technology's undeveloped state seems to be the only barrier to the achievement of the science fiction fantasies that are provided by the current press. A survey of the literature on VR does reveal some recurring themes.

Virtual Reality and Simulation-Based Training VR technology is an integrated technology of computer hardware and software that requires the user to be fully immersed into the computer-generated, real-time, and 3D virtual environment as an inside participant to look, listen, manipulate, interact, feel, speak, and even smell if it is possible. It may be a networked or a stand-alone technology. The characteristics of simulations and VR can heavily overlap or even be synonymous as well as remain distinct, depending on their design and most importantly how they are used in a learning interaction. Simulations-based programs can become VR-based programs with design changes.

Virtual Reality and Learning Theories The development of models of learning has historically coincided with technological developments, from Behaviorist theory's focus on mechanical control to cognitive theory's focus on computer models of the mind. Corresponding to the developments of educational theory and its correlation with technological developments, Winn (1993) claims that, in instructional design at least, there have been four generations of development. The first generation was shaped by behaviorist theory. This theory developed traditional drill and practice tutorial instructional design that focuses on imparting objective knowledge or content to the learner. The second and third generations have been informed by cognitive theory's focus on the processes involved in assimilating and encoding information. The second stage of instructional design focuses on the designer and strategies he or she

may use to reduce the cognitive load on students thereby facilitating instruction. The third generation focuses on the relationship between the user and the information presented. This stage would include intelligent tutors that attempt to adapt to individual learning styles by responding to the user's interaction with the program. The fourth generation focuses on the constructivist assumption that the learner constructs the knowledge and is characterized by discovery and experimental learning.

Role of Media and Technology in Education:

The present-day world is facing two general problems- "information explosions" and the "population explosion". Information explosion means an explosion of knowledge. Today, throughout the world, social and technological changes are taking place rapidly due to expanding world of information. So, there is explosion of knowledge. New frontiers of knowledge are opening day by day and the horizon of human knowledge and understanding is expanding very fast.

Learning with Radio:

Radio acts as the medium of mass-communication. It is used mainly to broadcast events to far and wide places of the world. It is also a very important source of entertainment. Every day, we listen various talks, discussions and debates from radio. These are extremely important and useful for the students. Especially for the purpose of teaching, many programmes are broadcast over the radio. So, radio acts as a great recreational and education force. It broadcasts scientific and cultural facts. It enlightens public opinion. It stimulates curiosity and interests. Now a day our Prime Minister, Narendra Modi is using radio as a medium of transmitting his thought process to the masses by broadcasting "Mann-ki-baat" radio programme. The Prime Minister, Narendra Modi, is usually expected to address the nation every month on All India Radio.

Having officially started on and from 3 October 2014, the programme aims to deliver the Prime Minister's voice to the general masses of India. Since television connection is still not available everywhere in India, especially in the isolated, rural and less developed regions, radio was chosen to be the medium for the programme, owing to its wider reach. An estimated 90% of the total Indian population is reachable over the medium additionally, various private FM radio stations in the metropolitan cities of India are allowed to broadcast a recording of the show.

The radio has proved a valuable supplement to class teaching and learning Educational broad-casting is comparatively a new experiment and is catching on well. Through school broadcasts, expert leaching in such diverse fields of science, social studies, art, music, languages, politics, current affairs and other areas, can provide information and enrichment for pupils and for the teacher.

Learning with Television:

Today, television has become an extremely popular source of entertainment among youngsters. We listen and see the instruction of the speaker from the television. So, the whole personality of the child is engaged in the task. Hence, it has become the most important

and powerful agency of mass communication. In television, news items are not only read out but the events are shown. As a result of which not only problems are discussed but practical remedies and solutions are also suggested.

So, educational television is the most recent audio-visual media for class instruction. There are programmes on the television especially for the school children. These programmes are aimed at educating the school children and they instill good moral values. Television can give a very good idea of the history of the country through dances, short-films on historical places, museums etc. Thus, television plays a vital role as a means of mass media in educating the masses.

The students can see for themselves how technology and science has advanced:

(1) Educational television is capable of making available many needed and so far, inaccessible learning experiences.

(2) Educational television brings about continuing co-operative planning by teachers, supervisors, learning materials exports and skillful production teams.

(3) Good and effective educational television broadcasts result from the outgrowth of curriculum planning, of content analysis and of the selection of this most appropriate instructional media

(4) It can use a variety of audio-visual aids, motion pictures, film-strips, slides, recordings, drawings, maps and other projected and non-projected aids can be demonstrated through Television. Video-tapes and recordings on television bring us the launching of space rockets, of political and social events.

(5) Educational television brings us a new kind of teaching team into existence.

(6) It can acquaint the children with past culture, history and social life.

(7) It can motivate both children and adults, because not only it is educative but also entertaining.

(8) The televised-lectures are more thrilling as they bring to the listeners not only verbal information and the instruction of the speaker but also the whole of his personality engaged in the task.

(9) National problems like those of population and poverty and illiteracy are often highlighted and discussed over the television.

(10) It plays an important role to play in educating the children on the history and culture of our country. It gives a very good idea of the history of the country by telecasting various programmes through dances, short films on historical places, museums etc.

Thus, television plays a very vital part, as a means of mass media in educating the masses. It is a dynamic and powerful medium which influence education. Its effective use is based upon the fundamental psychological principles of learning which apply to all successful processes of learning.

Learning with Press/ Printed Material:

The Press covers the entire printed matter. These printed matters are books, magazines, journals or newspapers. Reading matter has vast potentialities. It exerts good influence on the individuals. It acts on the intelligence and emotions of the individuals in shaping out

attitudes and philosophies of life.

An educated individual one who has an open mind, a general awareness and knowledge of the world around him. His field of knowledge is vast and varied. Newspapers contribute very largely in education for the above end. Press not only gathers events, they also present their own views on issues.

So, the reader gets an opportunity to consider an issue from many angles. Press also contributes to the study of History, Geography, Science, Literature etc. The knowledge is supplemented to these subjects by the newspapers.

It is possible to link certain topics with everyday life by means of the press through newspapers and other journals. The child must be aware of what is happening in the world around him.

So, the press is an important service that can render to education by imparting knowledge of current affairs to children. News regarding earthquakes, cyclones, new planets and political changes may be brought to the notice of the pupils by the press. It also gives a great deal of historical information.

The pupil's limited knowledge of history may be elaborated and enhanced by this press. So the press is to serve as one of the important medium of education and instruction.

Learning with Motion Pictures:

The motion pictures exercise a great influence on human mind very skillfully. They help to create lasting values in the pupils. There is also wider use of films in education. Educational films are coming into the field to meet the challenge of commercial pictures, to supplement them and to explore new avenues of educating children and adults. These films can give more reality, influence attitudes, show cause and effect relation and motivate the students., Thus these motion pictures have great instructional force which can be used intelligently in the classroom.

There are many areas of learning which can be properly dealt with the help of films. For example, in teaching of geography or science, we can use these motion-pictures. Rivers of India, climate of India etc. can also be taught effectively with the help of the motion pictures.

The Importance of Media and Technology in the Classroom:

Media in the classroom engage students in learning and provide a richer experience. Media are useful tools for illustrating a lesson, allowing students to see examples of what they are learning. Interactive media such as Smart Boards allow students to move items on a screen for illustrative purposes. Students view media as exciting learning aids, making learning entertaining and less monotonous, according to the report "Benefits and Risks of Media and Technology in the Classroom "from the UCLA Office of Instructional Development.

Appeal to Multiple Learning Styles:

Media appeal to visual, auditory and kinesthetic learners. Students can watch a movie, listen to music or interact with digital media on an interactive Smart Board. Effective teachers

do not rely on teaching students in merely one style but use a variety of styles to reach the greatest number of students. Providing a rich learning experience through classroom media keeps students focused and engaged in learning.

Creates an Authentic Learning Experience:

Using newspapers, brochures, job application forms and news broadcasts provide authentic opportunities for students to learn using real-world media. This method simulates real-life experiences in which students must read, evaluate and interpret information based on items that they need in their daily lives. When students use objects from the real world, they can see the connection between what they learn in school and how they can use the knowledge as a member of society.

Strengthens Critical-Thinking Skills:

Teachers can use media to hone critical-thinking skills. Students can write about a song, interpret a movie or interpret a news broadcast. Teachers can use the media to ask probing questions and facilitate discussions that extend beyond basic comprehension questions. Teachers can also create projects in which students develop their own media, using classroom media as a model. This hands-on activity challenges students to formulate media, using their own creativity and interpretations from classroom media.

Teaches Students to Use Media:

Using media in the classroom teaches students how to use and care for resources to further their education. Students not only learn how to use the Internet, a dictionary or a newspaper for information, but they also learn how to care for and protect the items they use, according to the Center for Media Literacy. Students can also learn how to determine the value of media and learn methods to contribute to society, producing their own media.

Effective use of Media and Technology:

In our internet-ed, super-connected, global community we can now be incredibility well informed. The flip side is that we are also extra-ordinarily exposed to risk and that risk is all the greater because of the immense flood of activity that now occurs on the internet.

As the graphic illustration- at right-shadows, an enormous volume of online activity occurs in just 60 seconds. Given all this activity, at risk to our students, cyber security in schools has never been more important.

Cyber-affected:

our cyber experiences can affect our attitudes, behaviors and emotions in highly individualistic ways, and the exposure of one child to previous pop-up searches or incessant texting can have adverse effects on one child and no impact on other.

Cyber Crime:

The term covers crimes like phishing; credit cards fraud and loan scams; identity and data theft; illegal downloading; industrial espionage; child pornography, the grooming of children

via chat rooms; cyber staking and sexting; cyber terrorism; the creation and distribution of viruses, unsolicited, undesired or illegal spam messages; cyber bullying and so on.

Cyber safe:

Part of our responsibility as a teacher is to ensure that our students are computer literate, rather than leaving them to their own devices-literally and figuratively-and this includes being equipped and able to navigate cyber space safely. Schools should install and update security software, and set it to scan regularly. They should also maintain automatic updates on software, particularly operating systems and applications.

We should collaborate with experts who can provide advice on safe and responsible cyber behavior. The good news is that plenty of resources already exist to help us to ensure our schools are cyber safe-just browse the internet, safely.

Conclusion:

The relevance of educational media and multimedia technology is inestimable in teaching and learning activities if the most suitable and effective service delivery is adopted within the classroom setting. As the educational media and multimedia technology industry continues to grow, educators should endeavor to develop abilities and skills in the educational media and multimedia technology design and development for instructional purposes. Efforts should also be made by the Union Government (UG), State Governments and all school administrators in ensuring that educational media and multimedia technology is included within the school curriculum in the elementary, middle, secondary and higher secondary school levels to increase the awareness of the essentiality of this concept to all learners'. A great transformation is seen from books, libraries to mobiles, computers, and digital media in the era. The era is well a synonym to the e - generation, which is technology driven. Its ingress in to the knowledge economy has significantly changed the learning sphere. It has broadened the academic world from pre-set goals like syllabus, examination to skills, world affairs, community learning and of all an experiential learning. It is treading its path to make students carve a niche for themselves in the competitive world. New media technology has bombarded the student fraternity with wide array of rich content, avenues for learning, social participation and medium for expression. It has broken the barriers of learning amidst four walls by providing an exposure to information on academics as well as topic of interest.

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