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Innovative technologies and higher education

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Abstract
Education system creates hope and it should never aim at creating mere hypes. Over a period of time many changes have occurred in different sectors of economy including the education system. Education sector unlike any other sector has seen many stages in its evolution. From Guru-Shishya system of conducting the class in open garden under the trees to closed class room lectures, presentation form of teaching with the aid of LCD touch-screen projector to online notes and now instant Whatsapp messages is the buzzword among the students. Whatsapp has gained the status of being authentic formal means of communication among the students and the academicians. Screenshots have taken off the business of many of the photocopy outlets operating within many school and college premises. Indian subcontinent is comprised of diverse population belonging to various ethnic and cultural groups. Apart from these differences, the most visible difference that makes a direct impact on the Indian education system is the diversity in purchasing power and affordability of the Indians. This article is aimed at analyzing the nature of the modern education process in India where diversity is seen not only in culture and ethnicity but also in purchasing power and affordability of the Indian people.

Keywords: Innovative technologies, higher education

Introduction
Printing press changed the world of education forever. Six centuries later we are undergoing another transformation and this time everything is going digital. Leading this second wave of technology backed empowerment; Educomp has taken education from the paper to the pixel. As a pioneer in bringing digital education to the Indian classroom, Educomp has brought about a radical change in the traditional ways of teaching with its exemplary innovations in the digital space. Educomp takes pride in having a legacy of introducing latest technology based solutions to the schools. As a thought leader in some of the products designed for schools, Educomp products like the smartclass have become iconic and often synonymous with digital classrooms. Educomp smartclass is known to have brought about a radical change in the traditional ways of teaching with its exemplary innovations in the space of digital content usage in the classroom. Science at senior grades can now become even more exciting with atoms bursting at an arm length with Educomp's3D Lab. Keeping in mind the need for a global proficiency in English, the Educomp English Mentor Lab has been specially designed to combine a unique methodology with language learning tools that enable students to internalise sentence patterns and practice reading, writing and verbal skills on their own. Educomp Smart Schools form the next generation of Educomp's learning suite of products. The quality of education and increasing learning outcomes are the offshoot of amalgamation of never before features, allowing the schools to integrate, nourish, create and enhance a 360 degree relationship with all stakeholders while keeping the student at the center of the learning experience.

Innovative Technologies Used In Higher Education
Innovation is a group effort and technology is only the platform that supports it and in

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education this becomes even more important. Digital tools are extensively being used to enhance the system of education. Schools and colleges are digitalizing their institutions, optimising campuses and improving student outcomes. Some of innovative technologies used in digitalisation of higher education are as follows:

Educomp Smartclass: Educomp smartclass is the industry pioneer in the use of rich multimedia content as a teaching tool inside the classrooms in India. It's a revolutionary in-classroom technology leveraging a large repository of digital content across virtually all subjects from kindergarten to grade 12. Educomp Smartclass has been endorsed by detailed testing from Dun & Bradstreet.

English Mentor: English mentor is an English Language Lab which has been meticulously designed keeping in mind the education requirements of English language learners from grade one to ten, such that the understanding of the language and its fundamentals get imbibed in an engrossing scenario. It offers a self-paced environment that allows users to correct mistakes, practice correct pronunciation and move on towards coaching in public speaking with confidence.

Educomp Smartclass 3d Lab: With 3 D lab complex Concepts become easier to comprehend. When abstract concepts come alive, students can almost feel that they are a part of the subject itself.

Educomp Insight: Insight is a scientifically designed assessment system that evaluates the academic competency of the student. Insight assesses students on 10 skills and 35 sub skills making it one of the most comprehensive assessment and counselling systems.

Educomp Smart School: A first of its kind comprehensive School Solutions through which schools enhance the quality of learning providing path-breaking features. It allows schools to create, integrate, nourish and enhance a 360 degree relationship with all the stakeholders while keeping the student at the centre of the learning experience.

Uniclass: Educomp Uniclass is a teaching and learning system where a user can access a large repository of rich multimedia content mapped to curriculum. Uniclass is available for Nursery to Grade twelve. The Uniclass device is similar to a set-top box and can be connected to a television, a projector or any other display appliance. It gives students an engaging and interesting way to learn. Easy to set up and maintain, Educomp Uniclass is a simple and cost effective way for schools on a budget and users who can afford their personal content library.

Augmented Reality/Virtual Reality/Mixed Reality: Gone are the days where students are expected to sit quietly at their desks. Educational technology is succeeding in making learning collaborative and interactive. Augmented, virtual, and mixed reality are examples of transformative technology that enhance teacher instruction while simultaneously creating immersive lessons that are fun and engaging for the student. Virtual reality has the capability of bringing the outside world into the classroom and vice versa. Apps such as Unimersiv can transport students to ancient Greece, while Cospaces allows students to share their virtual creations with the world.

Classroom Set of Devices: Schools are moving away from BYOD, or bring your own device, and students no longer have to go to the technology lab for access to a computer or laptop. Recent years have shown an increase in classroom sets of computers that was made possible in part by federal funding. Title I schools have received funds via The Every Student Succeeds Act, and several grants and donations have outfitted classrooms all over the country with iPads and laptops for each student

Redesigned Learning Spaces: The onboarding of technology has supported their endeavor. 21st century classrooms are SMART boards instead of chalkboards and pods of SMART desks instead of individual seating. Students are going on virtual field trips instead of merely reading from a text; they are creating media instead of just looking at it. The redesigned learning space is laden with integrated technology, which means students aren't just using these things, but they are understanding *how* to use them in order to achieve a specific goal. Moreover, some of these learning spaces aren't even in the classroom. Colleges and universities are creating more informal campus learning spaces because they understand the importance of creating and collaborating 24/7, not just when class is in session.

Artificial Intelligence: The use of AI in higher education has already proven useful. Another use for AI includes chatbots. Because chatbots are equipped with Natural Language Progression, as found in Siri, they have the human capability of answer questions about homework, helping students through a paperwork process like financial aid or paying bills, and easing the workload of the people who would normally serve these roles. Other applications of AI in education include personalizing learning (which is discussed in more detail below), evaluating the quality of curriculum and content, and facilitating one-on-one tutoring with the use of Intelligent Tutoring Systems. Technology doesn't aim to replace teachers, only to complement them.

Personalized Learning: We are able to personalize learning more now than ever. From school choice-public, private, charter, virtual-to the options available for *how* a student learns, education can be tailor-made to suit each individual. Blended learning gives more responsibility to the student, as it involves less direct instruction from the teacher and more discovery-based methods of learning. Adaptive learning is similar to blended in that it, too, allows students to make decisions about things like the timeframe and path of their learning. Another learning platform, Osmosis, was created by doctors for doctors and has revolutionized the way medical students study: "Using evidence-based educational concepts such as questions, flashcards, and videos, images correlated with memory anchors, adaptive spaced repetition, collaborative learning and gamification, Osmosis maximizes learning and retention." Such personalization is turning education into a "choose-your-own-adventure" method of learning, capitalizing on student interest and engagement.

Gamification: Playing and learning collide when classrooms utilize gaming as an instructional tool. Gaming

technology makes learning difficult subject matter more exciting and interactive. As the technology progresses, it is quickly being used to enhance educational games in every discipline. New technology and new learning models are exciting and offer previously unthinkable possibilities to students, but they require constant IT support. As educational institutions continue to jump on the bandwagon and adopt these digital transformation trends, we must consider the current paradigm for technology instruction and move toward a team-based approach. As student expectations increase, responsiveness to those needs must increase as well.

Advantages of Technology in Education
Technological advancements have made the world a great and convenient place to live in. There is no denying of how they make lives better and easier, especially in the fields of science, medicine and education.

1. Promotes independent learning in students
The internet is a treasure trove of information. Practically anything you need to know can be found online. Although there is a question of the credibility of the source and the data provided, it can still serve as an educational resource for students. Even without assistance from parents and teachers, students can just look up their lessons online.

2 Prepare students for the future
From the way technological advancements are going, it is obvious that the future will be digital and technology-focused. If students are well-versed on using technology to collaborate and communicate as early as now, they will not have trouble fitting in, competing and finding jobs in the future.

3. Has the potential to lower textbook and tuition prices
With resources more accessible and in great abundance, the cost of textbooks is likely to decrease. It is also possible that students may no longer need to buy a textbook, if it is converted into digital format.

4. Allows teachers to create an exciting way to educate students
Gone are the days when the only tools for teaching are limited to books, a blackboard or whiteboard, and a chalk or markers. With technology integrated to education, teachers can now incorporate images, videos and other graphics when delivering lessons.

5. Encourages development of new teaching methods
Rather than spend an hour or so talking while the students listen, or have them read an entire chapter in silence, teachers and professors now have the option to use advanced teaching methods, such as podcasts, blogs and social media.

6. Adaptive learning
Several ed. tech apps (such as quizlet) will react to a student's learning pace, increasing or decreasing in difficulty to suit their needs. This provides tailored learning, but also motivation to improve. Gamification of learning is a great way to improve engagement, as it rewards users for doing measurable activities.

7. Improve long-distance learning
Tech capability allows teachers from across the globe to get involved in the teaching of the course, so they are not limited to using academics from their institution, and can invite subject matter experts to teach certain topics.

8. Encouraging student interaction and engagement
Lecturers can also introduce a hashtag and ask students to tweet any questions during the lecture for review towards the end. This encourages real time interaction with a subject, increasing engagement and removing stigma around asking questions if someone doesn't understand something or are shy.

Disadvantages of Technology in Education
1. Results in a lack of interest in studying
Because everything is now accessible online or through data saved in a computer or mobile devices, students are likely to develop poor studying habits and a lazy attitude towards education. Some of them may even think they can skip school because they can find answers and lessons online.

2. Makes students vulnerable to potential pitfalls
Technical problems and computer malfunctions can cause loss of assignments and other materials, resulting in high levels of stress that students would rather not experience. Difference in internet speeds and a device's capabilities can also lead to certain difficulties that will de-motivate students.

3. Negative views on technology
Textbooks, on the other hand, are seen as tools for learning. So, between a tablet and a textbook, students are likely to gravitate towards learning when reading a book, while they are likely to use a tablet to play games or spend time on social media.

4. Can diminish overall value of in-person education
Although research on online learning did not establish a direct link to how personal interaction affects a student's performance, data gathered did show that those who enrolled in online courses have higher chances of failing, dropping out of classes, and are less likely to benefit from them.

5. Raise instructional challenges
For professors and teachers to stay abreast with technology, they may need to be retrained. Those who have been teaching all their lives using traditional methods may not be very susceptible to the changes being applied.

6. Possibility of Social Disconnect is high
With too much exposure to technology, the student's ability to verbally communicate can be affected. If you give students assignments that use technological tools and online collaboration, their method in learning and interacting with others will become limited.

7. There Is Poor Quality of Content in Students' Research
Students may need proper guidance in recognizing quality sources. Almost anyone can provide information on the internet. And since there's no clear guidelines in

determining which sites are reliable or not, then a lot of students can easily fall for false information.

Conclusion

The role of technology in education is very important as it helps the learner gain access to learning content and help the teachers and peers. The technology itself provides feedback and leads to better self-management by learner themselves. Technology support collaboration and interaction between teachers and students. The use of technology is usually more successful as a supplement rather than replacement for usual teaching. Technology is not introduced into a vacuum. It is therefore important to identify carefully what it will replace or how the technology activities will be additional to what learners would normally experience.

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