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Future Teaching Methodology: Big Changes ahead for Generation Z

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***Abstract:** The study looks at how Millennials believe about the digital revolution, the growth of social media, and the need to adapt digital technology-based teaching strategies. More younger generations than older ones use modern media. It's time to stop learning on chalkboards. The Covid-19 pandemic has created a chance to use social media in the classroom. There aren't many issues with the network or getting study materials; if they can be made more affordable, both teachers and students will benefit. With the impending release of 5G, problems with data and network connectivity may be resolved. The COVID-19 epidemic highlights our interconnectedness on a global scale. For all students, educational institutions worldwide must use the appropriate technological resources to produce remote learning materials. Teachers everywhere are creating new, more flexible methods of teaching that have the potential to increase student access to education. In order to engage Generation Z, the study emphasises the need for complex teaching methodologies.*

***Keywords:** Social media networks, Covid-19, Generation Z, 5G Revolution, and Future Teaching Methodologies*

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Introduction:

Speaking into a microphone and connecting a laptop to listen in are two aspects of online learning that have problems. Governments, institutions, businesses, and people's attitudes and behaviours will all shift sooner than anticipated as a result of COVID-19. A significant transformation in higher education was anticipated by futurists and education technologists. taking place. When higher education is broken down, millions of students have been expelled from institutions and teachers have been sent home globally. Teachers and students are finding it difficult to use Zoom, Google Meet, Cisco Webex Meet, and other tech-mediated learning techniques.

Every industry has been destroyed by the worldwide pandemic. Professionals and MNCs can easily adjust to working from home, but education systems around the world are having difficulty. Reformers of education include politicians, bureaucrats, individuals, and intellectuals. Consequently, intelligent classrooms. Education is being revolutionised by smart classrooms. Modernising schools and colleges is a problem, despite its shocking nature. Since classroom instruction has long been the norm, both students and teachers must adjust. Not all of them are prepared for distance study. One strategy to raise educational standards in India is to use technology. It is changing the education system in India. Infrastructure in K–12 and higher education is strengthened by pandemic. Many EdTech companies might perceive an opportunity to put more institutions and schools online in light of the lock-down. Five years from now, virtual learning—which connects students and teachers via software on laptops or phones—will be the norm. According to this most recent educational trend, classrooms and teachers are no longer necessary. When exams and curricula are in full swing from February to April, about 60 million pupils choose to stay at home. Organisations

There is demand on educators and learners to reinvent teaching and learning through the shift to online platforms. The modern, technology-arbitrated education is known as Education 4.0. It follows the first three waves of education systems that developed over 2000 years of civilization: the Gurukula system (one master to a few pupils), the traditional university system (one to many learners), and distance learning. (One to many students on a wide range). Institutions in the mainstream are open to moving online, and behaviours may change to accommodate Education 4.0.

Online education is NOT a library of recorded lectures and class notes in PDF format. Excellent digital learning materials were required to make learning interesting and fun. Upgrading skills, creating new content, and involving universities in these businesses are all necessary for digital learning. Technology will be used to provide course material online. Diverse student demographics are present in classes. Using games, films, and other media, pedagogy should satisfy a range of student expectations and make learning entertaining.

AI and deep learning are examples of new technologies that enable us to create individualised learning plans and methods. Institutions of higher learning must overcome the drawbacks of digital education. Teachers reorganised the classrooms without using digital learning science. Universities should work with experts in digital learning to train their faculty members and redesign higher education for the most recent online learning environment. They should also integrate digital learning with teaching. In order to provide the necessary infrastructure for digital learning, which includes high-quality material and distribution methods via broadband high-speed internet, public-private partnerships are required. Universities that adopt the New Education Policy 2019 stand to benefit. The study was divided into four chapters and used an exploratory research methodology. The research topic, goals, and constraints are introduced in the first chapter. review of the literature

for the second chapter. The third chapter discusses new digital platforms and the digital transformation of education, as well as the benefits and drawbacks for teachers and students of switching from traditional to digital learning. The fourth chapter comes to an end.

A REVIEW OF THE WORKS

After reviewing research on knowledge, the future, and education, Bill Green (2010) came to the conclusion that knowledge and education are being reinvented by the digital revolution. There have been mentions of the Network Society, free access, globalisation, and the New Media Age. Think about what this might mean for education research going forward.

Future Schools and How Technology Can Help Millennial and Gen-Z Students was examined by Vicki Jones et al. (2014). Demography by generation was looked into.

Generation I: 1900–1921–1924

The Baby Boomers (1944–1947–1960–1963) The Silent Generation (1922–1925–1943–1946) and Generation-X (1961–1964) to 1978–1980

5) Generation-Y (Millennials): 1980–1982, 1982–2000, and current

6) Generation Z (2000–2003–2020) and the New Silent Generation of the 21st Century

Every cohort-group has comparable attitudes, traits, and adaptabilities in addition to sharing a group identity. The majority of pupils are Gen Y. We must use adaptive technology in order to provide these kids with the care they require. Millennials are fond of innovation and technology (Kruse, 2004). Innovations in education in the future will include robotics. They will have embedded UAs, actuators, sensors, and communication modules installed (Jones, Jo, & Han, 2005). Technology is used by millennials a lot more than by other generations. Courses need to be modified, not redesigned, to account for variances. New and emerging technology must be included into education to meet the demands of Generation Z and the tech-hungry Millennials.

The sociological influence of millennials on leadership and higher education was examined by Manuel Au-Yong-Oliveira et al. (2018). Millennials have a connection to technology unlike any other generation, and this influences their preferences for leadership roles in firms after graduation and for the type of education they want to get in college. 111 millennials were surveyed regarding higher education and leadership. In order to compare and gain insight, three seasoned CEOs were questioned. According to this study, millennials might not be as lazy as many have previously thought. Particularly Padlet.com, Moodle, and online news forums are excellent class partners. The task of creating original course films is another. Subsequent research ought to concentrate on the ways in which technology has democratised society, with workers calling for more democratic leaders in situations where hierarchies impede efficiency.

Fuat Fndkoglu and Dilek Ihan's book, "Realisation of Desired Future: Innovation in Education," The use of technology in educational settings is the main topic of this study, which also emphasises the significance of moving the teaching and learning environment to a technologically advanced educational system. It claims that one method of creating teaching that will change society is through the use of technology. Effective Teaching Methods in Higher Education: Requirements and Barriers. The essay's main points include appropriate teaching strategies and qualitative content analysis for lesson plans. Semi-structured interviews and targeted sampling are used to acquire data. The ideal teaching style is a mixed approach that is both teacher- and student-centric.

Atsani Wulansari¹ and Widya Ratna Kusumaningrum observed Digital Native Voices in a Flipped Classroom (2020). This research explores students' perceptions on using technology for instruction, with an emphasis on the flipped classroom approach, which assigns lecture videos as homework and

group conversations as class activities. The study includes 120 millennials and an open-ended questionnaire. According to the paper, children favoured flipped classrooms.

Studying student learning techniques and their benefits across learning task factors, Dunlosky et al. (2013) investigated "Improving Students' Learning With Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology." According to the paper, educators and students should use these teaching strategies.

In their 2018 study, "21st-Century Pedagogy: Innovative Teaching Methods," Aigerim Mynbayeva et al. examined the ways in which digital technology affects educational philosophies and practices. It explains how ideologies and the modern educational system have affected teaching. It comes to the conclusion that a teacher's expertise and developing pedagogical capacity determine the content and methods of implementing technology.

"Teaching the future: learning strategies and student challenges" was the subject of an investigation by Ian Seymour Yeoman and Una McMahon-Beatte (2018). This paper examines Dr. Ian Yeoman's teaching and learning approach across a number of taught courses, emphasising student-centered learning as opposed to teacher-focused learning. It also explains the value of group learning for problem solving and helps students comprehend the problem and find the solution through mind maps. The study comes to the conclusion that learners have an organised learning journey.

The study "Teachers and 1:1 Technology in Classroom Activities: A Quantitative Study" examined high school teachers' opinions regarding the use of 1:1 technology, as observed by Koye Cashion Solomon (2017). Online surveys were administered to teachers in secondary and rural schools using the 1:1 technology concept. Marangunic & Granic (2015) assessed how easily technology was used, accepted, and perceived. A. Laura Schindler and others. (2017) evaluated "Computer-Based Technology and Student Engagement." The essay centres on how, during the last five years, the digital revolution has affected students' use of social networking, blogging, and video conferencing. The study concluded with practice recommendations aimed at improving comprehension of the significance of compute-based technology.

The effect of student technology use on learning in University of Dammam physiology courses was investigated by Muhammad T. Al-Hariri et al. in 2016. A survey was conducted among 231 students from five health colleges at the University of Dammam to find out how they used technology for academic progress. used descriptive statistics and Pearson correlation. According to the study's findings, technology helps children do better academically. In order to assess teaching methods and their advantages from the viewpoint of the students, Shreemanta Kumar Dash et al. (2013) looked into "Teaching Methods and Its Efficacy an Evaluation by Students." The study was carried out on MBBS KIMS students. A Likert scale survey was provided to 337 chosen students. Pupils concurred that visual aids and auditory support are better teaching strategies.

CHANGE TO DIGITAL

Online education has two purposes. Initially, through courses that have been recorded, referred to as Massive Open Online Courses, or MOOCs. Webinars, Zoom, Cisco Webex, or Google Meet sessions make up the second. Higher education institutions require learning management systems or education delivery platforms, fast internet, and instructors who can work online. Students need laptops or mobile devices and high-speed internet access to participate in these sessions or see classes that have been pre-recorded.

Digital Education System Transformation: In light of the lockdown, collaboration between educational institutions, businesses, data management strategies, and online learning platforms is required. Numerous educational institutions view this as an opportunity to try out new technologies

and enhance the way they give instruction. The use of technology in education has caused it to change from being teacher-centric to student-centric. Many people use online learning and assessment to become more creative professionals while also being more productive and efficient. Internet resources and virtual classrooms help maintain and improve teacher-student interaction. Staff and management meetings, as well as teacher and parent meetings, become more interactive with smart classrooms. Technology, in Dham's opinion, is making education more student- and teacher-focused. Transparency and equity are increased in education using technology. Digital education necessitates a balance between students, teachers, technology, and course content. It can only be accomplished with the use of standard equipment such as computers, laptops, internet access, online platforms, software, etc. COVID-19 has improved the use of technology in teaching.

Government Intervention: To assist students, the federal government, state governments, and private organisations have developed plans. The administration has taken action to lessen the shutdown's negative effects on education. To enable children to continue learning during the crisis, the government and education institutions have developed e-learning portals and apps like as DIKSHA, e-Pathshala, Swayam, STEM-based games, etc. India offers a range of online education platforms. The Department of Technical Education, NCERT, and MHRD all promote them. NEAT (increasing employability), SWAYAM, and e-PG Pathshala are further options. Access to material and institution connectivity are enhanced by additional internet channels. These are used in online modules, classes, and course materials. NKN, NAD, and NPTEL are a few among them.

The National Law University of Delhi opened enrollment for its MOOC in March following the Covid-19 tragedy. Law students can get digital resources and study materials from UGC and MHRD.

Technology may both enable and restrain.

There is more to education than just in the classroom. In traditional classrooms, the focus is on informal interactions, debates, open discussions, and idea extension. Unmatched. Students cannot interact as they would in person. Eye contact is beneficial in face-to-face instruction. It's simple to tell if kids comprehend. Real classes are fascinating. The primary disadvantage of online learning is that students are unable to interact with one another in person or use the university library. Poor children who don't have access to a reliable internet connection usually don't have internet access. The majority of educators believe that creating standardised online learning environments and providing teacher and student training are essential. Some emphasise how vital it is to investigate these platforms and the ways in which kids are taught.

utilising online resources and methods while keeping equity and accessibility in mind. Academic institutions and disciplines need to acknowledge this as well.

Teachers' Online Education

Benefits and challenges

- * Permits cutting-edge teaching strategies using internet resources and technology.
- * It takes practice and time to teach online.
- * Enables communication with a vast number of students worldwide
- * There isn't much agreement on how to evaluate students fairly.
- * Particularly helpful for online education

* Not being able to interact with students face-to-face and encourage unstructured dialogue, conversations and mentorship

* Unable to communicate with every student due to limitations of technology

Students' online learning

Benefits and Negative aspects

* The capacity to study utilising various internet instruments and procedures

* Absence of organic discussions, debates, and conversations

* There is no interruption to instruction due to the Outbreak

* Issues with technology connected to weak gadgets or internet connectivity

* Paying attention to both live and recorded talks and operating at their own pace

* Acclimating to education and assessment on the internet

* Learning at home in the presence of family and other distractions

The following digital tools could make online instruction easier:

Google Classroom: Google Inc. saves the day once more! Using their educator service, online educators may easily stay organised and track the development of their lesson ideas. Google Classroom is an excellent resource for time management, regardless of the number of students or courses being taught.

Instructorless provides teacher guidance for tens of thousands of DIY projects that may be included into lesson plans. This programme, which covers almost every subject, may save online teachers a tonne of time when it comes to lesson planning.

Evernote: We use Evernote a lot. Users may quickly organise their papers, screenshots, and notes into folders with this note-taking tool. The software offers a number of customising and category options, and notes can be altered at any moment.

Educreations: Video projects and lesson plans can be completed by teachers and students. When students find it challenging to comprehend material solely through spoken words, a graphic or video can help them process and/or communicate the knowledge both verbally and visually.

Socrative: Socrative is an excellent tool for interacting with students and evaluating their work. There is direct student interaction, and the app offers guidance on how to work with each student individually based on their ability and desired learning style.

Edmodo: Teachers can offer constructive criticism to students on this platform. The system was designed with online teachers in mind and facilitates the digital organisation of student assignments and courses. Teachers can assign homework, evaluate their students' progress, and meet one-on-one to discuss comments. Through the app, teachers can communicate with parents and guardians and provide an understandable explanation of direct student assessment.

Make your lessons engaging for your children by incorporating them into games using Kahoot. Younger children who might find it difficult to participate in some lectures or activities would benefit most from this instruction. Online instructors can greatly benefit from the fact that students learn while accomplishing game objectives by using this to make their lectures more approachable for their students.

Children may show their parents their best work by using the student portfolio app Seesaw. Seesaw is an excellent tool for encouraging children since it allows them to feel proud of the knowledge they have gained and rewards them for their study. Parents can also monitor their child's progress to make sure the teacher is doing a good job.

Slack: Since everyone is always texting, it might as well be productive. Slack is a team communication tool that can be used for teacher-to-teacher, teacher-to-student, and even student-to-student discussions in the context of online learning. Create chat rooms for people and groups alike. Participant count should be adjusted when students arrive and go. The best part? It is completely free.

Doceri: Despite only costing \$5, this software is well worth the investment. Create interactive whiteboards to be used in lectures, write and annotate difficult terms or formulas, and record everything to be used later. Doceri can assist a teacher with choosing the best way to deliver a lesson and ensure that the format is followed.

TeacherKit: This programme allows educators to monitor student attendance, grades, and other factors that have an impact on their entire school. Create customised lists and edit them as needed; it functions like a note-taking tool that is appropriate for instructors.

Forecasts for post-COVID-19 conditions in the education sector and the global environment

Forecasts for the Educational System Following COVID-19: A number of colleges and universities will close or combine as a result of COVID-19. The most susceptible tuition-dependent colleges will be hardest hit by the pandemic, particularly those that are already seeing declines in demand due to demographic shifts. It is highly likely that most colleges and universities that survive COVID-19 will see increases in expenses and a decline in revenue.

First prediction: blended learning will become incredibly popular.

These days, neither our teachers nor our students participate in typical online learning activities—rather, they engage in remote teaching and learning. High-quality online learning initiatives need significant startup and ongoing costs in terms of both time and money. Many of us worry that the industry's credibility may be weakened by the quick transition to online schooling. The necessity of using synchronous (Zoom) and asynchronous (Canvas, Blackboard, D2L) platforms for teaching and learning will greatly benefit from the combination of these strategies.

Second prediction: Online learning will become a strategic focus for all institutions.

Very few educational institutions and schools were using online learning completely prior to COVID. 19. The importance of online learning to an institution's strategic planning, however, varied widely. In the future, no president, provost, dean, or trustee would doubt that online learning offers benefits beyond simple financial gain. Rather, every school will view online learning as an important

part of their institutional flexibility and academic continuity plans. This post-pandemic strategy will change how educational institutions create, oversee, and support online learning. With regard to online education, university schools will no longer be free to operate independently.

Prediction #3: Potential and current OPM collaboration will be reconsidered.

If COVID-19 has taught us anything, it's that it's a mistake to outsource critical educational functions. All postsecondary educational institutions possess fundamental teaching and learning competencies. The shift to COVID-19-mandated remote teaching and learning was handled relatively well by schools that used instructional design resources, such as hiring instructional designers and rearranging campus learning organisations into integrated units. We believe it was more difficult for schools who depend on online programme management companies to run their online programmes to make the switch. The following are some ways that virtual learning is setting the stage for modern education:

1. modernises education for the twenty-first century.

When learning virtually, there are no set schedules that students must follow. Since virtual learning is entirely digital, students can watch live lectures online and save them to further study the material at a later time. When e-books, videos, PDFs, and other resources are added to online courses, students' confidence is increased and their conceptual clarity is enhanced. E-books and multimedia materials provide students with a dynamic and interesting learning environment that fosters their interest in the subject. This learning process can help teachers become more tech-savvy and enhance their communication abilities. Additionally, this process helps them to broaden their perspectives and investigate novel approaches to instruction and information dissemination. Another modern teaching method is flip learning, in which students are given a topic to research and are urged to acquire a basic understanding of it before class. Students have an area to study, talk about, and share their ideas on a particular topic thanks to virtual learning. This improves communication, teamwork, and decision-making skills while also motivating students to take ownership of their education.

2. Educates pupils about potential futures

Pupils who are exposed to technology in K–12 classrooms can become digitally fluent since they have a comprehensive understanding of various digital technologies. The digital capability equips people with self-management skills and autonomous learning to help them prepare for the future.

Students develop a sense of accountability through virtual learning since it forces them to be in charge of their own education, which is essential for their personal development. Digital learning tools also help children learn in a comfortable setting. When given the chance to learn outside of the classroom through e-learning, they not only master the material but also acquire the necessary skills that prepare them for the future. For instance, when a teacher assigns a case study or project, the students have to look out more information online and go beyond their textbooks. While conducting research and gathering information, students develop their critical thinking and decision-making skills as well as their confidence.

3. promotes flexible and adaptive learning

Compared to traditional classroom learning, virtual learning allows for more flexible and customised instruction. First of all, it gives children the flexibility to learn at their own speed. For example, students who play sports or engage in other activities are not concerned about missing class. With virtual learning, they may control their timetables, view class recordings, and learn whenever they want. Second, virtual instruction may be tailored to the needs and abilities of each individual learner. This can help teachers identify areas in which a particular student needs support and work tirelessly to meet those needs without impeding the progress of the entire class. This kind of customised

education has enormous potential for success. All things considered, teachers need to recognise the educational potential of technology and jump on the bandwagon by offering pupils digital learning resources along with the newest gadgets.

The World Bank adopted the following stance on education during COVID-19:

As with previous health disasters like Covid-19 and, more recently, the Ebola outbreaks, the impact on education is predicted to be greatest in cultures with low learning outcomes, high dropout rates, and little response to shocks. Long-term school closures disproportionately impact the most vulnerable children, even though they seem like a natural strategy for creating socioeconomic differentiation within communities.

Hard-won gains in expanding access to education may stall or even go backward if school closures continue and people without the means to connect cannot access other options like online learning. This can lead to additional losses in human capital and worsened economic prospects. The impact is disproportionately felt in lower-income nations.

Options to think about

The nationwide lockdowns and virus outbreak could serve as the ultimate test for educational technology solutions for online learning. Sadly, not many systems were fully operational at this time. Education programmes can lessen the impact on pupils and learning during a crisis while also assisting with public health prevention and rehabilitation. As has already been done in India, schools can be converted into makeshift detention facilities in times of emergency when there are not enough medical supplies available.

How are nations managing?

Using the infrastructure and human resources of the education system to stop the spread of infections in communities (Liberia and Sierra Leone); limiting physical contact by cutting back on social and extracurricular activities (Liberia and Sierra Leone); and establishing protocols for schools' handling of illnesses and potential cases (Egypt, Russia, Belarus) are some ways to improve preparedness while keeping schools open. (Singapore, Russia)

The most common alternative is countrywide school closures, which have been announced by many nations as the virus spreads. Many fear that in places throughout the world where multigenerational families are common, teenagers and adolescents, who seem less vulnerable to the virus and have a lower case-fatality ratio, could act as disease carriers and endanger elderly family members. Reducing learning loss through the use of technology and remote learning: Many nations have resorted to online learning (all online in China, Italy, France, Germany, and Saudi Arabia; via mobile phones or television in Vietnam and Mongolia) as a way to make up for lost classroom time.

Infrastructure and connectivity, along with the knowledge of educators and administrators about the procedures and technologies, are critical factors in supporting remote learning (Singapore). Some nations give their children homework (Lebanon). In Bulgaria, publishers have been urged to produce digital textbooks and learning resources for grades 1 through 10, and two national TV stations will air educational programming. More than 800,000 accounts have been made for educators and parents. As more nations close their schools, greater creativity will be required.

Adapting current platforms for smartphone use and/or working out a deal with telecom providers to lower the cost of retrieving information from a Ministry of Education website are two examples of mitigation measures. In India, a lot of entrance tests for law, engineering, and medicine have been postponed, and advancement to the next class has been based on prior success for lesser courses.

CONCLUSION:

Millennials are adept at using technology and are quick to accept change (Kruse, 2004). Education discoveries in the future will likely lead to robots roaming the classroom. They employ technology that is far more sophisticated and unique from that of previous generations. Instead of being altered to accommodate these differences, educational curricula must be completely reinvented. In order to meet the expectations of the tech-savvy and tech-hungry Millennials and Generation Z, it is more important than ever to incorporate new and developing technology into education. The primary drawback of this pandemic is the lack of access to high-speed internet connections. Nevertheless, if these connections are made available along with qualified educators and an online common content curriculum, there will be parity in the educational system, akin to 'One Nation and One Curriculum.' To address this, the nation can emulate Bulgaria, where publishers set up accounts for educators, parents, and students and make digital textbooks and learning resources available. In addition, since there isn't any high-speed internet available, the 5G Revolution will provide solutions for data and network connectivity in both rural and urban areas.

Another computer science discovery, artificial intelligence (AI), may prove useful in addressing challenges in the education sector, including student support, which is becoming more and more common in higher education establishments. Predictive analytics is being used extensively in student support to identify students who are at risk of failing, dropping out, or experiencing mental health issues. One application of predictive analytics in student support is early warning systems, which analyse a variety of academic, nonacademic, and operational data. Educational software evaluates students' progress and, either automatically or manually, suggests or distributes more materials to refer to or specific course sections for students to review. Such platforms are commonly referred to as "personalised learning" platforms.

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