

Futuristic Schooling: New Normal Post-Pandemic

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Abstract

Globally school education has faced a great challenge, at least during the last three years. The 2020-pandemic; 2021-Delta variant and 2022-Putin-Zelenskyy ego clash anchored with another virus variant have brought to the fore that pre-pandemic schooling cannot be revived. The parents, teachers, school managers, and the education planner have understood that face-to-face schooling needs to be synchronized with online teaching-learning. The use of ICT technologies is imperative for educational accomplishments and emotional well-being. The school classrooms and house of the child can correspondingly accommodate curricular and co-curricular activities. Flipped learning, Blended learning, and Hybrid teaching are part of the teaching-learning process. The home task has to be redefined in consonance with online co-curricular activities like debate tournaments, yoga asanas, supporting the elderly in the neighbourhood, etc. Assessment for student learning can be carried out with open book examination and participation in the project work. Teachers need to be empowered with skills to use Artificial intelligence and cloud computing during faculty development programmes. The onus lies on teachers to think out of the box, students, and their mothers to become imaginative, and above all school-managers to meticulously accomplish a mix of offline and online schooling to create new normal for school functioning. The NEP-2020 is to be suitably interpreted to accommodate these new norms for the school system.

Keywords: *Corona Pandemic, Hybrid, Blended, e-learning, Digital India, Disha, e-Pathshala, Smart Classrooms, Diksha, Nishta, e-vidya Programmes, QR codes, Podcast*

Introduction

The recent Corona Pandemic exposed the incompetent management of educationists including managers and teachers. Educational institutions all over the world had to be closed for two years consecutively for being ill-prepared for the unimaginable situation. The students were made to sit at home without work. Parents were made sad about the time loss

of their wards. Just Opposite, the banks or the business organizations never got closed. The reason is that the banking industry changed over the years and supermarkets transformed their functioning altogether. Nobody goes to the supermarket these days. One can use technology to see what is there on the shelves of the supermarket and zoom in on the detail of what is on the labels of selected objects that one wants to buy. Later once it is accepted it gets delivered online. Similarly, no one is required to visit the bank anymore. The banking industry has adopted so many ways that one can do everything one needs to do without visiting bank premises, for example, paying bills, transferring money, getting money online, etc. The only time one needs to go to the bank is when talking to somebody about a loan or something like that. The obvious reason is that the business or banks are conscious of the loss and go on renovating their functioning to make the system work even in odd circumstances. Educational organizations on the other hand never cared about the invisible loss. They failed to become resilient to look at how our operations like teaching-learning, administration of teaching, and assessment have become so archaic that when a calamity like Covid 19 struck schools had to close down. This is a huge lesson that every senior education manager needs to learn. Do educational thinkers have to introspect to find answers to the questions of why did they have to close down? why did they have to close their operations? why was it necessary? Why did they not adapt themselves to the unexpected changes? In other words, educationists have to own the responsibility for the loss of precious time of their students, and for compromising so many jobs as a result of their inability to make institutions resilient (Vegas, et al. 2020).

Simply cursing the educationists or the educational managers will not be enough. The present situation would be a lesson for all the persons connected with the education that there is a need to get prepared for the future. The pandemic is not the last one. History shows that such calamities have been the rule in the past also like the plague, world wars, etc. In the future also similar calamities are expected. 2021-Delta variant and 2022-Putin-Zelenskyy ego clash anchored with another virus variant have brought to the fore that such pandemics will be part of routine human living. Instead of expecting the pre-pandemic era to get revived teachers, parents, and researchers need to focus on innovative ways to adapt to changes. The prevalent Information and communication technologies and their linkage with teaching-learning, as well as assessment processes, need trials. The effectiveness and efficiency of various kinds of technology practices concerning learner interaction, learner-teacher interaction, learner-content engagement, different kinds of learning experiences and different kinds of assessment activities, and learner engagement with feedback would help the confidence building of

functionaries and beneficiaries in the school system. The requirement is that the students should be able to study in their own time at their own pace and from their place to build a more resilient education system. The schools have to be flexible in such a way that the machinery does not have to shut down in any unforeseen circumstances. The objective of the paper is not to advocate online education in schools or to maximize the use of technologies in classrooms. The objective is to delve into different strategies of using technology and innovative pedagogic practices and management styles so that the transmuted school education system does not have to opt for closure anymore. For future preparedness of the school system following methods may help:

1. **Moving from teacher dominance to independent learning:** The heart of any educational transaction is the design of the learning experience in the simplest way. The main reason for the schools getting closed was that the teachers were the main deciding factor for carrying out learning experiences in the classrooms. Only teachers decided - What will students learn and at what time they will learn. Every practice in the school was dominated by the teachers. The students were attuned to follow teacher dictates and also within the four walls of the classroom. When the government agencies asked the schools to get close, to begin with, the parents and the students were happy and took it as a long break. But after a few days, they realized that they were losing the communication process, time for future building, etc. Since they were in the habit of listening to the teacher, they got perplexed in absence of the teacher (who was not standing before them). The students never knew wherefrom to get the knowledge and how to learn at home in the absence of homework. Had the learning experiences involved experiences like project work, problem-solving, fieldwork, and lab work, the situation might have been different. If a teacher could design the learning experiences productively, the schools would not have to be shut down. The school systems that are dependent mostly on teacher-dominant classrooms had to shut their operations down and the teachers could not be present in front of students. Future preparation desires that the school systems train the students to decide on their own for selecting different learning activities according to their needs and requirements. Teachers' initiation by sending small video clips with some thought-provoking questions via WhatsApp groups, Facebook, or such tools would have saved schools from being closed. Similarly, project work and problem-solving activities could have been carried out without coming to school all the time. Productive activities like these are most desired in schools at least at the upper primary and

secondary stages. Organization of learning experiences is possible for engaging students from any platform as part of the learning exercises for the continued functioning of institutions.

2. **Hybrid, blended and flipped teaching-learning:** The institutions that depended on the learners engaging with the content in a singular mode are supposed to be less successful than the organizations having different ways for learners to interact with that content (Pritchett 2013). Institutions with multiple exposures to students did not have to shut down their operations as students could opt for learning opportunities with the alternate mode at their convenience (Reimers, F., and A. Schleicher, 2020). Unfortunately, school systems in India are accustomed to textbooks only as the foremost source of content. They rarely expose students to internet services or different discussion groups or different online sources to seek information on the topics. The exposure to other sources is feared by the custodians of students as misleading. The parents and teachers never allow their wards to look for other content- sources. The hapless students are left with no alternative but to sit idle in the absence of a teacher explaining textbook material. The ultimate result is an irreparable loss when schools get closed.

Another slip-up on the part of the schools is that they expect the students to attend school and participate in the teaching-learning process while being face-to-face with the teacher within the four walls of the classroom. When the pandemic knocked at the door the schools simply debarred students from attending school since the virus prohibited closeness or gatherings. The result was learning stopped for many months. The phenomenon could have been avoided had the schools used Blended learning (a combination of offline -face-to-face, customary learning, and online learning). The students could attend classes in a real-world classroom setting and supplement their learning in online mode. This type of blending of real and virtual modes could have made the learning continuous and regular without breaking or halting the system. Another way could have been “hybrid mode” where a group of students attends regular classes, and another group is exposed to teaching-learning in online mode at the same time. The complementary settings are expected to improve the learning involvement of the students. The collaboration between student groups provides motivation and the teaching-learning process goes on uninterrupted.

The post-COVID-19 experience stands as testimony that schools all over the world learned from their past experiences and overhauled their instructional strategies by

adopting blended learning as a cutting-edge convention. With the use of mixed mode, schools provided students with the advantage of both face-to-face and online learning experiences. The activities like planning instructions, group discussions, and small-group work projects are arranged in the blended classrooms. Teachers and parents are feeling satisfied as blended classrooms make students cooperate and coordinate with each other by sharing their observations leading to learning from others (Dyvlyash, 2022).

3. **Learner-teacher interaction:** The school operations got shut down and learning on the part of the students stopped because the learners were ritualized to interacting with the teacher in the context of the campus, in a classroom or a tutorial, or a laboratory only. Had the school authorities been using other different ways of teacher-student interaction the closure could have been avoided. It is customary that the teacher is seen as a person operating within the four walls of the classroom. The schools could have explored television channels specially designed for teaching subject matter to the students. The use of the e-vidya programme under The Prime minister's digital programme to help students interact with different teachers was a viable solution. The E-vidya programme is a unified effort related to digital/online education to enable multi-modal access to education, with 12 eVidya TV channels, based on the line of One Class-One Channel for classes 1 to 12. Perhaps the school authorities were ignorant about such programmes. However, from now onwards the schools need to adopt eVidya channels as a part of their regular exercise so that teacher-student interaction could be enhanced with more than one teacher at a time.
4. **Using Multiple ways of Interaction with facilities provided by the Government:** The students in the schools are accustomed to interacting with the teacher or the learning material in one way only. The teacher stands in the class and guides the students on each step of the interaction. The questions are asked by the teacher or the student and the whole interaction is followed in one direction only within the four walls of the classroom. The flexibility of interaction in different ways can motivate the students. Every organization needs to think about the design of learning experiences that provide opportunities for learners to interact with the content in multiple ways and interact with different teachers in different channels in different modes. In this direction there already exists the **Digital India initiative** of the government of India wherein extensive steps to boost **digital education** activities are prevalent. For example, the programmes like **DIKSHA**⁴ (a platform offering school

curriculum-based learning materials); **ePathshala Portal**⁵ (a portal that acts as a storehouse of audios, videos, epub, flipbooks, etc.) can be used to engage young learners in a motivated manner.

- 5. Personalized and Adaptive Learning for Students:** Here it is not just using the internet but using different modes and different technologies like mobile access, wi-fi access as well as physical access whenever and wherever that's required and feasible. Such flexibility does not necessarily require the student to come to the campus. Students can use these tools sitting anywhere (Warren, H. and Wagner 2020). Recognizing a student's learning style and then translating it into teaching will lead to the personalization of learning for the students. The use of Artificial intelligence and cloud computing helps in the Personalization of learning by leveraging technology to its fullest potential in education, creating a Learning Management System that includes Adaptive Learning to achieve the desired target. A combination of data at hand and artificial intelligence helps teachers identify the learning gaps of students and utilize Learning Management System (LMS) while instructing on the internet in a virtual classroom. The school system should make use of such advanced technologies and put simple or non-digital work, assignments, exercises, labs, etc., on an LMS, with exceptional rapidity.
- 6. Modified assessment activities:** The moment one starts thinking about the assessment process, the first point that comes to mind is copying or cheating. Cutting corners is human nature. But it does not mean that the assessment should be stopped. The problem has two aspects. The first one is that the objective of the assessment should be changed from assessment-of-learning to assessment-for-learning. Students should be assessed for their learning rather than assessing how much they have learned. Assessment of students' learning makes them cheat. But if the assessment is made to enhance their learning they will not cheat because the feedback to improve upon will boost their morale. The second aspect is that assessment activities should be designed in a way that plagiarism and cheating are minimized for ensuring objective assessment. It is possible if the teachers can be made skillful in developing Question banks, open book examinations, Project work assessments, etc. The teachers should be well trained for designing such assessment activities. Similarly, school managers are also required to be properly trained for developing the capabilities of teachers for minimizing the opportunities to cheat. The schools may like to use Artificial intelligence in designing assessment processes. Training the teachers in using the

improved assessment methodologies and use of advanced technology can bring a transforming change in assessment activities.

- 7. Improving the feedback process:** School systems follow a conventional feedback process wherein Feedback is given by way of marks or by way of comments on assignments or a home task booklet submitted by the learner. There is a need to think about how feedback can be given in different ways and how technology can be utilized in making the same possible for the teacher. Giving feedback to the learners just on- time and in real-time in a variety of ways is possible with the help of technology. Such arrangements if applied would not make schools shut down their operations. Specialized Apps are available where immediate feedback is possible with data at hand for improving learning. School systems will have to adopt these changes for the betterment of students.
- 8. Modifying learner engagement with the institution:** when educational systems are in question, there is a need to think beyond time and place and pace independently. School managers should think about the variety of ways in which school operations can become resilient to the kinds of challenges that are faced in emergencies. For example, Schools will have to be accustomed to the phrase that ‘everybody need not come to campus; everyday schools need not be opened’. It is not about open schooling rather it is about the process of following online interaction. Once or twice a month, online interactions with teachers and students may be organized. This exercise will expose the staff and students to online interaction and ethics to be followed during such types of interaction. It has been experienced that during the Corona days, the newspapers were full of reports about the problems faced by the teachers as well as students for not following the required formalities during an interaction. If this process becomes routine in the schools, it will help the community and school systems to be familiarized with this practice. Also, the schools may like to follow the 24X7 process of teaching-learning, especially for senior secondary students. The discussions held with students could be recorded and given to the students and they could listen to the same at their convenience to have similar learning for those who could not be present at that particular time or date.
- 9. Researchers’ Task:** The pandemic situations pose a big task for the researchers to find answers to various questions linked to the effectiveness of different types of interaction. The reason being conventional practices are already established traditions but whenever new ways of working appear for trial these have to be properly

researched so that the loss of time and waste of money can be avoided. Researchers are desired to find the effectiveness and efficiency of various kinds of learner interaction, learner-teacher interaction, learner-content engagement, and different kinds of learning experiences and design different kinds of assessment activities. If research is focused on these kinds of things, educational organizations are going to benefit from it. The meaningful and practicable findings will be productive and provide fruitful benefits to the education experts in particular and the community in general.

10. Specialized Teacher professional development programmes: In the later days of the pandemic lockdown the schools started online interaction of teachers with the students. it was experienced that the teachers were semi-literate in using ICT tools and the parents who voluntarily participated in this interaction as helpers of students were illiterate in digital technology. Since the teachers are the main functionaries of the school system their training in using digital material is most required. The interactions with students or other school authorities will be impactful if proper training is given, regarding the usage of available gadgets. Adequate training should be provided to teachers on digital content with clear directions on when it should be played in the classroom, how to operate the smart TV, and how DISKHA content can be broadcasted. Professional development of teachers and support is essential with the changing role of teachers in the blended world. Online training curricula can be curated on NISHTA and leveraged to upskill teachers for enhancing the digital literacy of teachers and administrative staff. It should be ensured that the teachers are comfortable using multiple technology tools (Smart TV, DIKSKA, ePathshala) available to them, to make use of these in the teaching pedagogy. Best practices and case studies of teaching, translating online learning, and transforming it into a digital classroom should be documented and shared with other teachers. (Thukral 2022)

11. Improving School Infrastructure: In the private sector, the schools are well equipped with the infrastructure to use ICT and digital technologies. However, the situation is different in the case of the government school system. Schools must vouch for **Smart Classrooms** for combining traditional classroom teaching with digital learning. It can be implemented by installing a digital screen, a Smart TV, or a projector, thereby playing digital content in the classroom. The ‘blending’ of conventional teaching methodology and modern-day technology creates an efficient learning environment. Course content can be made available either live or via recorded

lecture videos delivered to teachers beforehand, which are then telecasted in front of larger groups of students on school premises daily. Digital content will help teachers introduce effective and innovative pedagogies and use technology as a tool. Complex concepts can be explained to students by curating interactive digital videos. Engaging videos and videos of eminent personalities for motivation can be collected and played during the class to make the classroom sessions more exciting and attractive for the students. A smart classroom is an efficient⁸ and cost-effective intervention based on various research studies.

Government Initiatives to transform the school system: National Education Policy (NEP) 2020 has emphasized that technology will play an essential role in improving educational outcomes, and the relationship between technology and education is bidirectional¹. Under the Digital India initiative, the government of India has taken extensive steps to boost digital education activities. A few of the ICT initiatives for school education are:

- a. **PM eVIDYA Programme**² –Its major goal is to provide high-quality education to all of the country's pupils. The Indian government has developed the eVIDYA Programme to give online education to all of the country's students. It is a unique and comprehensive initiative aimed at unifying all efforts to enable multi-mode access to education. It unifies efforts related to digital/online education to enable multi-modal access to education.
- b. **12 eVidya TV channels:** Also termed as Swayam Prabha it hosts new content daily for at least (4) hours based on the line of One Class-One Channel for classes 1 to 12. The process gets repeated 5 times a day, allowing students to choose the time of their convenience. The channels are uplinked from BISAG (Bhaskaracharya Institute of Space Applications and Geo-Informatics), Gandhinagar. The contents are provided by NPTEL, IITs, UGC, CEC, IGNOU, NCERT, and NIOS. The INFLIBNET Centre maintains the web portal.
- c. **National Digital Educational Architecture (NDEAR)**³ – a digital platform to support activities related to education planning. It is federated, unbundled, interoperable, inclusive, accessible, and evolving to create and deliver diverse, relevant, contextual, and innovative solutions that benefit students, teachers, parents, communities, and administrators and result in the timely implementation of policy goals. The students get access to on-demand learning materials, videos, graphics and animations, virtual labs, and different forms of assessment tools for having access to Personalized Adaptive Learning (PAL).

- d. **DIKSHA**⁴ – The Digital Infrastructure for School Education (DIKSHA) platform developed by the Ministry of Education has the necessary building blocks to develop online courses, energized textbooks, question bank tools, and others. It is an e-platform offering school curriculum-based learning materials. It caters to all the persona in the ecosystem and is supported in 30 languages. DIKSHA being an open-source platform, can be further enhanced by integrating the Learning Management Personalised eLearning services on the platform. After the students get themselves registered on the DIKSHA platform, they are administered a pre-test to assess the student's knowledge level before the course's commencement. The pre-test is used to segregate students into three groups: Beginner, Intermediate, and Advanced. The metadata of the students is stored in the database and accessed by the expert system. A customized learning path is designed for the students, based on their level of understanding, learning style, and pace.
- e. **ePathshala Portal**⁵ – a portal that acts as a storehouse of audio, videos, epubS, flipbooks, etc. The platform offers a slew of educational resources, including NCERT textbooks for classes 1-12, audio-visual resources by NCERT, periodicals, supplements, teacher training modules, and a variety of other print and non-print materials. These materials can be downloaded by the user for offline use with no limits on downloads. The app supports the flip book format to provide a more realistic experience.
- f. **NISHTHA**⁶ – National Initiative for School Heads' and Teachers' Holistic Advancement is a capacity-building programme for "Improving Quality of School Education through Integrated Teacher Training". It aims to build competencies among all the teachers and school principals at the elementary stage. The functionaries (at the state, district, block, and cluster level) are trained in an integrated manner on learning outcomes, school-based assessment, learner-cantered pedagogy, new initiatives in education, addressing diverse needs of children through multiple pedagogies, etc.
- g. **QR codes in textbooks:** The QR code is formed using patterns of black dots and white spaces along with a six-digit unique identifier assigned to a textbook. The QR code associated with the book or content enhances the discoverability of the content or the book, to help school students and teachers learn and evaluate performance in real time. Over 500 million school textbooks now provide digital content by scanning QR codes (GOI Budget speech⁷ 2021).
- h. **Radio and podcast;** Radio programmes properly amplified sound in a classroom improves students' attention and thus their interactions increase. In other words, students

learn and retain more through increased hearing ability. Classroom amplification systems allow students to hear more clearly and learn more. Podcasts allow students to practice their listening comprehension of complex texts that are both conversational and formal, and the corresponding transcripts enable students to confirm their success.

The parents, teachers, school managers, and the education planner have understood that face-to-face schooling needs to be synchronized with online teaching-learning. Both should be an integral part of schooling. Another important aspect of schooling is the use of ICT technologies for educational accomplishments and the emotional well-being of students and their guardians. The process will help school classrooms and the house of the child correspondingly accommodate curricular and co-curricular activities. The whole exercise requires a modified teaching-learning process where Flipped learning, Blended learning, and Hybrid teaching are imperative. The concept of home-task has to be redefined in consonance with online co-curricular activities like debate tournaments, yoga asanas, supporting the elderly in the neighbourhood, etc. Assessment for student learning can be carried out with open book examination and participation in the project work. Teachers need to be empowered with skills to use Artificial intelligence and cloud computing during faculty development programs. The onus lies on teachers to think out of the box, students, and their mothers to become imaginative, the researchers have to be duty bound to find out effective approaches or methods for the school systems and above all school, managers are required to meticulously accomplish a mix of offline and online schooling. The government initiatives as per the commitment to NEP-2020 are to be suitably interpreted to be part of the school systems for being a new normal. The idea is that the schools have to be so adaptive and transformed that the institutions should not have to be shut down in any circumstances in the future.

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