Dealing with online and blended education in modern challenging times

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The use of Education Technology (EdTech) covers an array of purely online as well as blended initiatives beginning with online books and articles to online video lessons, and even live interactive virtual classrooms. Here, blended learning involves a combination of both offline and online learning, often maintaining a flexible balance as per the learner needs. Overall, the general idea of incorporating technology in education is an old one, originated in the 1950s with B.F. Skinner’s pioneering work of dividing the curriculum into smaller units and providing automated rewards to correct responses as positive reinforcements. However, with the evolution of modern technology, the blended model of education has increasingly found the perfect paraphernalia necessary to stretch its hands into the mainstream education industry. The global expansion of the internet and the emergence of data analysis techniques, e.g. Machine Learning, Big Data, Artificial Intelligence, and Neural Networking, have strengthened the basis of these blended models.

Another important aspect of modern technology-blended education models is to improve the quality of teaching and learning and improve educational productivity. Recent economics of education literature has spoken strongly against the one-size-fits-all teaching regime due to its inherent flaw of overlooking heterogeneity among individuals. This calls for a technique to “personalize” the learning process. This is where the blended mode of operation, equipped with modern data analytics, has played a crucial role. These models are designed to go through millions of terabytes of data and recognize discernible teaching–learning patterns in them. These systems can not only understand the specific needs and abilities of a learner but can also predict the most suitable means of teaching for improved, optimized outcomes.

The sudden outbreak of COVID-19 has further challenged the education system across the world and forced educators to shift to an online or blended modes of teaching. Teachers have also faced myriad issues during their adaptation to the digital mode of teaching, new pedagogical concepts, and their requirement to come up with innovative ways of meeting student learning and socio-emotional needs. Initiatives are being experimented with in order to support schools for helping students catch up on missed learning, especially those from vulnerable backgrounds. Countries have already begun to prepare catch-up strategies for students, sometimes with a special focus on disadvantaged ones. So far, several types of initiatives can be observed: online summer schools, accelerated education programmes, hybrid classrooms, distance learning, and so on. A stronger focus is also being put on the well-being of teachers and the cooperation between authorities and other multiple stakeholders in offline, online, and blended models.
As a result, educational initiatives are expected to meet the challenges of a changing world and are envisaged to embed technology optimally to maximize student outcomes. Policy-wise, in the USA, the total spending on technology in education was close to USD 28 billion in 2021. Another example is India’s revolutionary National Education Policy, introduced in 2020 instigating a more technology-infused system in India. In these policies, different online and blended models are pitched to offer new possibilities that were otherwise unreachable in the traditional offline educational setup. It will not be an overstatement to say that blended models are likely to become the future face of the modern education system.

However, it is important to understand that blended models offer a fairly new teaching–learning paradigm to the world, which of course comes with its own unique set of trials. Unlike the traditional setup, a blended model will require technical equipment and infrastructure to operate. This is the reason why inclusivity and the digital divide becomes a concern. Additionally, when accessibility to technical equipment is the necessary foundation for the blended models, there’s another step to it—adequate ability to use digital devices. Apart from these, data privacy and security issues, the effectiveness of data analytics technology in different fields, and so on can be talked about as major challenges to building a successful blended model. Therefore, newer avenues of research are being undertaken worldwide to assess the ease of implementation of such technology in different contexts and scenarios. While there is increasing research on relevant products and programs in developed countries like the USA, much lesser evidence has been generated on the topic in developing countries like India. There is space to research blended models’ effectiveness for policy and practice using qualitative, quantitative, and mixed techniques alike. In fact, the hypotheses related to the use of blended models in education that deserve exploration are not only causal in nature, to understand what works, but also descriptive and exploratory in nature, to understand how newer and more accurate systems should be designed.

Generalizing, it can be said that although using blended models opens up a horizon of possibilities, it demands an empirical evidence-based approach in order to figure out what exactly works on the ground due to its dependence on certain feasibility and efficiency factors. Addressing research gaps requires bringing together perspectives and learning of experienced practitioners as well as giving an opportunity to newer voices and nascent academic work in local contexts to develop a collective endeavour of evidence collection. Both publicly—and privately—owned institutes across the globe should work together to find an optimal mode of implementation which is accessible, affordable, and most importantly, inclusive in nature. The Decision Conference on blended mode of educational delivery and the articles published in this Special Edition of the Journal is one such attempt to contribute towards encouraging and starting a discourse on the topic of blended and online learning based on global expertise and the Indian context, in particular.

Keeping in mind the requirements of the field, the primary objective of this edition is on assessing the current status of online and blended models as the world gradually moves towards EdTech due to the global pandemic. The papers included in this edition discuss the accessibility to digital resources and the ability to use them; assess the importance of digital literacy and the effectiveness of myriad digital interventions for improving learning outcomes; critically evaluate technology-blended parts of education systems to determine what works best in different contexts; deliberate curriculum and pedagogical changes; and recommend policies to support the digital evolution of the present-day education systems as well as suggest options for the future. In brief, the focus is on contributing to education policy, practice, and management by presenting research on digital teaching and learning and blended environments, with the aspiration of technology-use in education that can be both productive and inclusive.

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