

EdTech Trends and Challenges

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Context

While digitalization has been unfolding across sectors for a while now, it has gathered a lot of pace over the last couple of years, even more so during the pandemic. Parallely, we are also witnessing the rise of “platformization” – the dominance of web-based platforms such as Google, Amazon, Uber, etc., in facilitating social and economic activities in multiple spheres of life. Today, areas such as information search, social networking, transport, and e-commerce are all driven by platforms wherein data from interactions on the platform are harvested and analyzed to generate intelligence that contributes to optimizing the value of the product/service offered (ILO, 2021).

In education, due to the unexpectedly long school closures during the pandemic, the role of digital technologies increased significantly, as private and public education players attempted to provide digital education to their students in different ways. Although digital technology (EdTech) itself is not a new phenomenon in education and has existed for over 30 years, the intentions, objectives, and the pedagogical imagination for integrating it into teaching-learning processes are very different now from those that existed in the past. Earlier, EdTech was considered as a way to aid teaching in the classroom and not to substitute teacher engagement in the teaching-learning process, but now we’re headed that way. Although, EdTech, if designed keeping education aims, principles, contexts, needs, and priorities in mind and used appropriately for solving important problems, has enormous potential.

BYJU’S, India’s largest EdTech company by valuation, partnered with Google in June 2021 to offer educational content and “personalized learning” services cost-free to students in

India, thereby extending its footprint from test-preparation coaching for school education, and bringing in the ill-effects of platformization into the entire school education space. The period during the pandemic saw hundreds, if not thousands of EdTech companies mushrooming in the so-called K-12 education 'market', backed by venture capitalists. This article discusses the educational, economic, political, and ethical implications of this phenomenon.

Implications And Challenges

In a country like India where the obsession with board examinations, marks, and ranks is high, and where millions consider education as a vehicle for upward socio-economic mobility, EdTech firms profit by selling the idea that their product/services are what the children of poor, uninformed parents or those of middle-class parents with aspirations of a "wealthy life" need, to achieve "success" in education. Prolonged school closures during the pandemic enabled these firms to market technology tweaks and tricks to "patch-up" the loss of learning opportunities that children were enduring. As has been widely reported, predatory and aggressive marketing practices are used to exploit parents and trap them in loans without their knowledge or informed/explicit consent (Banerjee, 2022; Rao, 2022; Gowda, 2022). A report by Oxfam India explains how these companies use a "freemium model" where an initial free trial period is offered to students, which allows them to capture student/parent data. The data harvested about the student and the family is used by the company's sales agents to sell paid subscriptions, post the expiry of the free subscription (Kasinathan & Dasarathy, 2022).

"Personalized learning" that the most popular EdTech firms/platforms claim to offer, focuses predominantly on transacting quantized subject-related content in a manner attractive to students. Dijck and Poell (2015) define this as the "learnification" process wherein "the social activity of learning is broken into quantifiable cognitive and pedagogical units". This is a far cry from education in its true sense, which goes much beyond mere transaction of content knowledge. "Independence of thought and action, sensitivity to others' well-being and feelings, learning to respond to new situations in a flexible and creative manner, predisposition towards participation in democratic processes, and the ability to work towards and contribute to economic processes and social change" are the broad aims of education as elucidated in the National Curriculum Framework of 2005 (NCERT, 2006). The understanding of education as a social process where learning experiences in classrooms and communities facilitate the holistic development of the child is essential to achieving these aims. However, such holistic development is not possible for education technologies, though they make tall claims of improving "educational outcomes" through the use of algorithms and adaptive learning techniques.

Furthermore, the algorithms used by most of these private and for-profit companies lack transparency on the datasets harvested, and how these are processed and analyzed to make predictions. It's a black box that hides the developers' and designers' underlying bias which

may later manifest when being used to make decisions and have problematic effects such as perpetuating discrimination based on religion, caste, class, or gender (Kasinathan, 2020). Several studies of predictive technologies used in different contexts such as educational assessment, credit scoring, criminal justice, etc., report errors and biases influencing the algorithm's decision-making (Katwala, 2020; Heaven, 2020). It will also serve to formalize marginalization based on structural disadvantages because the "system" is considered to be neutral and objective although it is likely to reproduce the beliefs and biases held by humans. While in the past there have been waves of technologies promising transformation and we have seen that they did not really make any real impact on education, the current wave of digital technologies driven by AI and ML cannot be ignored and dismissed as not being capable of bearing impacts on education, especially negatively, because the digital being 'scalable', is a medium that is capable of doing large-scale damage. Developing agency and autonomy of individuals are important aims of education and ensuring privacy and dignity are key to achieving them. Black box algorithms hiding biases of the developers and the EdTech companies, certainly carry the risk of teacher de-skilling and the dilution of teacher and learner agency.

Prolonged school closures during the pandemic created the need to provide remote education to students through online classes, multimedia lessons, digital learning resources, etc. School systems, both public and private, made attempts of varying efficacy to provide digital, remote education to students through different means. As a result, an increased receptivity in teachers and other stakeholders in the education system towards technology usage has been observed. This, coupled with the emphasis on technology integration in NEP 2020, are driving state governments across the country to launch EdTech programs through for-profit EdTech vendors. For instance, the Maharashtra and Andhra Pradesh governments have recently announced MoU's with BYJU'S to distribute its content to students through tablets. There is lack of awareness and evaluation abilities on the part of governments to assess the cost-benefit of such initiatives and as a result, not enough thought and planning appears to have gone into assessing what kind of programs would actually be beneficial in the context of the government school system, or what may be the implications and risks involved in the BYJU'S model. This aspect is evidenced by a Human Rights Watch study (2022) on violations of children's rights during the pandemic by EdTech platforms that were endorsed by governments across the world (including India). The study found that a majority of the online learning platforms investigated had the "ability to harvest data about children without the children's or the parents' consent, and violated or put their privacy and other rights at risk for purposes unrelated to their education". Data about who they are, their location, their device and activity on the device, their contacts, etc., could be monitored. In a country like India where the EdTech sector is currently unregulated, and the Personal Data Protection Bill, which could have served to safeguard the rights and privacy of children, has recently been withdrawn, this data would easily be exploited by advertisers, commercial entities, or others to seriously undermine children's rights. Governments must recognize the hidden costs behind the supposedly "free" products/services that for-profit entities are offering to collect and harvest student/parent data, before they embrace such options.

Conclusion

Mere technology adoption or integration cannot offer solutions to long persistent structural issues in the education system. Education technology needs to be looked at comprehensively, to evaluate and identify how digital technology should enable teaching-learning processes, curriculum design and development, teacher development, etc. Participatory governance of EdTech (by having representatives of teachers, parents, and civil society representatives) to ensure that the way it is being implemented is in the best interest of students and not technocrats is necessary. Therefore, a comprehensive framework for evaluating EdTech products and services taking into account technological, pedagogical, political, and economic parameters is imperative ♦

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