Article

Incorporating Technological Progress and Competitive Disruption in India's Educational System

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Abstract

The global economy and trade had been halted by the COVID-19 outbreak, and in this new era of independence and home-made goods, consumer demand for social and economic services had plummeted. The world has shifted to a more disruptive technology as a result of COVID-19. Technology that causes a dramatic shift in either the price or availability of an existing good or service is considered disruptive. Such technologies include the blockchain, robotics, decentralized energy systems, digital services, and many more. While the future of the world is uncertain, research to date indicates that disruptive technology holds extraordinary promise for the social and economic sectors. Covid's effect is fading, and as a result, businesses are picking up speed again, and with that come a spate of innovations with the potential to cause major disruptions. Disruptive technologies serve many purposes and affect various industries. Online healthcare, blockchain-based monitoring systems, robots that transport food and medications, remote working solutions, 3D printing technology to maintain a social distance in manufacturing plants, and online education platforms are all affected. People are also using artificial intelligence and mobile money as digital services to uphold societal norms. Even though investors are wary, tech firms are seeing large inflows of capital. In Covid-impacted countries, the role of technology differs across industries due to differences in digital maturity and responsiveness. For instance, we breezed through the transition because only those industries that had already begun using disruptive technologies in their

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operations prior to the Covid era had a foundation upon which to build. Before the Covid era, people were aware of these technologies but did not widely adopt them. The e-commerce, e-learning, and e-payment industries are only a few examples. Emerging economies that have not yet adopted the disruptive technology are forecast to do so in an accelerated way, and a proliferation of online business models and platforms is predicted despite the strong impact in this Covid age. However, it is anticipated that high-middle-income countries will advance at a quicker rate than low-income ones. Healthcare, education, commerce, e-logistics, fintech, and software as a service are just a few of the sectors where demand is predicted to rise. The travel, transportation, and lodging industries all anticipate weak demand. As disruptive technologies become more widely adopted, the importance of having access to the Internet and possessing the necessary digital skills will increase. To hasten their digital transformation, private businesses may eventually outsource the management of their relationships with vendors, customers, and employees to technology firms. In reaction to uncertainty, this article aims to contribute to the ongoing discussion about the integration of technology into education. This will be done by demonstrating the importance of technology in modern education through the use of blended learning and online education. Technology, it is said, should be seen not just as a tool but also as a medium that moulds society. In light of this, it is essential that the incorporation of technology into education be accompanied by ongoing reflection on the discernible qualities of technology as a medium that is neither value-neutral nor a disembedded force. However, technology is inherently related to and influenced by social contexts and dynamics. The purpose of this article is to draw attention to the social embeddedness of technology by highlighting its interdependence on advances in other spheres of society like economics. It is important to consider the nature of technology as a medium in order to use it more effectively and ethically in the classroom. Given the prior examination of technology's social embeddedness, the potential difficulties and advantages of using technology as a medium for instruction are highlighted and examined. Technology-enhanced learning is discussed, with a focus on its potential usefulness in higher education.

Keywords

Disruptive technology, COVID-19 outbreak, higher education

Introduction

Varied effects of technology on education are highlighted by the ongoing discussion of these two topics. Therefore, this essay will discuss the benefits and drawbacks of using technology in the classroom. We can avoid either overestimating or underestimating the usefulness of technology in education if we take the time to consider the benefits and drawbacks of using it in the classroom. The major objective of this piece is to demonstrate how intricate technology is as

a medium. In order to successfully and ethically incorporate technology into high-quality education, it is crucial to have a firm grasp on the complexities of the technology in question.

In the first part, we address the social embeddedness of technology as one of its defining features, expanding on the idea that technology is more of a medium than a tool in moulding contemporary culture. The commodification of information and education, with technology as its primary driver, will be addressed in light of this conversation. The following section introduces the layered complexity of technology in order to unpack its potential effects on classroom instruction. Since the effects of incorporating technology into classrooms are context dependent, this section first discusses the ramifications of doing so in an Indian setting before moving on to the possibilities that such an implementation presents for higher education.

Inherent Sociality of Technological Media

"Effective education requires knowledge of the opportunities and constraints of the modality of education," writes Ascough (2002). That is to say, before creating a learning environment, it is necessary to comprehend the medium itself. In keeping with this line of thinking, Hess (2002) argues that studies involving education and technology should not just ask how to utilize a simple tool. Instead, it should involve a series of culturally based queries. The use of technology in the media arts as a generator of meaning is well acknowledged (Hess, 2002). Drees (2002) cautions that technology is more than that and specifies several dimensions of technology, despite our tendency to think of it as things (gadgets) like a phone, car, or computer that represent tangible realities. Infrastructure, which includes things such as receivers and transmitters, is considered fundamental to technology since no technological system could function without it. The delivery of services by institutions is another aspect of technology as a social system. Competencies are a crucial factor that should not be overlooked in comparison to hardware. A technological mindset is one that actively analyzes issues in search of workable solutions.

In addition to all of these features, technology is also a culture (Drees, 2002). The most all-encompassing perspective is one that sees technology as a reflection of our identities, motivations, and ideals (that include our hopes and dreams). It is for this reason that Drees's (2002) difference between technology as design (which emphasizes the work of technological specialists) and technology as culture (which includes technology's connections with wider culture) is so instructive.

The rapid advancement of technology is neither independent of nor unrelated to other social changes. For this reason, it is important to consider how technological progress affects the economy. Allenby and Sarewitz (2011) state that technological progress depends on more than simply new ideas; it also requires widespread user buy-in and evolves in tandem with other fields such as economics, politics, and culture.

Thus, technology is more than just a set of systems or a collection of objects that can be used in whatever way one sees fit. It needs a new moral vision and social contract that tells people how to live and how to treat each other (Saravanamuthu, 2002). There is a high level of desirability in the use of technology as a mediator of information and communication, and there is a near complete lack of acceptable alternatives.

Within the context of transhumanism, Allenby and Sarewitz (2011) plan cutting-edge technical advancements. For them, transhuman discourse is only another flavor of technical optimism, with the added claim that "the objectives of transhumanism are broad, reaching beyond health and longevity to substantially increased intelligence, creativity, and emotional skills" (Allenby & Sarewitz, 2011).

They also express concern that we are becoming increasingly oblivious to the technologically dominated future we are bringing into existence. According to their statement, "people don't understand technology or the complexity that it engenders," this is the core problem.

Allenby and Sarewitz (2011) try to categorize the interplay between technology's complexity and its social embeddedness on at least three tiers. The first stage is the technology's immediate usefulness and efficiency. A reliable technological solution is one that uses technology to carry out a specific duty, such as a plane that can take you far away from where you are.

The price structure, inefficiencies of the boarding and security process, and delays are all examples of level-2 system complexity, which also encompasses irrationality and dysfunction. In spite of the high cost of airline tickets, many airlines go bankrupt. Thus, there are a great deal of unpredictable unintended outcomes at the level-2 setting.

On the third level, however, there is a phenomenon known as "technology lock in," which occurs when an economy, culture, and technological system all converge on a single mode of operation. While it is not claimed that these tiers are infallible, they are an attempt to visualize the various layers at which technology functions, as well as their interconnectedness with one another and with social and economic policies, etc. Therefore, it is evident that technological systems do not function independently of other social and cultural systems, but rather, they are intricately interwoven with those systems.

The following discussion will emphasize distinct traits and views with regard to technology in light of the importance of understanding technology as medium specifically in the context of education. Keeping up with the times, or at least appearing to be so in a culture and a world that are always evolving at a dizzying rate, is often associated with the use of technology.

The most frequently acknowledged rationale for universities' involvement in e-learning or online learning is to increase access, flexibility, and cost-effectiveness (Söderström et al., 2012).

Since educational technologies play such a central role in the creation and spread of online, blended, and other forms of remote learning, technological progress is singled out as the most crucial component in the evolution of these modes of instruction. Because everything we wish to achieve can be done better with technology, Verene (2013) emphasizes that technology does not reflect on

the past but rather promises a better future. He calls this "technological bluff," the false belief that technological advancements can solve any problem. A little more time will tell.

This upbeat perspective on technology is grounded in the idea that it is beneficial and useful, which in turn sustains the desire for its continued use. Chau (2010) drew inspiration from Postman's seminal work to develop her own ideas and critique of the optimistic view of technology (Postman, 1992). Postman coined the term "Technopoly" to characterize this idealized perspective of technology.

People who think that technological growth is humanity's pinnacle achievement and the means by which our deepest problems can be overcome tend to feel at home in Technopoly. They also consider knowledge to be a wholly positive phenomenon, the unrestricted creation and transmission of which can only lead to more individual autonomy, inventiveness, and tranquilly (Postman, 1992, p. 71).

For this conversation to adequately portray the rapid growth of technology and the increasing need to apply it explicitly in education, it is necessary to challenge several long-held views and assumptions. Students are assumed to have sufficient intrinsic motivation to study on their own time and in their own space, and that traditional classroom instruction can be successfully adapted to the online environment. "The underlying assumption is that anything that can be accomplished in the traditional classroom can be done electronically," writes Verene (2013). Information, he says, may be recreated digitally, but knowledge, and especially a lecture, can't be recreated in the digital realm. According to him, a lecture is a live performance in which a person thinks aloud and in which the audience participates by taking notes and asking questions (Verene, 2013). The online lecture format lacks the rhetorical presentation of a traditional classroom setting. Instead, students are reduced to consumers of information that is available internationally through online education, and the contents are decontextualized so that they can be applied to any situation (Verene, 2013). The technical operation is what he separates from the technical phenomena. The term "technical operation" is used to describe technology as a tool, whereas the term "technical phenomenon" describes the ways in which technology modifies our personalities and worldviews. Technology trends suggest that it includes our hopes and expectations for the future. This means that we are placing all of our goals and dreams in the hands of technology (Verene, 2013). In general, it appears that the gains connected with online learning are overstated, while the losses are given little to no consideration (Sinclaire, 1998).

The Privatization of Knowledge and Education

Knowledge commodification is a multifaceted phenomenon that can be explained in several ways. That's why I am not going to pretend like I have the one true explanation for it. In this regard, I found the viewpoint of Radder (2010) instructive; he defines commodification as "the pursuit of profit by academic institutions through selling the knowledge of the researchers and the findings of their inquiries." In addition, the commercialization of education is not an

independent phenomenon but rather an integral aspect of broader societal shifts. Another implication of academic commodification is that economic criteria are increasingly used to analyze and evaluate academic activities and their outcomes.

According to Radder (2010), patents as a form of commodification of research became acceptable in fields like biomedical science as a result of decreased government financing. The commodityization of research will manifest itself as contract research, for example, in the social sciences. Since these procedures have become standard operating procedures in colleges, they will be subject to less and less scrutiny as time goes on. Consequently, the market, rather than the citizen, will become the focus of education (Radder, 2010).

"Many education methods support the neo-liberal dream of power, commercialization, and profit-making," Amory (2012) argues. He says that this means that market principles and practices are incorporated into the educational system. Amory (2012) argues that the contemporary educational system, in which technology plays a crucial role, promotes neoliberal agendas that are instructional in nature. Despite the speed at which technology is advancing, little has changed in the way that classes are taught or students are evaluated. In this essay, we will discuss two ways that universities use technology to enhance their curriculum: online education and the blended learning model.

For higher education institutions to thrive in today's uncertain future and competitive market, online education that is primarily assisted by technology becomes a long-term plan for instruction (Chau, 2010). It's important to remember that not everyone places the same value on online courses as they would do on in-person instruction, despite the fact that they are frequently seen as the solution to problems of accessibility and flexibility in education (Chau, 2010). As an example of this trend, Chau (2010) cites a poll conducted by Adams and DeFleur (2006), who concluded that businesses would rather hire someone with a traditional education than one earned online. Perhaps even more unexpected was the discovery that traditional universities are less likely to admit students who have earned degrees entirely online.

Residential colleges increasingly adopt the blended learning paradigm. Blended learning consists of "a combination of traditional classroom instruction and the use of electronic media and other forms of distance learning" (Zhonggen, 2015). Blending online and offline learning is not as easy as it may seem for teachers and students. To improve traditional classroom instruction and student outcomes, this mix presupposes that learning and teaching can be integrated successfully. The learning environment, student demographic characteristics, institutional mission, faculty response, resource availability, and so on all have a part to play in the decision whether or not blended learning is successful as an educational approach.

Institutional resistance to change is a major barrier to the successful adoption of blended learning as an instructional methodology (Zhonggen, 2015). Despite its widespread use, blended learning still faces a number of significant obstacles. Chief among these is the reluctance of certain institutions to make significant changes in order to accommodate it. Moreover, there appears to be a weak association between this educational approach and student performance or

perseverance, which could signal a loss of financial and time resources associated with blended learning. Yet another difficulty is the students' tendency to sit back and observe rather than actively participate (Zhonggen, 2015). Amory (2012) is more critical, arguing that "blended learning" is a word used to redeem money unwisely spent on a compromise position and an attempt to save face. "The strategy involves continuing current procedures into the foreseeable future while claiming to welcome novelty" (Amory 2012). Technology does not play a role in the process of building knowledge in this technique; rather, building knowledge is the focus of the education.

The Role of Technology in the Commercialization of the Educational System

We now have terms in our lexicon like "knowledge economy" and "information economy" that highlight the interplay between the modern economy and formal schooling. The ideology of capitalism can help shed light on the relationship between technological progress and its application. The World Bank describes a knowledge-based economy as one that "depends primarily on the use of ideas rather than physical ability and on the application of technology" (World Bank, 2003, p. 1). This research argues for lifelong learning because of the knowledge-based economy's dependence on a flexible and adaptable workforce. Therefore, in order to take part in the global knowledge-based economy, it is necessary to engage in continuous training and education. In a knowledge-based economy, the adoption of new technologies is closely correlated with the level of education among the labor force. As a result, modern society is dependent on the knowledge economy, which depends on the production and dissemination of information.

India, like many other developing nations, faces the "dual challenge of resolving the ongoing concerns of access, quality, and equity while evolving towards a lifelong learning system" (World Bank, 2003, p. 8). In a developing nation like India, issues of access to technology and technological literacy are among the many obstacles people must overcome. The term "digital divide" is commonly used to characterize the gap between people who have access to technology and those who do not (Cloete, 2015, p. 147). However, as Chau (2010, p. 186) points out, not everyone has access to technology or the skills to utilize it, so not everyone can profit from it. This is especially true with initiatives like online education, where the use of technology forms the basis.

However, Lelliot et al. (2001, p. 2) warn that this societal embeddedness of technology leads to an inevitable problem in India.

Access to technology "will bring new forms of exclusion and new threats," but developing countries like India won't be able to benefit from it until they have access to cutting-edge technology. Furthermore, it has issues for distributive justice because, in cases where funds are spent on infrastructure to secure technology use, those funds cannot be used to provide people with fundamental needs such as shelter, food, healthcare, and education. Though it is commonly

expected that technological advancements will improve the globe and people's lives, there is insufficient confirmation of this in India and the rest of India. Therefore, it is difficult to understand or accept, especially when the optimistic perspective of technology is the prevailing one, that the push for the growth of technology in these situations could lead to even more poverty and isolation. "Where people lack the capacities to execute an opportunity, the opportunity is hollow," write Lelliot et al. (2001).

Some people believe that the technologically enabled promise of a "learning society" is nothing but a myth since "the whole notion of learning is under-theocratized" (Lelliot et al., 2001). It's undeniable that the learning societies, and those in India in particular, will have to deal with some difficult questions regarding Information and communication technology (ICT). This is because the use of technology may introduce new forms of exclusion and risks for those who do not have access to it or the solid framework necessary to use it.

ICT use in the classroom also presupposes that the quality of primary and secondary education is high, which is not the situation in many developing nations, including many in India (Lelliot et al., 2001). Wilkinson et al. (2001) agree: "Despite the resources being pushed into the provision of new online education programs by Indian institutions of higher education, this sort of education is not likely to meet the aspirations of this country" (p. 135).

Not only does a sizable portion of the population lack access, but even those who may potentially use it do not have enough network and infrastructure. Students and teachers alike need not only have physical access but also epistemic access, meaning they must be comfortable with and proficient in the use of computers.

Martin (2007) questions whether or not the pedagogy of online education is sound and whether or not it serves the interests of governments. While he does not quite answer the question, his attempt to do so adds significantly to the expanding critical conversation on ICT in higher education. To the contrary of conventional wisdom, he claims that the use of technology in schools can raise prices, restrict enrollment, and turn education into a commodity driven primarily by the pursuit of financial gain by multinational, for-profit organizations (Martin, 2007). He concludes that the eagerness to use it comes rather from those who will benefit from selling the technology to universities and other organizations, as there is no substantive proof that the use of ICT in education adds to excellent teaching. Furthermore, although colleges are spending more money on technology, their budgets are getting smaller, making it harder to hire new faculty.

This could lead to a situation where colleges invest more in the hardware and software needed to run their many ICT programs than they do in the training of their faculty and students. Therefore, universities need to find new means to fund teaching and research, and one option is to raise tuition.

As a result, students need to take on more financial responsibility for their education by taking out loans to cover rising costs, investing in their own computers and other technology to gain access to educational information and

communication technologies, and taking more control over their own learning (Martin, 2007).

Millennials are the generation now enrolled in higher education, and Keengwe and Georguna (2013) claim that their requirements can be met through the incorporation of technology into education.

They say that this generation is distinguished by its desire to design its own learning material and methods, its preference for teamwork, and its advanced knowledge and competence in the use of digital technology. They are, however, wary of an instrumentalist interpretation and use of technology, in which technology is seen as an end in itself. Instead of letting technology dictate lessons, it should be woven into what is already being taught. Good teaching cannot be replaced by technology. According to research (Keengwe & Georguna, 2013), I would like to draw attention to how technological innovation may ultimately transform the university experience for both students and faculty. Technology integration in the classroom requires a rethinking of the pedagogical logic behind teaching and learning (Söderström et al., 2012).

In a society where education and information are increasingly treated as commodities, Nel (2008) explains how students are increasingly viewed as customers and clients. He goes on to say that this process involves watering down education and training to better suit the demands of the marketplace. The quest for knowledge, while related to and possibly the most important of these lofty goals, takes a back seat to the chase for riches. The titles of administrative roles in universities, such as "program manager" and "school director," are derived from the business sector, as Nel (2008) explains.

According to Chau (2010), the deterministic perspective on technology allows for the appropriation of education and society by corporations. There has been a shift in the role of universities; they are now primarily in the education business, where critical thinking may not be a top priority. Furthermore, this shift in educational priorities and institutional dynamics will produce professionals with a commercial orientation rather than a public-interest one.

Consequently, a growing number of "experts" will behave more like corporate executives than educators, and the focus of education will shift from learning to achieving economic goals (Chau, 2010).

As universities and corporations work together more closely, the boundaries between the two are beginning to blur.

Although schools have never been out of reach of corporations, their job is considerably broader than simply producing knowledgeable citizens. Education's ability to mold the beliefs and sense of self in its students is crucial as well. Briefly put, education ought to significantly contribute to students' being functions not just their doing functions.

Next, we will look at the potential that technology presents, with a focus on higher education, in light of the issues we have already discussed. Possibilities afforded by the rise of technology in the classroom, especially as it relates to religious instruction.

One of the benefits of technology in the classroom is that it has forced educators to reevaluate their approaches to teaching and sparked much-needed in-depth

conversations (Ascough, 2004). The first part of the article focused on the difficulties that technology, as a socially integrated medium, presents to society at large and to education in particular. My own interest in higher education is one reason for this emphasis, but the reality that the majority of Indians are religious means that society and the government rely significantly on ordained ministers to lead churches in constructively engaging society, which is another (Naidoo, 2015). As a result, having a solid higher education is crucial for those who want to serve in both the church and the wider community.

Institutions of higher learning cannot disregard the potential benefits that educational technologies may offer; hence, it is important to invest in training faculty to use these tools pedagogically.

Unisa is where Olivier conducted his study on the use of technology in theology education (2014). She frames technological advancement within the context of a revolution and provides a succinct description of revolution as a process marked by anxiety, unease, and the need to adjust. Thus, a dedication to adjusting and being adaptable is crucial to achieving new ways of teaching in the classroom. The commitment to adapting to a shifting educational landscape necessitates ongoing technology training for faculty and student body members as well as pedagogically sound research into the most effective uses of technology in the classroom.

Olivier (2014) argues that theology accepted the challenge of utilizing the printing press and that it should do the same with the new technology. The significance of theology has grown or waned depending on the media employed at any given time. Therefore, there is an urgent need for higher education to fully embrace technology. Despite the fact that her ideas appear to primarily operate within an instrumentalist conception of technology, it is nonetheless notable to bring specifically theology at the center of society and education today. Higher education that spans denominational, cultural, international, and disciplinary boundaries stands to benefit from technological advancements in education, which may also increase the field's overall audience (Olivier, 2014). As an added bonus, the reflective activities may be made possible by the interactivity of instructional technology.

Learning relies heavily on introspection. If students are to become agents of change in the world, they must engage in reflective thinking, which involves making connections to prior learning and engaging in open discourse with those who hold opposing opinions (Baporikar, 2016). Someone who challenges the status quo by suggesting new approaches to old problems is a change agent.

It has been noted by both Delmater (2004) and Ascough (2002) that online learning encourages greater student engagement. It can be challenging to assign grades based on classroom involvement when extrovert students thrive in an environment that encourages group work and discussion while introverted students struggle to find a comfortable place to contribute.

However, thanks to the nature of online learning, students' voices, including those who are typically silenced in the classroom, are amplified, leading to increased involvement and collaborative learning. Because of the dynamic nature of technology in online education, where students can connect with one another

regardless of time or location, students are expected to take on a greater level of responsibility for their own education and to be actively engaged in the learning process at all times. Olivier's (2013) findings corroborate the possibility of enhancing student engagement in online learning through strategic conceptualization and design. The course helps students better integrate their beliefs into their daily lives and raises their awareness of their societal obligations as citizens, according to student responses.

Students may learn valuable skills such as self-monitoring and group dynamics with the use of interactive technology. Furthermore, their involvement in the educational process has the potential to make both teaching and learning more enjoyable, which is a trait not typically connected with the educational process (Olivier, 2014).

One of the most difficult aspects of online theology education is the disembodiment that comes with it (Cloete, 2015; Delmater, 2004). However, a more complex interpretation of embodiment is provided by Delmater et al. (2007), which challenges the view that bodily presence is the sole genuine form of embodiment. They back up their claim by saying, first, that online learning has the potential to foster relationships beyond the traditional classroom setting, both between teachers and students and among students themselves. Second, they contend that cultural distance, gender, and class historical distance are all more pervasive and challenging than other forms of distance between students and teacher. Even in traditional, face-to-face classroom settings, educators frequently fail to account for and address these types of separation. Ascough (2002) contends that the rise of online education has the potential to reduce prejudice and discrimination based on social class, race, and gender.

Finally, Delmater et al. (2004) suggest a higher anthropology of a spirit–soul unification that precludes a dualism between the physical and the spiritual. As a result, one may argue that the questions raised by educational technologies have the potential to test our higher assumptions about people and their place in the world. A larger definition of social presence is advocated for, specifically in the context of online education, by Kim et al. (2016). In brief, social presence refers to paying attention to the other person when interacting with them. In a technologically enhanced and mediated setting, "social presence" refers to the perception of another person's presence, even though that person is not actually there. According to Kim et al. (2016), the concept of social presence is complex since it includes not only presence as psychological engagement but also co-presence. Technology, with its potential for constant connectedness, could also help reconcile the gap that so often exists between theory and practice. The gap between formal education and the church community is a common source of this tension. To broaden students' horizons and help close the gap between theory and practice, religious leaders from local churches should be invited to participate in online discussions with students (Litchfield, 1999).

According to Bauman et al. (2014), online education enables the kind of in-depth participation, self-representation, and expression that may be considered spirituality in a global setting. Students' goals generally involve shaping their own set of views and values, whereas the aim of education is often to foster the growth

of critical thinking. Education in theology is ideally situated to harness the technological skills of its students to foster meaningful interaction with their peers of different faiths. Religious leaders in the modern world must be adept at communicating in a diverse range of religious settings. Students may be forced to learn how to critically evaluate what they read online and come up with original perspectives as a result of the overwhelming amount of information and divergent points of view they encounter. Students are faced with the problem of making informed choices from an ever-increasing volume of complex, contradictory information (Bauman et al., 2014; Kerr, 2005).

Impact of Information and Communications Technologies on Education

Information and communication technology has the potential to broaden participation in and enhance the quality of education. According to Tinio (2002), the use of ICTs has a significant effect on the classroom by facilitating the following:

1. To facilitate active learning, ICT tools are being digitized and made accessible to students, teachers, and administrators alike. Instead of being forced to memorize information, students can choose what they want to study and move at their own pace while solving problems that arise in authentic contexts with the use of ICT, which significantly increases student engagement.
2. Technology-enabled learning environments foster collaboration and cooperation between students and instructors, regardless of physical proximity. It helps students develop their communication and teamwork skills while expanding their cultural understanding and worldview through exposure to people from a variety of backgrounds. The usage of ICT has been linked to increased collaboration among students both within and outside of the classroom, as well as a more two-way relationship between students and teachers (Grégoire et al., 1996). Collaboration, as defined by the author, is "a philosophy of interaction and personal lifestyle in which individuals are responsible for their activities, including learning about and respecting the abilities and contributions of their peers."
   (Panitz, 1996).
3. In order to produce a tangible product or achieve a specific pedagogical goal, ICT encourages learners to manipulate existing information and develop their own knowledge.
   When compared to the traditional classroom, where focus is placed on a single topic, ICT encourages an integrative approach to teaching and learning by removing the synthetic boundary between theory and practice.
4. Formative assessment: Interactive learning tools put students at the center of the learning process and provide them with immediate, actionable feedback on how they are doing. Rather than relying on memory and drill, students can instead engage in active learning that is supported by constructivist theories of learning, thanks to ICT.

Positive Effects

Increased effectiveness in the classroom technology such as digital cameras, projectors, mind-training software, laptops, PowerPoint presentations, and 3D visualization tools have become wonderful resources for teachers to help pupils readily grasp a concept.

It is important to realize that pupils have a far better time learning when concepts are explained visually. They have a greater opportunity for classroom participation, and teachers have an opportunity to provide more engaging lessons.

Video conferencing allows students in different sections of the state to "meet" one another without having to go to each other's schools. Websites like www.glovico.com facilitate online language learning by matching groups of students with native-speaking teachers from around the world. No need to relocate for school: distance learning has virtually eliminated the requirement for students to attend traditional classes. Several international schools now offer online degree programs that students can enrol in. Online and distance education have rapidly grown in importance in today's educational landscape results in harm one, a decline in writing proficiency.

Young people today have terrible writing abilities because they spend so much time on texting and other forms of online shorthand. Teens and preteens nowadays are so reliant on electronic means of communication that they have abandoned efforts to hone their written expression skills.

They have trouble spelling words, writing correctly, and using cursive.

Second, there are more instances of cheating because of the prevalence of technological aids such as graphical calculators, high-tech watches, and small cameras.

Graphing calculators make it less risky for kids to copy and paste calculations and take notes.

Third, a failure to concentrate: texting and sending SMS messages have become popular habits among today's youth. It is not uncommon to spot a student fiddling with their iPhone when they are in class, in the car, or anywhere else they might have some free time.

Students' inability to concentrate on schoolwork, as well as their performance in sports and other extracurricular activities, has been linked to their constant online connectivity.

Advantages

- The result is a boost in motivation in the classroom. Assists students juggling several commitments and allows them to complete assignments at their own pace and at their own time.
- Instructs pupils in cutting-edge technological abilities that will serve them well in the workplace. Helps spread the "green revolution" idea by cutting down on paper and copying expenses.

Disadvantages

- Many knowledgeable people believe that the use of this kind of technology in the classroom has a negative impact on pupils' capacity to think creatively and critically. It might be a drain on the time of the instructor as well. The expense of implementing such technology is high. When used excessively, there are risks to health as well.
- Unfortunately, not many students can afford the latest computers.

Conclusion

The advent of modern technology in the twentieth century has been called the "fourth revolution," and it has brought with it both advantages and disadvantages. The article's overarching goal is to show how technological complexity is intertwined in broader societal processes. In the same way as technology may both include and exclude based on its structural nature, it can also foster exclusions.

Thus, technology is viewed as more than just useful tools; it also represents a worldview. The article made an effort to show that the effects of technology on schools are multifaceted, with advantages and disadvantages. These difficulties and potentials can be traced back to the combination of technology and a socially grounded media. Implications for higher education in India and for the incorporation of technology into education were discussed in the essay.

The use of technology in the classroom has both beneficial and potentially detrimental implications. Teachers and students should look at this from a positive perspective and work together to get rid of the obstacles that are preventing many students and schools from succeeding. Therefore, in the future, it is time for all nations to implement a more technologically equipped educational system.

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References

Adams, J., & DeFleur, M. H. (2006). The acceptability of online degrees earned as a credential for employment. *Communication Education*, *55*(1), 32–45. https://doi.org/10.1080/03634520500343376

Allenby, B. R., & Sarew, D. (2011). *The techno-human condition*. The MIT Press.

Amory, A. (2012). Instructivist ideology: Education technology embracing the past? *Interactive Learning Environments*, *20*(1), 41–55. https://doi.org/10.1080/10494821003714707

Ascough, R. S. (2002). Designing online distance education: Putting pedagogy before technology. *Teaching Theology and Religion*, *5*(1), 17–29. https://doi.org/10.1111/1467-9647.00114

Baporikar, N. (2016). Technology integration and innovation during reflective teaching. *International Journal of Information and Communication Technology Education*, *12*(2), 14–22

Bauman, W., Marchal, J. A., Mclain, K., O'Conneil, M., & Patterson, S. M. (2014). Teaching the millennial generation in the religious and higher studies classroom. *Teaching Theology and Religion*, *17*(4), 301–322. https://doi.org/10.1111/teth.12237

Beringer, V. (2009, October 20). For kids pen's mightier than keyboard. *Futurity*. Retrieved February 25, 2013, from http://www.futurity.org/society-culture/forkids-pens-mightier-than-keyboard/#more-4909

Bounds, G. (2010 October 5). How handwriting trains the brain—forming letters is key to learning, memory, idea. *The Wall Street Journal*. Retrieved February 25, 2013, from http://online.wsj.com/article/SB10001424052748704631504575531932754922518.html

Bransford, J., Brown, A., & Cocking, R. (2000). *How people learn: Brain, mind, experience, and school*. National Academic Press.

Brill, J. M., & Galloway, C. (2007). Perils and promises: University instructors' integration of technology in classroom-based practices. *British Journal of Educational Technology*. *38*(1), 95–105.

Chau, P. (2010). Online higher education commodity. *Journal for Computer and Higher Education*, *22*, 177–191. https://doi.org/10.1007/s12528-010-9039-y

Cloete, A. (2015). Educational technologies: Exploring the ambiguous effect on the training of ministers. In Naidoo M. (Ed.), *Contesting issues in training ministers in India* (pp. 141–154). Sun Press.

Delmater, S. (2004). A typology of the use of technology in higher education. *Teaching Theology and Religion*, *7*(3), 134–140.

Delmater, S., Alanis, J., Haith, R., Hoffman, M. V., Jones, A. W., & Strawn, B. A. (2007). *Technology, pedagogy, and transformation in higher education: Five case studies*. *10*(2), 64–79. https://doi.org/10.1111/j.1467-9647.2004.00203.x

Drees, W. B. (2002). Human meaning in a technological culture: Religion in an age of technology. *Zygon*, *37*(3), 597–604. https://doi.org/10.1111/1467-9744.00439

Hess, M. E. (2002). Pedagogy and theology in cyberspace: "All that we can't leave behind …; *Teaching Theology and Religion*, *5*(1), 30–38.

Huffpost. (2011, July 16). *Why does writing make us smarter?* http://www.huffingtonpost.com/2011/07/16/whydoes-writing-make-us-_n_900638.html

Keengwe, J., & Gergina, D. (2013). Supporting digital natives to learn effectively with technology tools. *International Journal of Information and Communication Technology Education*, *9*(1), 51–59. https://doi.org/10.4018/jicte.2013010105

Kerr, S. T. (2005). Why we all want to work: Towards a culturally based model for educational change. *British Journal of Educational Technology*, *36*(6), 1005–1016. https://doi.org/10.1111/j.1467-8535.2005.00570.x

Kim, J., Song, H., & Luo, W. (2016). Broadening the understanding of social presence: Implications and contributions to the mediated communication and online education. *Computers in Human Behavior*, *65*, 672–679. https://doi.org/10.1016/j.chb.2016.07.009

Leising, J. (2013, January 30). The new script for teaching handwriting is no script at all. *The Wall Street Journal*. Retrieved February 25, 2013, from http://online.wsj.com/article/SB10001424127887323644904578272151551627948.html?KEYWORDS=handw

Lelliott, A., Pendlebury, S., & Enslin, P. (2001). On-line education in India: Promises and pitfalls. *Indian Journal of Information Management*, *3*(1), 1–10.

Litchfield, R. (1999). Webs of connection using technology in higher education. *Teaching Theology and Religion*, *2*(2), 103–108. https://doi.org/10.1111/1467-9647.00049

Martin, R. (2007). Online education and training: Well-founded pedagogy or state corporate interest? *Indian Journal of Higher Education*, *21*(3), 473–484.

Naidoo, M. (2015). Ministerial formation and practical theology in India. *International Journal of Practical Theology*, *19*(1), 164–188. https://doi.org/10.1515/ijpt-2015-0004

Nel, J. (2008). Trends in higher education: Selling out? *Journal for New Generations Sciences*, *13*(1), 96–104.

Olivier, E. (2013). Teaching open distance learning undergraduates in theology to become effective change agents. *Verbum et Ecclesia*, *34*(1), 1–7. https://doi.org/10.4102/ve.v34i1.845

Olivier, E. (2014). Theological education with the help of technology. *HTS Theological Studies*, *70*(1), 1–7. https://doi.org/10.4102/hts.v70i1.2643

Postman, N. (1992). The broken defenses. In Postman N. (Ed.), *Technopoly: The surrender of the culture to technology* (pp. 70–91). Vintage Books.

Radder, H. (2010). *The commodification of academic research: Science and the modern university*. University of Pittsburgh Press.

Roschelle, J., Pea, R., Hoadley, C., Gordin, D., & Means, B. (2000). Changing how and what children learn in school with computer-based technologies. *Future of Children*, *10*(2), 76–101.

Saravanamuthu, K. (2002). Information technology and ideology. *Journal of Information Technology*, *17*, 79–87. https://doi.org/10.1080/02683960210145977

Sinclair, J. (1998). Does the virtual classroom really exist … or is it still … out there. *The Electronic Library*, *16*(5), 297–299. https://doi.org/10.1108/eb045653

Söderström, T., From, J., Lövqvist, J., & Törnquist, A. (2012). The transition from distance to online education: Perspectives from the educational management horizon. *The European Journal of Open, Distance and E-Learning*, *1*, 1–9.

Verene, D. P. (2013). Does online education rest on a mistake? *Academic Quest*, *26*, 296–307. https://doi.org/10.1007/s12129-013-9367-2

Wenglinski, H. (1998). *Does it compute? The relationship between educational technology and student achievement in mathematics*. ETS.

Wilkinson, A., Wilkinson, L., & Nel, G. (2001). Balancing quality and access in online education. *Acta Academia*, *33*(2), 127–145.

World Bank. (2003). *Lifelong learning in the global knowledge economy: Challenges for developing countries*. World Bank.

Zhonggen, Y. (2015). Blended learning over decades. *International Journal of Information and Communication Technology Education*, *11*(3), 1–19. https://doi.org/10.4018/IJICTE.201507010