Role of Physical Education for the Students with Disabilities in Nepal in the Era of Digitization

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Artical History

Received	Revised	Accepted
30th January, 2022	4th April, 2022	5th May, 2022

Abstract
This study aims to critically analyze the role of physical education as a natural method of coping with challenges posed by technology for children with disabilities in Nepal in the era of digitization. A qualitative research design was applied to approach the phenomenon. The phenomenon was lokked through a critical paradigm based on the demand of research questions. The primary data were collected from the participants using the in-depth interview guidelines. However, the secondary data were collected through a desk review. This study includes only physically disabled students. Khagendra Nawajeev Special School Jorpati was selected purposively as the research site. Five disabled students (from grade 10) and one Health and Physical Education Teacher were also selected purposively as the respondents for the study.

Moreover, one person involved in policymaking specifically regarding special needs education was interviewed. The obtained data were analyzed and interpreted thematically using multiple facts and critical views. The study found that students with disabilities using information technology are mentally engaged but have stopped physical activities. Techno-addiction has become a big problem. Just as the addiction to marijuana, hashish, and alcohol weakens the level of human consciousness, addiction to technology weakens the essential human potential. Physical activities are the ultimate prescription, as sports and physical education allow students to get active and live healthier lifestyles even in the era of digitization.

Keywords: Disability, technology, digitization, human abilities, physical activities

Introduction
Physical activities play a crucial role in all round development of children. Children with special needs are more likely to be obese and less likely to be physically active than children without special needs (Clemente, 2017). It is estimated that nearly 75% of individuals across the life span with disabilities do not get enough physical activity to benefit their health (Armstrong et al., 2010). There is ample evidence that children who participate in regular physical activities feel better about themselves, have fewer mental health issues, experience improvement of some symptoms and have more opportunities for social participation with peers (Clemente, 2017).

Children with disability often have delayed gross motor development, less proficiency in balance and coordination and poor cardiovascular fitness than their peers with typical development (Barr and Shields, 2011). These problems could potentially be improved by participation in physical activity. The great ancient philosopher Plato says, "sound mind in sound body" (Acharya and Adhikari, 2019).In fact, for the body to remain sound needs regular physical exercise. Children with disability are less likely to engage in regular physical activity, which leads to poor cognitive development. The reasons for lower participation in physical activity among children with disability are complex and multi-factorial.

A study found that, in 2014, 2.1 billion people were overweight, and 185 million suffered from malnutrition. It is estimated that in 2030, half of humankind is expected to be overweight (Clemente, 2017). In 2010 famine and malnutrition combined killed about 1 million people, whereas obesity killed 3 million. In ancient agricultural societies, violence caused about 15 %of all deaths. During the 20th-century, violence caused only 5% of deaths, and in the early 21st century, it is responsible for about 1 % of global mortality. In addition, in 2012, about 56 million people died worldwide. 620000 of them died due to human violence (war killed 120,000 people and crime killed another 500,000). In contrast, 8000,000 committed suicide, and 1.5 million died of diabetes. Sugar is now more dangerous than gun power (Harari, 2018).

The development of technology is the main cause of this scenario. The age of 21st century is known as the era of digitization. The global economy is mostly held by digital companies (Harari, 2018). Robots, artificial intelligence, and computer algorithms are causing human ability daily degradation. Now, machines have become more efficient than human beings in terms of physical power and intellectual power. In this pretext, the human being will presumably be replaced by Robert and artificial intelligence in the job markets. Besides, with the advancement of technology, the sedentary lifestyle of the people is also increased. Sedentary activity leads to various health problems. Moreover, children with disabilities are more vulnerable than children without disabilities in two folds. 1. They rarely participate in physical activities due to their disabilities 2. Most of their actions are supported by technology, so they do not need to participate in physical activities.

Very few policies have been made regarding the right to physical education for people with disabilities. In addition, several research works have been conducted on how students with disabilities benefit from the advancement of new technology. In Nepal, as far as I know, no academic research has been conducted regarding physical education for children with disabilities. This study aims to critically analyze the role of physical education as a natural method of coping with challenges posed by technology for children with disabilities in Nepal in the era of digitization. This study intends to explore the evidence-based answer of these research questions; how is technology degrading the human abilities of students with special needs? And how does physical education play a crucial role in coping with challenges posed by technology for students with special needs?

Research Methodology

Qualitative researchers begin their inquiry process with philosophical assumptions, research paradigms and theories (Guion, 2002, p. 8). As this study was qualitative in

nature, I attempted to conceptualize the phenomenon with the help of philosophical lances. Qualitative researchers are "more concerned about uncovering knowledge about how people feel and think in the circumstances in which they find themselves than judging whether those thoughts and feelings are valid" (Colen, 2000, p. 26). Following the ideas mentioned above, I looked at the phenomenon through a critical paradigm based on the demand of research questions of the study. According to the critical paradigm, the reality is socially constructed, and that reality can be changed by human effort (Deanzin & Lincoln, 2005). My ontological assumption was that reality is multiple, contextual, subjective, and socially constructed in this research. Realities were explored by interaction and dialogue among participants, including me, as my epistemological understanding was that knowledge could be explored by conversation.

In this research, I have valued the emancipation of the participants from inequality and suppression. I have used critical discourse analysis (CDA) as a methodology to uncover the reality. According to Fairclough (1999, as cited in Asgar, 2013), CDA has three dimensions; text, discourse practice (interaction) and sociolinguistic practices (context). Hence, the qualitative research design was applied to approach the phenomenon. Primary data were collected from the participants using the in-depth interview guidelines. Similarly, the secondary data were collected through a desk review. This study includes only physically disabled students. As the research site, Khagendra Nawajeev Special School, Jorpati was selected purposively. Five disabled students (grade 10) and one Health and Physical Education teacher was selected as the study participants. The participants were selected purposively. Moreover, one person involved in policymaking specifically regarding special needs education was interviewed. The obtained data were analyzed and interpreted thematically using multiples facts and critical views.

Results and Discussions

Present scenario

A variety of research reports indicate that the global disabled population is increasing. The official census data of Nepal (2011) reports a 1.94% disability rate. Nevertheless, many organizations suggest that the actual figure is far higher. For example, it is estimated that the current global disabled population is 10% (World Bank, 2000, as cited in Thapaliya, 2015).

UNICEF's figures indicate that around 30 million children are experiencing some form of disability in South Asia (UNICEF, 2003). Gender disparity and child labour are also factors that hinder the growth and development of children in this region. Various studies indicate that disabled children in South Asia cannot access schooling (UNICEF, 2003). For example, in India, the national gross enrolment rate for primary schooling is over 90%, whereas this figure is less than 5% for disabled children (UNICEF, 2003). Bangladesh faces a similar situation, with UNICEF reporting that most disabled children never attend school due to inaccessible infrastructure, a lack of learning scope, improper learning process and an unsupportive school environment (UNICEF, 2003).

Flash Report (2019/20) of CEHRD shows that in total, 34,464 (39,820in the last school year) students at lower basic level, 12,419 (12,546 in the last school year) upper basic level students were reported as having a disability (CEHRD, 2020).
It is reported that the overall enrolment percentages of children by types of major disabilities

in total enrolment at lower basic, upper basic and basic levels are 1.0%, 0.7% and 0.9%, respectively. In the same way, out of the total 12,419students with a disability at the basic upper level, 68.9%, 8.1%, 8.7, 2.7% 6.7%, 0.2%, and 4.7% children have a physical, mental, deaf, blind, low vision, deaf and blind, and vocal and speech-related disability respectively (CEHRD, 2020). The Lumbini Province has the highest number of children with disabilities, followed by the Bagmati province, province 1 and Far-western province at both basic education levels. Whereas province 2 reported the lowest number of children with different disabilities in the school year 2019-20 (CEHRD, 2020). The data show that the number of children with disabilities increases in school.

Increasing technology degrading human abilities

Yuval Noha Harari (2018), a historian, argues that with the likelihood of merging biotechnology and information technology, everyone in this world is prone to be hacked. He further contends that computer algorithms will know us better than we do since all the individual information will be stored in big data centers. Big data algorithm will have godlike power. Robert and artificial intelligence are far better at efficiency than human beings in economic value. Robert and Artificial Intelligence (AI) will likely replace the human workforce in job markets. Harrari sees technological disruption will be a big challenge in this digitization era (Harari, 2018). The President of the Centre for Humane Technology Tristan Harris (2020) says technology has manipulated human weakness through unintended consequences. You can view most of the harms we are now experiencing as rooted in this: addiction, distraction, mental health issues, depression, isolation, polarisation, conspiracy thinking, deep-fakes, virtual influencers, our inability to know what is and isn't true (Harris, 2020).

Technology developed by a human is now surpassing the human being. The co-founder of Humane Technology, Tristan Harris, says that "Technology has won the human weakness and now attacking on human strengths" (Harris, 2021). Winning human weakness means fueling weaknesses such as anger, arrogance, ignorance, inferiority, addiction, and others. Physical strength, intelligence, and consciousness are considered the specific abilities of humankind. Now, technology is degrading these abilities on a mass level. The machine is physically far strong than a human being. Artificial intelligence and other computing system are strikingly smarter than humans to calculate data and solve problems. Consciousness is yet to be replaced by technology. This scenario depicts that human identity is in crisis due to advanced technology development.

Techno-Addiction

It is estimated that more than 96 % of Nepal households have mobile services (Nepal, Telecom, 2021). More than 87 %of Nepali people use mobile data or broadband internet services (Acharya, 2078BS). It is likely to reach cent percent soon. A survey conducted by Manamohan Memorial Institute in 2018 shows that 46 % of adolescents are addicted to the internet (Manamohan Memorial Institute, 2018). According to Nepal Burden of Disease 2017, the life span of Nepali people has significantly increased. The average life expectancy of men and women in 1990 was 58 and 59 years, respectively, but in 2017 it reached 69 and 73 years (NHRC, 2017). On average, both have reached 70.9 years of life expectancy. But the average healthy life expectancy is 61 years (NHRC, 2017). It shows that old age and the unhealthy population are increasing. The exponential expansion of technology has provoked techno- addition, leading to an unhealthy life.

Similarly, according to the National Mental Health Survey 2020, conducted on adolescents, 5.2 %of adolescents have a state of mental imbalance (NHRC, 2020). Of these, 2.8 % are due to stress. 3.9 % have suicidal ideation (2020). Another survey conducted among adults shows that mental problem has been observed in 10 %of adults (NHRC, 2021). A participant (Teacher) says, "even after waking up at night, we look at our mobile phone once; we look at our mobile phone first when we wake up in the morning. We get restless when there is no network." If these symptoms prolong, the capacity of human consciousness will gradually decrease. Just as the addiction to marijuana, hashish, and alcohol weakens the level of human consciousness, addiction to technology weakens the basic human potential.

Swami Vivekananda was once asked, "what is the difference between ordinary people and special people. His answer was in a word: 'concentration' (Osho, 2013). It shows that the base of human consciousness is concentration. Concentration develops consciousness, but if the concentration is broken or scattered, it destroys the level of consciousness. Gautam Buddha says that "all suffering is due to the inability to control the mind and craving for external material pleasures" (Goienka, 2012).

The flow of technology is eroding people's attention. One participant, who had been involved in policymaking, says, "we pay attention to mobile phones and computers while sitting at home, talking to family or talking to customers in the office. This behaviour prevents one from understanding the subject in depth." The impact of the attention-grabbing economy is growing. There is a flood of advertisements that attracts the attention of the people. Harris says, "people indulge with about 70 %of the unintended information" (Harris, 2021, p.32). The algorithm recommends information that we may not necessary, but we follow them. Just like while watching a video on YouTube, another video comes close, and we watch it; this sequence continues. Our attention is thus being diverted by the recommended system (Harris, 2021).

One student says, "as I am disabled, I do not need to do any physical tasks at home. I have internet facility. Most of my time is spent on Facebook, TikTok and YouTube. Now I have a problem on my eyes too". Meanwhile HPE teacher says, "due to the COVID-19 pandemic, we started online classes. Online classes helped students to learn technology on the one hand and made them idle on the other hand". He further adds "due to the use of technology, disabled students are complaining of physical problems such as headache, backache, and further deteriorating their disabilities." This shows that students with disabilities who are using information technology are mentally engaged but have stopped physical activities. Not engaging in physical activities lead to various problems.

Physical education; a method of coping with challenges posed by technology

Physical education is a sequential, developmentally appropriate educational program that provides students with the knowledge, skills, fitness, and attitudes necessary to lead a healthy lifestyle. A study regarding disability groups has found three main improvements in children with disability when they are engaged in physical activities. They are a physical improvement- improved level of wellbeing and physical health; mental improvement- self-esteem, social awareness and self-confidence; and behavioural improvement- cognitive improvements. These improvements allow them to access skills they couldn't challenge within a traditional classroom setting (Shields and Synnot, 2016).

Data from a national study conducted in Canada comparing the health risk behaviours of 319 adolescents with physical disabilities to 7020 non-disabled adolescents shows that in

each of the three age groups (11–12, 13–14, 15–16 years), youth with disabilities had a 4.5-times higher rate of physical inactivity compared to non-disabled youth. Adolescents with physical disabilities were twice as likely as non-disabled youth to report watching television for more than 4 hours per day (Clemente, 2017).

Paralympics is a major international sports competition for athletes with disabilities. The Paralympics developed after Sir Ludwig Guttmann organized a sports competition for British World War II veterans with spinal cord injuries in England in 1948. A study conducted on the effectiveness of Paralympics indicates that children with physical disabilities experienced positive outcomes of participating in the Paralympic Games. This study has suggested that physical exercise should be used to reduce disabilities (Jing, Jin, and Xun, 2021).

The benefits of physical activity and Special Olympics sports participation extend beyond physical wellbeing. According to a study examining psychosocial outcomes, people with Intellectual Disabilities who are involved in Special Olympics demonstrate an increased ability to adapt to stressors compared to involvement in sports outside of Special Olympics and no sports at all. Another study on Special Olympics athletes shows increased self-esteem, self-worth, and social inclusion compared to non-participants (Dowling, Hassan, & McConkey, 2012).

According to a study evaluating the Unified Football Pilot Project in Europe/Eurasia: 53% of Unified athletes reported feeling better about themselves after participating. Research with nearly 2,500 family members in the United States, Brazil, Peru, Argentina, and China found that, as a result of participating in the Special Olympics, 90% of family members in Latin America saw improvement in athlete self-esteem and self-confidence. 80% of family members in China saw improvement in athlete sports skills. 90% of family members in the US saw improvements in athlete social skills (Dowling, Hassan, & McConkey, 2012). The results show that physical activities are the ultimate prescription, as sports and physical education provide opportunities for athletes to get active and live healthier lifestyles. All the participants in this study expressed that engagement in physical activities reduces the rate of unnecessary indulgence on social media and makes them creative. They demanded regular physical exercise. A participant suggested that regular physical activities should be compulsory in every school as modern technology gradually degrades human abilities. He further says, “there are no alternative means except physical exercise to get rid of the challenges posed by technology, specifically in the era of digitization.”The results above show that the importance of physical education in the era of digitization has significantly increased.

Conclusion

With the exponential development of technology, the sedentary lifestyle is mounting rapidly. Students with disabilities are more vulnerable than students without disabilities in many ways. They rarely participate in physical activities due to their disabilities. Most of their actions are supported by technology, so they do not need to participate in physical activities. Technological disruption will be a big challenge in this digitization era. Technology has- intentionally and through unintended consequences, manipulated human weakness.

Moreover, students with disabilities are prone to be manipulated by a computer algorithm.

They indulge in technology for a long time and do not participate in physical activity, gradually degrading their abilities. We cannot avoid new advanced technology; we have to live with it. It is necessary to participate in physical activities to live a healthy and productive life with technology. The whole education system should be revamped, and physical activities should be compulsorily practised in schools. Students with disabilities should be systematically encouraged to get participation in sports and other physical exercises regularly.

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