



Science and Technology education in Balance with the Sociocultural Environment

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Abstract: *Innovation in science and technology has accelerated globalization and commercialization. Multi-present culture is what globalization represents (DEPFE, NCERT). Our socio-cultural milieu has undergone a significant transformation as a result of globalization. Our customs have a natural scientific basis, yet blindly adhering to ideas and customs is no longer acceptable. For this reason, contemporary fashions and trends arose. The ecosystem and natural world have suffered greatly as a result of modern living. Broadly speaking, education will be essential in bringing about the necessary change in a number of ways. Global interconnectedness and interdependence can be promoted with the appropriate knowledge of and attitudes toward science and technology. Therefore, imparting knowledge about the importance of these practices along with a proper understanding might lead to an exploration of science and technology for harmony. A sustainable future requires a shared understanding of the importance of selflessness, caring for others, the environment, biodiversity conservation, and recognizing the mutual fulfilment and prosperity of all species. It is only when parents and educators take ownership of their children's education and actively participate in creating strong social pillars that this kind of approach toward learning becomes feasible.*

Keywords: *Science And Technology, Value Education, Morals, Ethics, Culture, Society, Nature, Environment.*

Introduction:

The advancement of science and technology has led to a great deal of ease in human life. However, the advancement of science, technology, and technocratic methods did not, regrettably, result in the best circumstances for the survival of human civilization or the complete development of each individual. A perfect education would provide answers to all of society's issues, which would enable both qualitative and quantitative contributions to society. It is better to teach science and technology in conjunction with social justice and morals to provide education for holistic development in a more methodical and targeted manner. Students' pro-social activities are encouraged by it. Instilling the values, attitudes, and abilities necessary for coexisting peacefully with others and the environment is the goal of teaching science and technology in line with the sociocultural context. Instead of being viewed as perfect ideas, values should be seen as "empowering tools"[1] that can be used to address issues facing the modern world, such as environmental degradation brought on by exploitation, improper use of science and technology, inequality, gender bias, the negative effects of globalization, privatization, and so forth. Values like "tolerance of difference, mutual fulfilment, and cooperation which pursue harmony rather than control over environment" should be taught in schools. Numerous scientific education research initiatives have tried a variety of approaches to close this

meaningful learning gap (Millar et al., 2000). Innovative approaches to education placed a strong emphasis on the significance of principles like gender equality, justice, tolerance, respect for human life, and human rights. Only then will the next generation of citizens employ science and technology advancements to better humanity and lessen environmental harm.

Science and Technology: The scientific education community typically supports the teaching of science, technology, and society to individuals through science education curriculum (American association for the Advancement of Science, 1993; Bybee1993, National resources). Council (1996). Studying science, technology, and society together is thought of as socially relevant subjects that stimulate students' curiosity, critical thinking, problem-solving skills, and ability to make decisions in a democratic system. Students' failure to incorporate material into their regular thinking is the issue (Anderson & Helms, 2001; Hart, 2002; Osborne et al., 2003).

The primary drivers of societal advancement worldwide, as well as in industrialized nations, were science and technology. In the contemporary educational system, technology has taken center stage in order to achieve these levels of advancement. This technical research examines the conditions that have evolved and shaped the unique perspective that humans have about themselves—they experience bewilderment, despair, tension, and loneliness; they have about society—they see adultery and corruption; and they have about their surroundings—they experience over-exploitation. n. This process puts at risk the equilibrium between the natural and social systems, as well as between people and the environment. The ecology was not well served by this strategy either. Numerous scientific studies were prompted by the need to find solutions to these issues. Education in science and technology was intended to do more than only enhance living circumstances for people. While we currently struggle to meet the current problems posed by new technologies, it is obvious that science and technology will explode in the ensuing decades. New technology has caused several unresolved issues and irreparable environmental harm. So, it has a lot of positive and negative effects. Moral and ethical responsibility is linked to the application of science and technology in a more reasonable and compassionate manner. A positive outlook and education can only help people discern between the benefits and drawbacks of scientific and technical progress.

Social and Cultural aspect: Education has the power to transform society and effect the necessary change. Because science and technology are accorded the utmost emphasis, the majority of education today is skill-based. It has forced students to live at their own level in a difficult and perplexing competitive environment and to become future members of society at large. In the end, it is a reflection of society, complete with egotism, pointless rivalry, violence, corruption, etc. The identification of issues related to the fierce competitiveness of today's world is greatly aided by value-based education, which also fosters the growth of individuals and communities and fosters an atmosphere that fosters reciprocal advantages for sustainable development. It is now known to humanity that economic expansion and profitability by themselves are insufficient to raise living standards. For this reason, cultural awareness has been considerably increase now day. Recent educational initiatives have just taken the first steps toward reflecting sociocultural or elements of the environment. Growing worldwide markets have boosted interest in math, science, technology, and engineering. However, sociocultural issues were far more prevalent in the compared to the natural sciences. Previous research has demonstrated that encouraging attitudes toward science study are produced by science training that purposefully discusses socio-cultural perspectives about scientific ideas [2]. Therefore, interdisciplinary and multidisciplinary approach principles must be introduced in order to improvise education [3]. In order to create this form of education, it is critical to assess contemporary social and cultural factors that contribute to educational system improvement.

Culture: Our perception of the world is shaped by culture. It therefore possesses the ability to alter the course of life as we know it on Earth. That objective is still far off now. At the beginning of the twenty-first century, humanity faces a worldwide crisis characterized by growing poverty in our unequal world, environmental deterioration, and policy decisions made with little long-term vision. Culture is a vital

component in finding a solution to this dilemma; (Source: World Culture Report Preface, UNESCO Publishing, Paris, 1999). The definition of culture given by the World Commission on Culture and Development was “ways of living together.” and maintained that as a result, culture became a vital component of sustainable development. A key idea in education for sustainable development is culture. Because they are sociable animals, humans live in groups. Because of their harsh relationships with one another, humans nowadays are more scared of their own species than any other vicious animal. Nearly all of the serious risks to human and planetary survival are the result of human activity; therefore, we need to re-discover or create new norms and values to direct our actions toward sustainable development, which is the fulfillment of present human needs while safeguarding the environment for future generations through just and peaceful interactions between individuals and communities.

Learning Environment: Pancha Bhutas, or the five elements of air, water, fire, earth, and akash, are where life first began. The current issues of pollution and scarcity, which ultimately raise the question of human survival on the planet, are the result of the careless use of these components. Unknowingly or not, our traditional culture has accorded Pancha Bhutas the utmost respect and significance because our ancestors, who formed our culture and custom, are fully aware of the importance of these five elements to life’s existence. It is urgently necessary to address social concerns by educating pupils about the environment, its importance, and the need of protecting it. Environmental deterioration in the last century has been caused by over-exploitation of the environment, depletion of the ozone layer, global warming, pollution, deforestation, new technological choices, changes in lifestyles, etc. In order to live in harmony with nature, it is crucial to educate people about science, technology, and the interdependence of humans and the environment. The sustainability of the environment and the preservation of biodiversity are now essential for maintaining not only individual health but all life on Earth.

Teaching science and Technology education:

Experiments, information, and facts are integrated into science. Science subjects help students gain understanding of applicability and the capacity to think critically. Every scientific education subject needs to be explained in light of its social significance. The teacher should be able to pose the question, “What would be the applicable benefit out of this particular topic explained?” and help the students recognize how lives depend on one another for survival. As the most advanced species in the world, humans must understand the importance of cooperation and interdependence for existence [1]. This is only feasible if the person is trained to correctly interpret information at the student level. Teaching staff and educational institutions should collaborate with relevant special scientific and research institutions interested in solving social and cultural problems while carrying out their educational tasks. By disseminating and analyzing scientific and technological knowledge, cultural and educational institutions have significantly contributed to society.

Discussion: Students’ decision-making on what is most important for their happy lives and sustainable growth must be guided by their education. Education in science and technology is essential and must advance peaceful human coexistence. However, this education shouldn’t also have an adverse effect on the sociocultural characteristics or surroundings of a certain civilization. Because science and technology are influencing real education too much in the current system, the younger generation is trying to make ends meet without understanding what is important and necessary for a happy existence. In the present context, scientific and technological advancements are unquestionably important. Therefore, science and technology education is necessary to meet the growing demands of an expanding population and to make life easier and better for humans, but not at the expense of the basic necessities of future generations. We are currently on the verge of a natural resource shortage due to the unchecked use of technology, and we have already lost a significant amount of biodiversity.

We are all striving for something in this globalized and commercialized environment. We have forgotten our principles, morality, and values in this hectic world. Everything in our environment, society, and

interpersonal relationships is suffering as a result of this gap in the existing educational system. It is inappropriate to teach youngsters dos and don'ts in the name of culture and tradition. There are important and intentional customs in every culture and tradition. Try to convey the advantages and justifications for adhering to it; once we do, no other cross-cultural customs will be able to undermine it. Along with upbringing, children's minds need to be imbued with morals and values. Only then may the learner consider using what he has learned for better knowledge.

In order to shape society, parents and educators are crucial. The manner in which Parents' attitudes toward education need to alter. Nowadays, everyone believes that education is the key to a good career and high future wages. But education imparts wisdom and knowledge, which, while not doing significant harm to the environment or the natural world, can be used for both societal improvement and our own personal gain. It is a really positive step to include value education as a subject in the curriculum. It is the duty of educators to spread the word and instil these moral principles and values in children on a situational basis. When it reaches pupils in an efficient way, it will provide positive outcomes soon. But in order to achieve sustainability, people will need to be inspired by the most advanced research, the purest science and technology, and the most enlightened laws. Without values, none of these attributes will be able to move society toward sustainability.

Conclusion: Every citizen has the chance to gain knowledge—identifying what is prior important—skills—achieving the aim of prior important—attitudes—thinking about the betterment of society, ethics, and values—to lead a peaceful life—through value education. It encourages and equips students to make responsible decisions, which are necessary for thoughtful behaviour and excellent thinking in the context of sustainable development. In conclusion, humanity can only establish a harmonious world of sustainable happiness and prosperity by concerted effort.

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