A Neo – Tagorian Framework for AI In Education: Humanism and Socio-Economic Considerations

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***Abstract*—Tagore's philosophy is not an anachronism to be discarded, but a necessary ethical and pedagogical framework for dealing with the complexities of the digital age. Tagore viewed education as a means to the holistic development of the individual, emphasizing emotional, moral, artistic, and intellectual growth rather than mechanistic education. His approach was profoundly socio-economic, advocating self-reliant rural communities, cooperative learning, and equality in education. In the age of artificial intelligence and digital education, these ideals have new significance. This paper presents Tagore's key principles (child-cantered freedom, integration with nature and culture, experiential learning, artistic creativity, and opposition to mechanized schooling) in the context of contemporary artificial intelligence-driven and online learning trends. It will also consider Tagore's socio-economic ideas (rural self-reliance, cooperative economy, and concern for inequality) in light of today's concerns about the digital divide and automation.**

***Index Terms*—Tagore; Artificial Intelligence; Digital Divide; Holistic Development; Self-reliance**

I. INTRODUCTION:

In this era of ecological crisis, educational standardization, and the growing disconnect between learners and their natural, economic, and social environments, Rabindranath Tagore's educational philosophy offers a compelling alternative vision. His educational experiments at Santiniketan, founded in 1901, and Visva-Bharati University, founded in 1921, embodied a radical reimagining of the learning process. The rapid expansion of digital and Artificial Intelligence (AI) technologies is transforming education worldwide. Universities and schools are rapidly incorporating online platforms, adaptive software, and AI tutors, promising personalized / self-paced learning and widespread access. At the same time, these trends raise concerns that will "Education 4.0" preserve creativity and human values? Tagore rightly observed that "the highest education is that which does not merely impart information, but brings our lives into harmony with all existence". This statement reflects his belief that education should develop not only intellectual abilities but also a sense of deep interconnectedness with the natural world, cultural heritage, and humanity as a whole. His approach emphasized learner's freedom, organic growth through experience, the integration of art and nature, and global humanism. As Thriveni, Tagore "advocated the development of a free mind, free knowledge, and a free nation," and sought a curriculum that maintained "complete harmony between the individual's life and the outside world"[i]. Tagore articulated a philosophy centred on three cardinal principles those are nature as the fundamental context for learning, freedom as the essential condition for intellectual and creative development, and creativity as the vehicle for self-expression and holistic growth. This triad formed an integrated whole, with each element reinforcing and enriching the others.

The mechanization of education that Tagore condemned more than a century ago has been proven correct in many contexts, leading to exactly what he feared, as students cut off from their natural surroundings, deprived of creative expression, and subjected to an "educational factory" model that treats them as products rather than developing human beings. Against this backdrop, reconsidering Tagore's educational philosophy offers not only historical interest but also immediate contemporary relevance for reimagining education as a sustainable practice, sustainable not only in its environmental consciousness but also in its capacity to nurture the

entire human race, capable of creative, ethical, economic, social, and compassionate engagement with the world. Education, to Tagore, should cultivate not only intellect but also moral and economic uplift, preparing learners to contribute to their society. Tagore's initiatives suggest a concern for inclusive access and the dignity of manual labour.
Integrating historical and philosophical analysis with current educational research, this paper aims to clarify the synergies and tensions between Tagore's humanistic pedagogy and today's technological trends.

II. OBJECTIVES OF THE STUDY

- To explore the Tagorian educational system and their relevance in AI era
- To suggest the empirical application, practical implementation strategies for using AI to bridge educational disparities, ensuring inclusive and equitable access to quality education and socio-economic development.

III. SCOPE OF THE STUDY:

The scope of the study is broad and interdisciplinary, covering the pedagogical, ethical, operational, and societal dimensions of integrating Artificial Intelligence into educational systems.

IV. RESEARCH GAP:

There has been a lot of research on Tagore's education, but very few research has been done on his socio-economic background. This research attempts to address the need for empirical application, practical implementation strategies, and a comprehensive assessment of the socio-economic effects of integrating a humanistic, non-Western educational philosophy with advanced AI technologies.

V. LITERATURE REVIEWS:

Gitanjali (Tagore, 1913)[ii], is a seminal collection of devotional poems that presents a profound, universal message of spiritual realization achieved not through ascetic withdrawal, but through active engagement with the world, humility, selfless service, and surrender of the ego to a loving and omnipresent divine presence.

In My School (Tagore ,1917)[iii], he lamented that formal education "snatches away children from a world full of the mystery of God's handiwork" and "robs the child of his earth to teach him geography". Instead, he advocated learning through direct experience: climbing trees, tending farms, exploring art and music, and freely following the child's curiosity.

Raktakarabi (Red Oleanders) (Tagore, 1926) [iv], Raktakarabi is a symbolic and allegorical play that critiques the dehumanizing effects of industrialization, materialism, and totalitarian rule.

Joarder (2020)[v], The Business Standard revealed the Tagore's socio-economic thought informed his educational vision. He was deeply concerned with rural poverty and inequality under colonial rule. He believed that broad education was essential to social justice, writing that the "tower of misery" in India rested on "the absence of education". Tagore founded rural reconstruction institutes and even an agricultural cooperative bank to empower villagers. He emphasis on local languages, crafts, and cooperative work reflected a belief in self-reliant communities. Education, to Tagore, should cultivate not only intellect but also moral and economic uplift, preparing learners to contribute to their society. Tagore's initiatives suggest a concern for inclusive access and the dignity of manual labour.

VI. EDUCATION IN DIGITAL AGE AND TAGORE'S PHILOSOPHY:

Adaptive learning platforms and MOOCs are ideal mechanisms for self-paced, student-cantered learning, helping to realize the Tagore's ideals (education should enhance human freedom, joy, creativity, moral development embedded in cultural and ethical life). Immersive technologies (virtual reality, augmented reality, and mixed reality) can simulate field trips or laboratories, aligning with experiential learning principles. But ethical concerns remain that the promise of digital education must address issues of accessibility and bias. Tagore valued the teacher-student relationship and universality, which aligns with the centrality of human relationships even in online education (Saxena, 2024)[vi].

We should assess AI/digital education practices based on whether they conform to or violate these norms. For example, adaptive software that fosters curiosity would be a positive fit, while surveillance-driven classroom apps that suppress autonomy would be problematic.

UNESCO (2025)[vii] emphasizes a "human-cantered, rights-based" approach, ensuring that technology "strengthens learning opportunities for all, rather than leaving anyone behind." These sources emphasize that technology is a means, not an end. Educators must combine innovation with the values of equity, empathy, and context. But there is concern that the education policy and AI technology may exacerbate existing inequalities. Nearly one-third of humanity (approximately 2.6 billion people) will still lack internet access, creating a "digital divide" that reflects socio-economic and rural-urban gaps. In this new era, they warn, the divide risks becoming an “AI divide,” with marginalized groups (girls, rural people, the disabled) particularly left behind. Without strong safeguards on privacy, equity, and governance, AI-powered tools could undermine learners' rights. Educationally, critics argue that algorithmic education could become "mechanical," focused on quantitative outputs rather than holistic development.

Similarly, we interpret Tagore's socio-economic ethos of self-reliance, community, and justice as a lens to examine AI/digital tools whether the AI in education empower disadvantaged learners, or further marginalize them? This comparative analysis aims to be both philosophical (examining values) and practical (considering real-world digital trends and policies).

VII. ANALYSIS AND DISCUSSION

Freedom and Creativity Vs Mechanization

One of the core principles of Tagore was freedom, "All the potentialities of children should be fully developed in an atmosphere of freedom". He believed that learning flourishes when the mind is free to explore, play, and create. In modern terms, this echoes the constructivist idea of learner autonomy. AI-powered education can honor this principle by adopting platforms like SWAYAM, edX, Coursera, and more. It can adjust to each individual's pace and preferences, leading to "student-centered learning" where "learners determine their own progress" (The Scottish Centre of Tagore Studies, n.d.). Similarly, digital creativity tools (online art studios, music apps) echo Tagore's emphasis on creative expression.

Tagore's philosophy suggests caution in traditional education. For example, algorithmic curricula that prioritize test scores can push children onto narrow paths, stifling the "organic" education Tagore advocated. Tagore warned that imposing adult methods on children is like forcing a flower to "ripen" before its seeds are ripe (The Scottish Centre of Tagore Studies, n. d)[viii]. Ethical AI scholars highlight the risks such as bias, loss of agency, and surveillance in educational AI can undermine trust and creativity.

Tagore believed that teachers should be not just lecturers, but also guides and companions. The technology should be to "enhance the role of the teacher, but not to replace him as guide and mentor." Nowadays, many recommend AI as a complement to teachers, in keeping with Tagore's ideal of personalized guidance, where it can handle day-to-day tasks while teachers focus on guidance. If policies marginalize teachers (e.g., automated grading eliminates feedback), the human aspect of education risks being lost. Balancing AI assistance with strong teacher-student interactions reflects Tagore's emphasis on relationships. He saw learning as a symphony between the learner and the world (Thriveni, 2018)[ix].

Experiential Learning and Nature Vs Virtual Environments

Tagore's classrooms were held under trees, as he believed that children learn by interacting with the natural world through all their senses. This experiential learning led to an "intuitive knowledge" of nature rather than abstract facts. In contrast, digital education often takes place indoors, via screens. And the excessive screen time disconnects students from reality. UNESCO considers "infinite contact with nature" and service to the land essential for spiritual education an ethos that is completely at odds with virtual schooling.

Technology can simulate or extend experiences. Virtual reality can create immersive environments for science or history that evoke wonder similar to Tagore's emphasis on curiosity. A virtual reality field trip to a rainforest engages the spatial senses in a way that textbook learning cannot. AI can bridge this gap, such as sensor-equipped gardens or citizen-science apps can combine digital literacy with environmental

conservation. This resonates with Tagore's pedagogical commitment to nature and rural life. School project using AI-powered agricultural sensors could embody Tagore's vision of rural self-reliance (he advocated for tractors and agricultural research to improve village life) (The Business Standard, 2020)[x]. While digital tools offer new forms of experiential learning, they must be integrated with real environmentally-based activities to align with Tagore's naturalism.

Cultural and Global Dimensions:

Tagore considered education is not only national but also universal. He established Visva-Bharati as a "world meeting place" where learners from all backgrounds learnt together. He emphasized cultural diversity and tolerance, believing that interaction between cultures promotes empathy and peace. In the digital age, online platforms make global education more feasible than ever. Learners can participate in virtual international classes. This "democratic nature" of the Internet resonates in line with the concept of "Vasudhaiva Kutumbakam".

However, a potential tension lies between content and language in present but this may be resolved in future. If indigenous knowledge is marginalized, digital education may inadvertently erode the cultural foundation that Tagore valued. Nevertheless, technology can also preserve and share local culture, as digital archives of folk music, mobile apps teaching local languages, and online art platforms can elevate diverse voices. The challenge is to ensure that digital curricula will incorporate cultural context also. Digital designers must therefore balance global connectivity with local relevance, honoring Tagore's principle that "true education consists in realizing at every step how our training and knowledge have an organic relationship with our surroundings"(Thriveni, 2018) [xi].

VIII. SOCIO-ECONOMIC DIMENSIONS OF INEQUALITY AND TECHNOLOGICAL AUTOMATION:

Tagore's socio-economic vision focused on equality, rural and women empowerment, self-reliance, cooperative labour and harmonious development for all, and opposition to exploitative industrialization. He considered education as a means of economic emancipation for the poor and suggested to invest their resources in agricultural development. In Nationalism (1918) [xii], Tagore warned that "an automobile does not create freedom of movement, because it is a mere machine". On the other hand, Tagore himself was not anti-technology. He encouraged modern agricultural techniques for rural progress (The Business Standard, 2020) [xiii].

In the digital context, this suggests promoting cooperative models of education technology (open-source platforms, community internet projects) rather than profit-driven monopolies. His socio-economic concern for the marginalized invites us to evaluate AI-driven education. As one modern analysis warns, ethical digital pedagogy must explicitly address "socio-economic and geographical inequalities" to ensure that "all learners benefit, regardless of their background" (Goswami R. & Vyas 2022)[xiv].

Tagore favored cooperative banks to wrest control of agriculture from predatory money lenders. Tagore's economic ideology was rooted in rural self-reliance, cooperative labour, and moral development, and this vision profoundly shaped his approach to education. He believed that India's progress depended on empowering its villages through decentralized development, productive use of local resources, and dignified labor. This led him to integrate agriculture, crafts, and vocational training into educational life at Santiniketan and Sriniketan. Rejecting the exploitative tendencies of industrial capitalism, he promoted an education system that fostered creativity, freedom, community responsibility, and harmony with nature rather than producing mechanized workers for urban industries. By linking education to productive work, rural upliftment, and cooperative values, Tagore saw education as a means to build a humane and morally grounded economic system.

IX. CONCLUSION AND SUGGESTIONS:

Rabindranath Tagore's educational ideals of freedom, creativity, experiential harmony with nature, cultural inclusiveness, and ethical humanism remain relevant in this age of AI and digital education. He valued inner growth over material success. As digital credentials and metrics proliferate, educators should remember his ideal of “wealth of inner light” rather than facts and figures. This approach can reduce the rush to quantify learning outcomes and instead promote qualitative measures of development that value creativity and

emotional growth. His economic perspective, always optimistic and action oriented, has been centered on the formation of co-operative companies as a source of employment. He intended to expand these movements full of significance and excitement across rural India, and not only in metropolitan India. And socio-economic insights remind us that without equitable access, digital education will leave the poor behind.

AI tools should free to focus on mentorship and creative projects, rather than replace the teacher's guiding role. Digital curricula should incorporate local culture and outdoor learning, rather than confine children to screens. Importantly, policymakers and educators should need for a human-centered, rights-based approach, echoing Tagore's own humanism so that technology become a tool for inclusion, not a cause of division.

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