

# Transforming Education: Understanding How Social Innovation Makes a Difference in Education Sector

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**Abstract**— In the face of persistent educational challenges and the evolving demands of the 21st century, social innovation has emerged as a beacon of hope, offering a transformative approach to reimagine and reshape education systems. This paper delves into the concept of social innovation in the education sector, elucidating its defining characteristics, examining its profound benefits, and acknowledging the challenges it presents. Through a comprehensive review of existing literature, the paper showcases compelling case studies and examples of successful social innovations that have revolutionized educational landscapes. Education, the cornerstone of societal progress, faces persistent challenges in the 21st century. Social innovation emerges as a beacon of hope, offering a transformative approach to reshape education systems. Social innovation in education aims to address social needs, fosters collaborative partnerships, and prioritizes sustainability. It seeks to dismantle educational inequities and empower all learners to reach their full potential. The benefits of social innovation include enhanced learning outcomes, championed equity and inclusion, and preparation for the future. However, sustainability, scalability, measurement, and collaboration pose significant challenges. A growing body of research showcases successful social innovations that have revolutionized educational landscapes. Embracing social innovation can pave the way for a more equitable, effective, and future-ready education system.

**Keywords**—Social Innovation, Education, Sustainability, Societal progress

## INTRODUCTION:

Education is an opportunity where every individual revolves around the process of learning curve which dwells into the acquisition of knowledge, skills, values and beliefs. Most of us are involved in the array of education at some point of our life. To put it in a more explanatory manner, here is a famous statement made by Nelson Mandela, "Education is the most powerful weapon you can use to change the world". With the latest development of technology, the current education system might not sustain in the future. Consequently, in order to be effective, the system of education should be adaptable enough to combat the upcoming global challenges. The ability of motivated leaders to think critically and advance humanity is essential for the future of education. The world needs 'creative problem solvers' and not just 'fact learners'. The system where open education and e-learning prevails needs a paradigm shift in its approach. In 2015, the World Economic Forum published a report that focused on the pressing issue of the current century's skills gap and ways to address it through technology (New Vision for Education: Unlocking the Potential of Technology). The report indicates a set of 16 crucial proficiencies for education in the 21st century. These abilities include ten talents that were designated as either "competencies" or "character qualities," as well as six "foundational literacies," such as literacy, numeracy, and scientific literacy. Competencies are the

means by which students solve complex challenges; they include collaboration, communication, critical thinking and problem solving. Character qualities are the ways in which students approach their changing environment; they include curiosity, adaptability, social and cultural awareness, resilience as individual stakeholders need to provide solutions to remove the skill gap- we need a holistic approach and a platform to engage and involve various leaders, practical policymakers and innovators to take care of various global innovations in the education system. Future of education lies in us being sensitive to our surroundings and collaborating our approach along with technology and e-Learning, and international learning for skill development aligning with this thought process; we always design processes to be more sensitive to our surroundings to bring that paradigm shift for future education in India. We have introduced international exposure to students and faculty exchange programs with Oxford Business College and also catering to the skill needs of the corporate and to incorporate digitalisation happening in India we introduce business analytics, digital marketing media and entertainment corporate communication. Foreign language is an additional module to be thought of for the youth of the nation in developing their skills preparing them for global requirements for innovative and creative leaders. Growing interest for education that helps children and young people develop psychosocial competencies in addition to literacy and numeracy skills, is well documented. Education helps young people develop critical thinking and problem-

solving skills, builds their sense of personal worth, and teaches them with others gainfully and efficiently, which focuses on the transformative potential in students. Life skills are a large group of psychosocial and interpersonal skills which can help people to make informed decisions, communicate effectively and develop coping and self-management skills which may eventually help an individual to lead a healthy and productive life. We have seen an increase in the number of schools going children suffering from depression, stress and anxiety, depression is one of the most common yet under-identified health glitch at childhood and adolescence. Left unidentified and untreated, depression can have a pervasive long-term impact on social, personal and academic performance. When school personnel know how to identify and intervene with the depressed children, they can provide them with opportunities for effective support. Depression is not easily recognized. Usually, it is mistaken with other issues such as lack of motivation. Although severe depression symptoms might be displayed such as suicide attempts, severe withdrawal, or emotional swings, majority of cases are much milder and do not attract attention from adults. Having strategies to cope with difficult situations and negative feelings are important life skills for everyone. One of the coping methods is resilience. It is often said that resilience is the ability to recover from adversity. The World Health Organization defines life skill as the ability for adaptive and positive behaviour that enables humans to deal effectively with the demands and challenges of everyday life. Building resilience really comes through the development of social and emotional skills which include coping skills. These are the same skills that will help children deal with stress, so it follows that building resilience will really help kids deal with stress.

Social innovation in education is the development and implementation of new ideas, practices, and models that address social needs and improve educational outcomes. It encompasses diverse initiatives, from grassroots projects to large-scale systemic reforms.

## **BACKGROUND:**

Social innovation is the creation and application of innovative concepts and procedures that tackle difficult societal issues and it helps in advancement of societal needs. To bring about a meaningful change both inside and beyond the institution, a variety of factors such as staff, academics, administrators, students, and external stakeholders have to collaborate. Universities and the educational institutions are majorly recognizing their responsibility in order to contribute in solving the most trivial issues such as poverty, inequality and

global health which in turn brings out an edge on the growing awareness of the challenges that are taking place in society. When the students are more in number and they want to have a transformative and socially responsible education which will help them to be active citizens and they can do something in return to serve for the betterment of the society.

Social innovation can be manifested in various ways such as curriculum transformation which involves creation of new courses that focuses on social change by incorporating social innovation ideas and practices into current curriculum, and providing chances for experiential learning like social entrepreneurship internships and service-learning. When community-university collaborations take place, it involves working together with non-governmental organisations, stakeholders, and local communities to jointly develop solutions for local problems to meet the needs of the community. To give rise to partnership programmes, creating alliances between corporations, academic institutions, and governmental organisations to pool resources which will help to expertise for the upliftment of the society. Technological innovations can be more defined using big data, social media, and online platforms to support social innovation efforts, knowledge sharing, and teamwork.

## **Motivation**

We worked as the volunteers for this ATL First Activity Organized by Dronacharya Group of Institutions, Greater Noida with our HOD, Dr. Ritu Soryan where we got inspired to write this research paper as it was an initiative carried out by our Prime Minister Shri. Narendra Modi that aimed to spark innovation and critical thinking among the student community. The session was meticulously crafted to instil a profound sense of curiosity and fervour for learning among the participants which was the ultimate aim of our paper which focuses on the Social Innovation in the Education Sector.

## **How Social Innovation is useful in the field of Education:**

Social innovation promotes inclusivity by addressing the diverse needs of learners. Innovations such as personalised learning platforms and flexible curriculum accommodate varying learning styles, ensuring that education becomes more accessible to a wider range of students. Inclusive practices contribute to breaking down barriers and fostering equal opportunities for all. It encourages the development of cooperative learning environments; this interconnected approach not only enhances the educational experience but also prepares students for the collaborative nature of the modern workforce. Understanding how social innovation

makes a difference in the education sector requires a holistic perspective on its various dimensions. From fostering inclusivity to promoting collaborative learning environments, addressing socioeconomic disparities, and enhancing teacher and teaching practices, social innovation plays a pivotal role in shaping the future of education. Embracing and supporting these innovations can lead to a more equitable, adaptable, and effective education system that prepares individuals for success in the 21st century.

Social innovation in earlier classes involves creative and impactful approaches to address the unique challenges and opportunities in early childhood education.

Social innovation in later education refers to novel and impactful solutions to address social issues and improve educational outcomes for students. These innovations can involve new approaches to teaching and learning, curriculum development, school organisation, technology integration, and community engagement.

#### **OBJECTIVE: -**

The key objectives of social innovation in education sector can be: -

- Improve learning outcomes.
- Enhance student engagement, critical thinking, problem-solving, and collaboration skills.
- Bridge the educational gap for disadvantaged students and provide equal access to quality education.
- Tackle challenges like poverty, inequality, discrimination, and environmental degradation.
- Develop social and emotional learning.
- Equip students with self-awareness, social awareness, relationship skills, and responsible decision-making abilities.
- Cultivate skills and competencies needed for success in a rapidly changing world.

Examples of social innovations that can be found in the education sector: -

#### **1. Personalised learning catering to individual students:**

Technology is used to personalise learning pathways based on individual students. It is a powerful approach to education that tailors learning experiences to the individual needs and interests of each student.

#### **2. Play based learning initiatives:**

Designing play areas that encourage exploration, social interaction, creativity and fostering holistic development in young children. Introducing educational toys and games that stimulate analytical, social, and motor skill development.

#### **3. Social emotional learning (SEL) Programs:**

Social Emotional Learning (SEL) programs are educational initiatives designed to foster the development of social and emotional skills in students. These programs recognize the importance of not only academic achievement but also the cultivation of essential life skills that contribute to well-rounded individuals.

#### **4. Green Initiatives:**

Green initiatives represent a commitment to sustainable practices, environmental awareness, and the integration of ecological principles into educational processes.

#### **5. Providing quality education by promoting equity and inclusion:**

The institutions should provide quality education regardless of the socioeconomic status, background, or learning differences which will eventually foster equity and the students will have a feeling of inclusion.

#### **6. Combining the Online and Offline mode of learning:**

When the Online and Offline modes of learning go hand in hand, it will offer more flexible learning pathways for children and will cater to their diverse needs.

#### **7. Project - Based Learning:**

In Project Based Learning, the children are more exposed to the real-life objects which will engage them in authentic projects that addresses the real life/real world challenges which will help the children to foster the collaboration during inter school competitions wherein they can showcase their communication skills that comes in from the way they are more it the critical thinking aspects.

#### **8. Community - Based Learning:**

In Community Based Learning, the children are more exposed to connect with the local communities which will allow them to apply the knowledge that they have grasped along with the required skill set that has been taught to them to foster the local needs, this will enhance their sense of social responsibility.

Impacts of social innovation in education: -

- Increased student motivation and engagement.
- Improved academic achievement and learning outcomes.
- Development of essential life skills and competencies.
- Reduced inequalities and increased access to quality education.
- More responsive and adaptive education systems.
- Stronger connections between schools and communities.

Social innovation helps in providing personalised learning experiences, engaging students in active learning, and promoting critical thinking and problem-solving skills, making quality education accessible to marginalised communities, reducing disparities in educational attainment, and promoting inclusive learning environments and further fostering environmental awareness, equipping learners with the skills needed to address global challenges, and contributing to the development of sustainable communities.

Challenges that can arise in implementing social innovation:

- **Lack of Funding and Resources:** One of the foremost hurdles is the insufficient funding and resources allocated to support innovative initiatives in secondary education. Adequate financial backing is crucial for the development and sustained implementation of educational practices.
- **Resistance to Change from Educators and Stakeholders:** The successful integration of social innovation requires fostering a culture that embraces the positive impact of change on educational outcomes. Educators who are conservative or prefer traditional methods of teachings can prove to be of some resistance in making changes in education sectors.
- **Difficulty in Measuring the Impact of Innovative Practices:** The inherent difficulty in quantifying and assessing the impact of innovative educational practices creates a barrier to their widespread acceptance.
- **Scaling Up Successful Innovations to a Broader Context:** Issues such as adaptation to diverse environments, ensuring inclusivity, and maintaining effectiveness at large scale need to be carefully navigated to achieve widespread impact.

Tackling these challenges necessitates collaborative efforts from policymakers, educators, and stakeholders, along with a commitment to fostering an environment that encourages and supports social innovation in secondary education.

## STATEMENT OF CONTRIBUTION

One of the leading examples of social innovation in the sector of education is the Atal Tinkering Labs (ATL) initiative, a cornerstone of the Atal Innovation Mission (AIM), launched by the NITI Aayog (National Institution for Transforming India) in India, to nurture an innovative mindset amongst high school students across the nation of India.

AIM under NITI Aayog is envisaged as an innovation organisation that would play an instrumental role in the alignment of innovation policies between central, state and sectoral ministries, by incentivizing the promotion of an ecosystem of innovation and entrepreneurship at various levels – higher secondary schools, higher education and research institutions, and SME/MSME industry, corporate, and government ministerial level, by a public-private partnership.

The components of the Atal Innovation Mission are:

- Atal Tinkering Labs
- Atal Incubation Centres
- Atal New India Challenge
- Mentor of Change Program
- Atal Community Innovation Centres
- Atal Research & Innovation for Small Enterprises (ARISE)

ATLs have been established in schools across India with a vision to ‘Cultivate one Million children in India as Neoteric Innovators’. This program aims to create a design mentality, computational thinking, adaptive learning, physical computing, and other design-related abilities in young brains which will also encourage curiosity, creativity, and imagination. ATLs are based on the idea that giving prizes and offering incentives to school-age children is a terrific way to start a wave of aggressive invention and entrepreneurship.

ATL is a workspace where young minds can give shape to their ideas through hands-on do-it-yourself mode; and learn innovation skills. To help them grasp the ideas of STEM (Science, Technology, Engineering, and Math), young children will have the opportunity to engage with tools and equipment. Science, electronics, robotics, open-source microcontroller boards, sensors, 3D printers, computers, and other DIY kits and equipment will all be available in ATL.

Video conferencing capabilities and meeting rooms are two more appealing amenities.

In order to foster inventiveness among students, ATL can conduct different activities ranging from regional and national level competitions, exhibitions, workshops on problem solving, designing and fabrication of products, lecture series etc.

#### **Objectives of the ATL programme: -**

The objectives of Atal Tinkering Labs (ATLs) align with a visionary mission to cultivate a culture of innovation and entrepreneurship within the educational landscape. By providing a dedicated space for hands-on learning, these labs aim to bridge the gap between theoretical knowledge and practical application, fostering a deeper understanding of STEM subjects. The mentorship and guidance offered in ATLs contribute to the holistic development of students, nurturing their creative thinking and problem-solving skills. Furthermore, ATLs serve as catalysts for instilling an entrepreneurial mindset, empowering students to conceptualise, prototype, and implement innovative solutions. The integration of modern technologies and tools in ATLs ensures that students are exposed to cutting-edge resources, preparing them for the demands of a rapidly evolving technological landscape. Through community engagement and partnerships with industries, ATLs extend their impact beyond the classroom, encouraging students to address real-world challenges and contribute to societal progress. Collectively, the objectives of ATLs, as part of the Atal Innovation Mission, underscore a commitment to shaping a future generation of innovators, equipped with the skills and mindset needed to thrive in a global landscape driven by creativity and technological advancement.

- To create workspaces where young minds can learn innovation skills, sculpt ideas through hands-on activities, promoting experiential learning through hands-on projects and activities, allowing students to apply theoretical knowledge to practical problem-solving and to work and learn in a flexible environment.
- Emphasising science, technology, engineering, and mathematics education to prepare students for careers in these fields and contribute to the growth of a STEM-driven economy.
- To empower our youth with the 21 century skills of creativity, innovation, critical thinking, design thinking, social and cross-cultural collaboration, ethical leadership and so on.

- To nurture an entrepreneurial mindset by providing students with the opportunity to ideate, prototype, and develop innovative solutions, thereby fostering an ecosystem of young entrepreneurs.
- To help build innovative solutions for India's unique problems and thereby support India's efforts to grow as a knowledge economy.

#### **Features of ATLs: -**

- ATL's are workspaces where children can realise their ideas through hands-on do-it-yourself mode and also acquire innovation skills.
- Students get the chance to learn and understand STEM (Science, Technology, Engineering, and Math) concepts.
- The labs contain educational kits and equipment on electronics, science, robotics, sensors, 3D printers, computers, and open-source microcontroller boards.
- The labs also have other facilities, such as video conferencing and meeting rooms.
- There are also activities such as national and regional level competitions, problem-solving workshops, exhibitions, designing and fabrication of products, lectures, and so on.
- The financial support for ATLs would be given by the AIM. Each school with an ATL will be given Rs. 20 Lakh (includes a one-time Rs. 10 Lakh for establishment + operational expenses of Rs. 10 Lakh for a maximum of 5 years).

Atal Tinkering Labs (ATLs) serve as dynamic hubs within schools, encapsulating a comprehensive approach to foster innovation and creativity among students. With a primary focus on STEM education, these labs provide not only well-equipped physical spaces but also opportunities for experiential learning, mentorship, and exposure to modern technologies. The integration with the school curriculum ensures a seamless connection between theoretical knowledge and practical application, while the emphasis on entrepreneurship development empowers students to become innovative problem solvers. As open and inclusive environments, ATLs aim to engage students across various grades, encouraging collaboration, community engagement, and partnerships with industries.

#### **RESULTS:**

Achievements of the ATL program: -

- As of October 2023, nearly 5000 Atal Tinkering Labs have been established in 660 districts in India, providing access to over 2.5 million kids.
- More than 10,000 mentors have signed up, with at least half of them having direct experience with ATLS and startups.
- On April 9, 2021, the Council of Scientific and Industrial Research (CSIR) decided to adopt 295 Atal Tinkering Labs (ATLS) across the country, with an objective to inculcate scientific research and innovation culture among students. Top research scholars and scientists at CSIR will mentor students at these ATLS and act as resource persons.
- On January 11, 2021, the Indian Space Research Organisation (ISRO) has decided to adopt 100 Atal Tinkering Labs with an aim to promote education in the field of science, technology, engineering and mathematics (STEM), space education, and space technology-related innovations for school students.
- The Department of Space (DOS), Atal Innovation Mission and NITI Aayog will adopt 45 Atal Tinkering Labs in the first phase and then 55 others will be adopted by ISRO.
- On 20th and 25th of November 2023, Dronacharya Group of Institutions, Greater Noida, hosted inaugural Atal Tinkering Lab (ATL) events at Government Inter College Nandgram, Ghaziabad and at B.D.R.D.S.V.M. Inter College, Gautam Budh Nagar, respectively. Dr. Ritu Soryan, the respected Dean of Students Welfare at DGI, played a pivotal role as the speaker at the event.

## CONCLUSION:

The integration of social innovation within the education sector represents a transformative approach to preparing students for the challenges of the 21st century. Social innovation in education, marked by its emphasis on inclusivity, community engagement, and practical problem-solving, seeks to redefine the traditional boundaries of learning. At the forefront of this movement are initiatives like Atal Tinkering Labs (ATLS), which epitomise the synergy between innovation, education, and societal impact. ATLS stand as beacons of social innovation, providing students with dynamic spaces to explore, experiment, and create. These labs transcend the conventional classroom model by fostering an inclusive learning environment that embraces students from various grades and backgrounds. As hubs of creativity, ATLS not only equip students with cutting-edge technologies and tools but also instil an entrepreneurial mindset that encourages them to address real-world challenges.

In essence, social innovation in education goes beyond traditional boundaries, emphasising the integration of technology, community involvement, and entrepreneurial thinking. It strives to make education a dynamic force for positive change, preparing students not only with academic knowledge but also with the creativity and adaptability required to thrive in the complexities of the current fast-moving world. As we continue to explore and embrace social innovation in education, we pave the way for a future where learning is not just a means to acquire knowledge but a catalyst for societal progress and empowerment.

## DISCUSSION

Social Innovation drives many multinational corporations to invest their time and resources to shift their model or the business practice to bottom-up approach rather than following the top-down model, this strategic shift towards a more sustainable environment which will include socially driven business practices and the same has been carried out by many corporates such as Unilever, Puma, Ikea, P&G, IBM, Vodafone. Nearly 25 companies carry out corporate social innovation. One of the cases that we would like to discuss here is the HP's Strategy of Social Innovation in Education. The trends and challenges present the opportunities for using the technology as HP is among one of the known corporations known for making life better by reinventing themselves along with its technologies and what it holds for tomorrow. The actual meaning of Social Innovation and innovation itself is reinventing the ideas that have already been created and now it requires the implementation. To respond to the opportunities that have been identified it requires a collaboration between the system of education, educators and other stakeholders. As the largest IT firm, HP has uniquely positioned itself to be an impetus for its leading efforts to transform education. HP's core principles which align to the commitment to its people and communities still resonate today. HP's Open Grid Services Infrastructure is basically a model that calls in for the linking of the machines across the corporate institutions and the geographical boundaries that provide the users to combine the power of computing, databases and other tools. It focuses its work on 3 main areas that are strategic to the business of HP. The 3 main areas are the health sector, education and community.

### Community

In India HP has collaborated with the Self-Employed Women's Association (SEWA) to provide ICT training to its members. The result of this initiative is that nearly 9,000 employees have completed the ICT training program, which brings in a tremendous achievement of 30 percent of trainees

going to start their own business and increase their income.

### Education

HP wants to revolutionise education by using cutting-edge technology to teach and learn through the uses of innovative techniques. The two areas of attention that have been selected and supported by HP OGSi are entrepreneurial education and innovation in education through its three flagship initiatives—the HP Catalyst Initiative, the HP EdTech Innovators Award, and the HP Learning Initiative for Entrepreneurs. HP collaborates with partners all around the world to support educators and organisations in reimagining the learning experiences—both within and outside the traditional classroom settings by utilising technology in creative ways which will eventually boost the achievements and the learning curve of the students. HP places a strong role in STEM education which is an effort to develop the next wave of workers and high-tech entrepreneurs.

### Impact

By carrying out the social innovation strategy, the initiative programs have already started increasing online access by making mobile devices readily available to the students and the teachers. In nutshell HP is exploring more ambitious applications of technologies to transform education. These efforts emphasise the unleashing human creativity and design thinking with the aim of facilitating greater collaboration between the educators by dedicating to the rethinking not only of the act of practice the teaching methodologies but the role of education in driving social innovation

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