



# **A Policy Guidelines And Recommendations On Introduction Of Artificial Intelligence In School Education: A Meta Synthesis Study**

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## **ABSTRACT**

This study is based on the backdrop of a very elaborative and in-depth analysis of a policies document released by various prominent national and international which highlighted the various needful aspects of introduction and integration of Artificial Education at school level. The report has highlighted the potential, problems and futuristic goals related to implementation of artificial intelligence. Policy Guideline runs across on the recommendation of UNICEF which talks about 'Child-Centredness' and Sustainable Development Goals (SDGs). It further talks about the risks and threats related to 'Discrimination and Exclusion' related to accessibility of Artificial Intelligence. It also addresses the concerns like- 'Data Protection', 'Privacy Rights', 'Digital Divide' in elaborative manner. Issues like- Gender Equity in usage of AI has also been at the core of this paper. The momentum of National Strategy for Artificial Intelligence is being discussed through this paper. India's workforce re-skilling and understanding 'machine learning' helps in promoting the spirit of 'Digital India'.

**Key Words:** Child-Centredness, SDGS, Discrimination and Exclusion, Data Protection, Privacy Rights, Digital Divide, Machine Learning, 'Digital India.'

## Introduction

The Evolution of Artificial Intelligence has gained huge momentum in past 3 years and has spread its wings in almost every sector and influence our everyday decision-making capacity. Its influence in educational cannot be ignored as it gives new shapes and meaning to student's perception and minds. The Current Educational Landscape in India shows that around 66% of the school lacks basic internet connection and highly lag behind in current required educational infrastructure. There has been a need to update and upgrade curriculum in order to give space for everyday innovation and creativity by utilizing the AI. But we cannot sideline the problems which every novel policy or idea faces in the beginning that's is" Prepared-ness'. Preparation in terms of infrastructure, training of the human resources in this case Educators. Integration of AI in education has given benefits in many folds i.e. ranging from personalized learning experiences to support diverse learning needs, to enhancing educational outcomes.

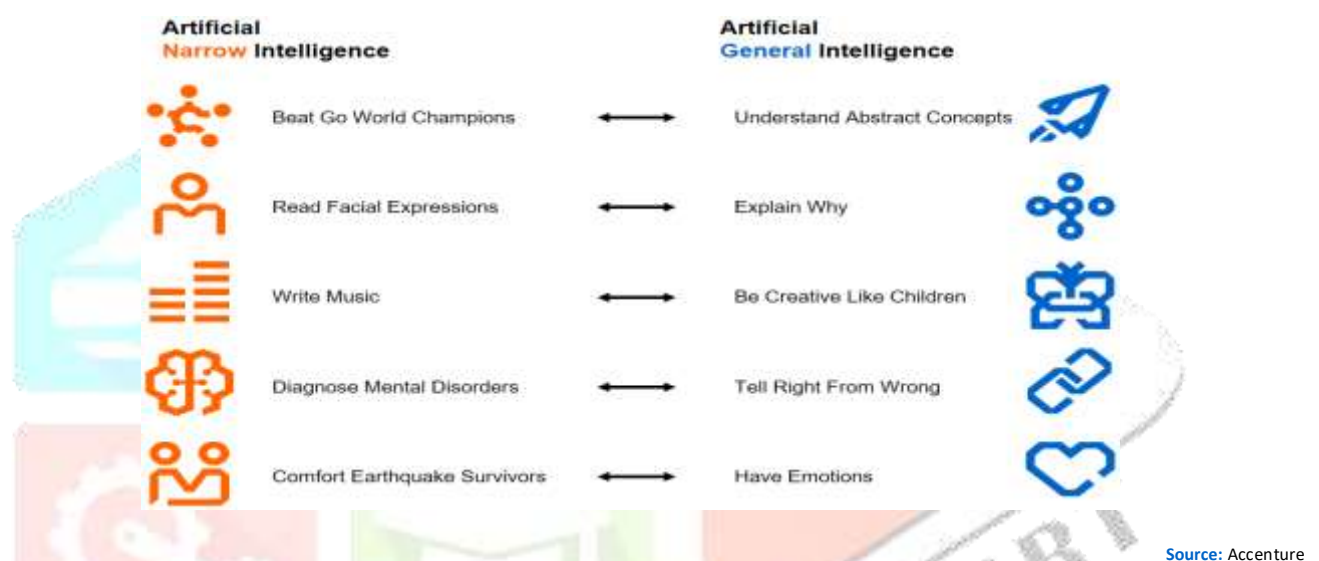


Figure: Artificial Narrow Intelligence vs. Artificial General Intelligence

In the above depicted Figure, it is showing how the AI has also updated itself every day in order to upscale the task it can tackle every day. Artificial Narrow Intelligence on one hand can work important aspects like- Diagnose Mental Disorders to write musical notes while on the other hand has been to developed to such an extent that it can actually feel emotions and be creative like children. But as it involves school students the responsibility of organization and all the stakeholders become more because of issues like-Data Protection, Privacy Rights etc.

## Theoretical Framework

**NITI Aayog (2018)**, in its report highlighted the Artificial Intelligence is bound to be a disruptive force which can cause imbalance and chaos if not properly handled and utilized. With the machine leaning perception can act as supplement of human perception. **Future Networks (FN) Division, (2020)**, in its report highlighted thar AI helps in the simulation of human cognitive capabilities that can replicate human intelligence. The machine the exhibits traits like-problem solving or simply learning which can demonstrate the natural intelligence like-humans. The training of humans can create such effects on

machine on massive level. **UNESCO (2021)**, in its report advocated 'Education for all 20230' published in Paris talks about SDGs that is sustainable goals which helps in achieving education equity ad parity. Also, addressing Gender Inequality at large helps in creating a level-playing filed for all the students irrespective of any gender in every nation or society. **UNICEF (2021)** in its report largely focuses on the Artificial Intelligence changing basic structure of the world. With emergence of various technology and its introduction in children's world has created many virtual things like-gaming, adaptive learning software, chatbot and adaptive algorithm which can actually proved to be like an assistant to the learning of a child. But we cannot ignore the impact of the 'Digital Divide' it has created as any technological development has not same accessibility and affordability.

## Objective

1. To explore the significance of integration of AI i.e. Artificial Intelligence in promoting the Child-Centredness, SDGs in the education sector.
2. To study the various policy related research in the area of AI with the Data Protection, Privacy Rights and Digital Divide in Education Sector.
3. To identify the research gap for further developments in the Artificial Intelligence as a tool for machine learning.

## Research Methodology

**Meta-Synthesis Study analysis is adopted as a method for analysis** which helps in providing intensive analysis and helps in analysis of various documents in depth.

**Analysis and Discussion** - Reports and Research Papers taken in meta analysis.

Year of Publication	Author/Organization	Title	Country of Publication	Type / Methodology
2018	NITI Aayog	National Strategy for Artificial Intelligence	India	Research Report
2020	Future Networks (FN) Division, Telecommunication Engineering Center	Artificial Intelligence (AI) Policies in India- A Status Paper	New Delhi	Review Paper
2021	UNESCO	Policy guidance on AI for children	Finland	Research Report
2021	UNICEF	AI and education: Promise and implications	France	Research Report
2023	U.S. Department of Education, Office of Educational Technology	Artificial Intelligence and the Future of Teaching and Learning Insights and Recommendations	United States	Research Paper
2023	Cecilia Ka Yuk Chan	A comprehensive AI policy education framework for university teaching and learning	China	Research Article
	Ministry of	India's AI	India	Review Paper Research

2025	Electronics and Information Technology	Revolution A Roadmap to Viksit Bharat		Paper
2025	International Journal of Interactive Multimedia and Artificial Intelligence	Analysis of Artificial Intelligence Policies for Higher Education in Europe	European Union	Research Report
2025	Centre for Internet and Digital Economy	AI in School Education: Towards a Preparedness Framework	ICRIER Prosus	
2025	Renz Alvin Gabay Aaron A. Funa	Policy guidelines and recommendations on AI use in teaching and learning: A meta-synthesis study	Social Sciences and Humanities Open	Research Paper

### The Educational Evolution Evolution of AI

The Introduction of AI in educational has been introduced through since the 1968 movie “2001: A Space Odyssey,” which had highlighted both its advantages and disadvantages. AI has shown its true evolution in which it has enhanced the learning process but alongside highlighted that how machine learning can cause potential threats.



## **Current State of AI in School Education**

AI tools have opened new teaching methods which can help in personalised education. With the emergence of AI chatbots there's has been a debatable issue emerged in the education sector especially at school level. Various educational institutions are working towards crating a space for AI integration which can foster critical thinking and creativity.

## **AI Policy Frameworks in Global Context**

Many International Organisations are working towards creating a ethical environment for AI usage. Organisations like- UNESCO, European Commission, UNICEF has time and then expanded its research and released various reports after in-depth study and analysis. They have issued various guidelines for proper usage of AI. They have organised various convention for the same.

## **Influence of AI on the Learning Goals**

All the AI Models should align with the with curriculum and vice-versa so that a new efficient system can be developed. AI helps in enhancing Teaching-Learning system and improves the balance between man and machine through improved decision-making capacity. With the increase in machine learning sometimes humanitarian aspects are ignored, so, we need to develop a system which can give space to human and their emotions. With its integration at school level, it can help in increasing academic outcomes through personalised learning.

## **Challenges associated with AI in Education**

### **AI and Sustainable Development Goals**

With the implementation of SDGs across the globe, it's been a challenge to maintain all the reforms of the education sector suggested by the Universal Declaration. The Education mentioned in Goal 4 which talks about the equity and equality of the of the education as public good.

### **Disparity and Equity: Risks with AI**

Addressing the issue of discrimination has been a core of any policy implementation and in the case of AI policies and implementation it's been a major problem because it needs a certain infrastructure which is capital-intensive and there's been risk of disparity at large. The ga between have and have-nots have been increasing in this context.

### **The Great Digital Divide**

The Digital Divide has been highlighted a lot especially in the Indian Context as various missions have been introduced such as "Digital India", which helps in curbing this gap. The issues related to Digital

Divide which act as a hindrance in successful integration of AI at the grassroot level making latest technologies like—AI/AR quite mainstream.

### Data Protection and Privacy Rights

School Students needs to understand tat while using AI seems quite a lucrative option, it can cause problems reacted to protecting of the personal data and even their Intellectual Property Rights. They need to be taught a lot of methide and techniques to protect themselves from cyber-threats and online bullying. Recently, emerged threat like- deep fakes leads to a lot of anxiety among children.

### Gender Equality in AI context

The Gender Equality has been addressed through suitable measure adopted in implementation in AI properly. But for this its need transparency and accountability. Different national missions like- India's National AI Strategy and initiatives like- AIforAll National Strategy for Artificial Intelligence and Global Education 2030 Agenda helps in achieving the same.

### Way Forward

There's need to take an informed approach while putting across suggestions for the better implementation and integration of Artificial Intelligence in school educational scenario:

- Teachers needs to focus on develop basic skills among students which can helps in usage of AI tools judiciously.
- Theirs's need to act as a bridge between digital citizens of today's era (students) and the digital migrants (teachers).
- Accessibly and Affordability of latest AI technologies is of utmost importance.
- Digital Ethics need to be properly taught among students in order to tackle issues like-Data Privacy and Data Protection.
- Inclusive approach needs to be adopted in order to foster equity and equality.
- R & D Development cannot be ignored and should find out various ways to build trust between man and machines
- Designing of Modern Leaning principles is need of the hour which has become very alarming.
- Throughout focusing on AI, we cannot ignore the humanitarian aspects of the education i.e. keeping humans in the loop.
- Creating an internet a safe place for the students by introducing strict laws related to Deepfakes, Data Privacy, Intellectual Property Rights.
- A Robust Infrastructure needs to be created for the smooth functioning of the Digital Infrastructure across the nation.

## Conclusion

At last, we can say that Government and Business stakeholders needs to meet at the centre in order promote child-centredness. AI system needs to focus on development of students' overall development. Additionally, they AI should design diverse learning material for ensuring personalised learning experience. Further, the process of meta-synthesis helps in deriving many key themes at last like, Enhanced Teaching tools, Students and Teachers Professional Development, utilized Administrative Processes, Creating AI literacy programmes and many others. The Professional Development of Educators is equally important as it provides smooth integration of AI into teaching and Learning. Efficient administrative also required for the successful implementation of any policy at large. The transparency is the quite important and hence should be effective in nature. The Inclusivity and equity provide and a fair and transparent systems for designing and implementing the diverse supportive tools and reduce educational disparities. Also, policy needs to designed and structured in such a way that it should be non-discriminatory in nature and all stakeholders has to take accountability of the actions which must be transparent in nature. Hence a self-reliance clear vision related to AI-driven solutions can shape the true essence of education in years to come which can be prove to be blessing in true essence.

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