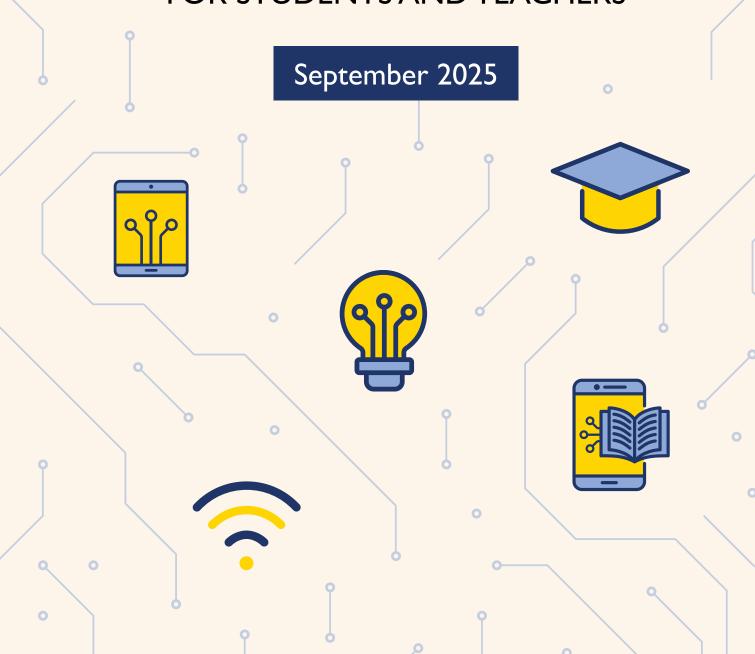






AI LITERACY CURRICULUM FRAMEWORK FOR STUDENTS AND TEACHERS





Acki	nowled	gements	2
Mes	sages fi	rom Ecosystem Leaders	3
1	Over	view of the AI Samarth Initiative	6
	1.1	Context	6
	1.2	AI Samarth - Approach and Vision	8
2	Desig	gn Process of the AI Literacy Curriculum Framework	11
	2.1	School Immersions	11
	2.2	Curriculum Landscaping	11
	2.3	Defining AI Literacy for Bharat	12
	2.4	Developing Guiding Principles	12
	2.5	Establishing Learning Outcomes	13
	2.6	Review by K-12 teachers	14
3	AI Lit	teracy Curriculum Framework for Students	15
	3.1	Curriculum Pillars	15
	3.2	Curriculum Topics, Subtopics and Learning Outcomes	16
4	AI Lit	teracy Curriculum Framework for Teachers	20
	4.1 C	urriculum Pillars	20
	4.2 C	urriculum Topics, sub-topics and learning outcomes	22
	4.3 Te	eacher capacity building for cascading AI Literacy	25
5	Guid	ance on using AI Samarth's AI Literacy Curriculum Framework	27
6	Conc	lusion	28
7	Bibli	ography	29

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^{*}Updated from the AI Literacy Curriculum Framework for Students (May 2025)

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Through the curriculum development journey, many colleagues at Central Square Foundation (CSF) have provided their valuable time and suggestions, notably, Bhanu Potta, Noopur Abhishek, and Srijita Gupta, who led the design and development of AI Samarth's AI Literacy Curriculum Framework. We extend our heartfelt gratitude to all of them.

We hope this handbook will help stakeholders adopt and adapt the AI Samarth AI Literacy Curriculum Framework for Students and Teachers, which provides a robust, scalable, and flexible framework for embedding AI literacy within India's school system.

In deep gratitude, Central Square Foundation

Messages from Ecosystem Leaders



Preparing young minds for the future means preparing them for a world shaped by Artificial Intelligence. As AI rapidly redefines industries, communication and decision-making, our education systems must respond with urgency and intent. It's not enough for students and teachers to simply use AI, they must understand how it works, reflect on its implications and engage with it responsibly.

Today, even in India's most remote corners, children interact with AI-powered tools, often without realising it. This creates

an urgent need to build foundational AI literacy across all levels of learning. Not as a niche subject, but as a core life skill.

Recognising this, Central Square Foundation's **AI Samarth** initiative is timely and visionary. The AI Samarth curriculum, built in partnership with IIT Madras, provides a robust framework for building AI awareness and competence among students and teachers, while also engaging teachers and parents as critical enablers in the learning journey.

I congratulate the team at CSF for leading this effort with clarity and purpose. This is more than a curriculum, it is a call to action.

As leaders, educators and parents, we must come together to ensure that this important initiative is adopted widely, integrated meaningfully and scaled with commitment. The choices we make today will determine whether the next generation enters the AI era as passive users, or as empowered, informed creators of the future.

Ashish DhawanFounder and Chairperson Central Square Foundation





I am delighted to see the launch of the AI Samarth AI Literacy Curriculum Framework for Students and Teachers, a timely and transformative step toward preparing India's young learners and educators for a future marked by artificial intelligence.

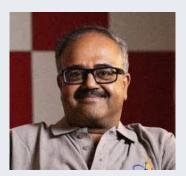
As AI becomes a defining force in our lives, it is vital that students and teachers learn not just to use it confidently, but to engage with it ethically and responsibly. AI Samarth's goal is to introduce this awareness at an early stage, helping

students and teachers develop the skills and perspective needed to thrive in an AI-driven world, while also equipping teachers with tools to guide them in the changing landscape.

I encourage all education stakeholders to embrace and champion this initiative as this is more than a curriculum, it's a foundation for a future where young minds grow up not just using AI, but shaping it. I look forward to seeing this initiative take root across classrooms in India.

Neerja BirlaFounder and Chairperson
Aditya Birla Education Trust





Artificial Intelligence is reshaping India and the world at an unprecedented pace, transforming how we learn, work and interact. As AI becomes increasingly embedded in our daily lives, equipping the next generation of Indians with AI literacy is no longer optional, it is essential. At IIT Madras, we believe that AI awareness must begin early. Students and teachers need the knowledge and skills to understand, engage with and use AI responsibly. Equally important is building the capacities of teachers and parents, who play a pivotal

role in guiding students in navigating the evolving world of AI. The AI Samarth initiative, in collaboration with Central Square Foundation represents a significant step toward this vision, aspiring to empower millions of learners across India with a foundational understanding of AI and its real-world applications.

This AI Literacy Curriculum for students and teachers marks the beginning of a movement to democratise AI literacy for Bharat. It fosters critical thinking, ethical awareness and a human-centered mindset that positions AI as a collaborative tool, supporting both teaching and learning. I hope this resource sparks curiosity and equips our young minds to thrive in an AI-enabled future.

I urge education departments and school boards across India to adopt and mainstream AI literacy in the formal education system. Every student, regardless of background, deserves access to foundational AI knowledge and opportunities to explore its practical applications. By integrating AI Samarth's curriculum into classrooms, we can build a generation that is not only future-ready but also thoughtful, responsible and innovative.

Together, let us build a strong foundation for an AI Samarth Bharat from inside our schools and position India as a global leader in cultivating an AI-ready workforce.

Professor B. Ravindran

Head, Wadhwani School of Data Science & AI Indian Institute of Technology, Madras





I.I Context

Artificial Intelligence (AI) has emerged as a defining force of the present era, increasingly embedded within the systems and technologies that shape everyday life. From navigation tools and content recommendations to virtual assistants and automated workflows, AI functions as an often invisible infrastructure influencing interaction, decision-making and behaviour across personal and professional domains¹.

Beyond routine applications, AI is catalysing transformative shifts across key sectors such as agriculture, healthcare and education. In education, AI holds the potential to redefine teaching and learning by enabling hyper-personalised pathways, providing real-time feedback through intelligent assessments, supporting lesson planning and curriculum design and streamlining administrative tasks. These capabilities offer a pathway toward more responsive and efficient educational systems².

¹ Elliott, A. (2019). *The Culture of Al: Everyday Life and the Digital Revolution (1st ed.)*. Routledge.

² Kaledio, P., Robert, A., & Frank, L.(2024). The impact of artificial intelligence on students' learning experience. SSRN Electronic Journal.



India is experiencing a dramatic rise in smartphone usage, particularly among young people. The Comprehensive Annual Modular Survey (CAMS) 2022–23 by the Ministry of Statistics and Programme Implementation (MoSPI) found that over 95% of youth in both rural and urban areas are able to use mobile phones³.



The Annual Status of Education Report (ASER) 2024 reports that 82% of children aged 14–16 are proficient in smartphone use, primarily for learning and recreation⁴. Further, the Bharat Survey on EdTech (BaSE) 2023 found that 85% of Indian households have at least one smartphone⁵.

With the widespread use of smartphones, many users are passively interacting with AI-powered technologies, whether through algorithmic recommendations, AI-enhanced search results, or automated chat features⁶. Given the emerging applications of AI for teaching and learning, this evolution presents a pivotal opportunity to leverage AI meaningfully and responsibly to enhance understanding, encourage curiosity and support learner-centred education at scale. Yet, the true promise of AI lies not in its capabilities alone but in its thoughtful and effective integration into educational systems.

The growing interaction with AI also raises some critical questions about the current levels of AI awareness, literacy and the ability to engage with AI responsibly:



Can users identify and question AI's influence in digital spaces?

Are users equipped with the tools to harness AI's potential meaningfully?

Is there an adequate understanding of associated risks, such as algorithmic bias, misinformation, or data privacy threats?

These questions highlight the pressing need for structured AI literacy among users, one that equips young learners to engage with AI ethically, safely and effectively in a technology-driven world.

According to Digital Promise, "AI literacy is the knowledge and skills that enable humans to critically understand, evaluate and use AI systems and tools to safely and ethically participate in an increasingly digital world." While AI offers exciting opportunities to enrich education, this promise comes with a responsibility: to ensure its integration is ethical, safe and human-centred. Developing AI awareness is key to empowering students and teachers to engage with these tools purposefully, while also addressing critical concerns related to privacy, bias and ethics. When combined with critical thinking and meaningful human interaction, AI can become a catalyst for responsible and transformative learning.

Recognised globally as an emerging need, AI literacy is being actively embedded into school systems around the world. China has mandated AI education from 2025 in the city of Beijing⁹; Singapore's EdTech Masterplan 2030 includes structured AI learning¹⁰; in the U.S., initiatives like AI4K12 are shaping curricula and teacher training¹¹; and Kenya places ethical, inclusive and innovation-driven AI adoption at the core of its national strategy¹². These global efforts reflect a shared understanding: AI literacy is essential for preparing learners for the future.

³ Ministry of Statistics and Programme Implementation, Government of India. (2024). Comprehensive Annual Modular Survey 2022-23

⁴ Annual Status of Education Report (ASER). (2024). ASER 2024 National Findings

⁵ Central Square Foundation. (2023). Bharat Survey for EdTech (BaSE) Report 2023

⁶ Passive AI use: Involves indirect exposure to AI, often without explicit awareness. AI systems operate in the background influencing aspects of daily life. Active AI use: Involves conscious awareness about AI and engagement with AI technologies

⁷ Mills, K., Ruiz, P., Lee, K., Coenraad, M., Fusco, J., Roschelle, J. & Weisgrau, J. (2024, May). <u>Al Literacy: A Framework to Understand, Evaluate and Use Emerging Technology</u>.

⁸ Kaledio, P., Robert, A., & Frank, L. (2024). The impact of artificial intelligence on students' learning experience. SSRN Electronic Journal.

⁹ India Today (2024). <u>China mandates AI education for primary students to build future skills.</u>

¹⁰ Ministry of Education, Government of Singapore. (2023). Transforming Education through Technology Masterplan 2030.

¹¹ Crawford, A and Wu, C. (2024). Riding the Al Wave: What's Happening in K-12 Education?. Center for Security and Emerging Technology.

¹² Dan Cooper, Benjamin Haley, Deon Govender, Ahmed Mokdad & Mosa Mkhize. (2025). <u>Kenya's AI Strategy 2025–2030: Signals for Global Companies Operating in Africa</u>. *Global Policy Watch*.

India is also witnessing rapid advancements in AI, driven by strategic national initiatives. The IndiaAI Mission, approved by the Union Cabinet under the leadership of Hon'ble Prime Minister Shri Narendra Modi in March 2024, aims to create a robust AI ecosystem¹³. Further, the Union Budget 2025–26 allocated ₹500 crore to establish a Centre of Excellence in AI for Education focused on personalised learning, skilling and workforce readiness¹⁴. While initiatives like 'AI for All' and 'Responsible AI for Youth' have introduced foundational AI concepts, the current context calls for a comprehensive and structured AI literacy curriculum tailored to Bharat's diverse realities, one that focuses on safe and meaningful AI adoption.

AI Samarth is a pioneering initiative launched by Central Square Foundation, focused on empowering the students, teachers and parents of Bharat with AI literacy at scale. CSF has partnered with the Wadhwani School of Data Science and Artificial Intelligence (WSAI) at the Indian Institute of Technology (IIT), Madras to develop a robust AI Literacy curriculum framework that fosters awareness, deepens understanding and builds the capacity required to engage with AI ethically and responsibly.

The purpose of this handbook is to outline the design process and dive into the AI Literacy Curriculum Framework for students and teachers.

1.2 Al Samarth - Approach and Vision

AI Samarth is an AI literacy initiative aimed at equipping students, parents and teachers in government and affordable private schools in India with the essential knowledge and practices to engage with AI meaningfully, safely and responsibly.

Target Audience and Envisioned Outcomes

The target audience for the initiative includes middle and high school students from government and affordable private schools (APS), parents of students attending K-12 schools in these segments and teachers teaching in middle and high schools in government and affordable private schools.

The outcomes of the initiative are designed to equip students and teachers with the necessary knowledge and practices to foster meaningful, safe and responsible interaction with AI:



For students, the goal is to build a strong conceptual understanding of AI fundamentals, equipping them to use it effectively and responsibly while keeping critical thinking and human judgment at the core of all interactions.

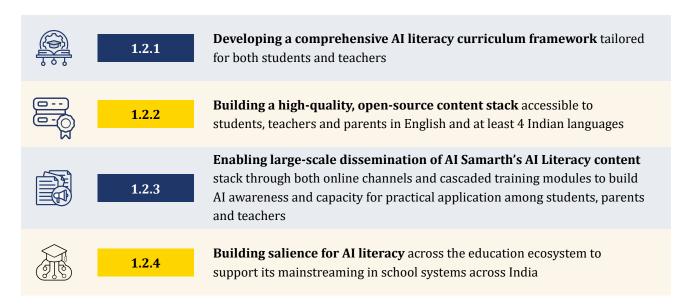


For teachers, the goal is to foster AI awareness and practical competence to enhance teaching and learning. The framework also empowers them to provide instruction on AI literacy and to guide students on its informed and safe use.

¹³ Ministry of Electronics and IT, Government of India. (2024). <u>Cabinet Approves Over Rs 10,300 Crore for IndiaAl Mission, will Empower Al Startups and Expand Compute Infrastructure Access</u>.

¹⁴ The Economic Times. (2025). Union Budget 2025: Centre of excellence for AI to be set up with Rs 500 crore outlay.

Over the next three years, AI Samarth aims to achieve its objectives through a holistic approach:



Each component of the approach is summarised below:

1.2.1 Developing a comprehensive AI literacy curriculum framework for students and teachers

The AI Samarth curriculum framework for students and teachers was developed through a rigorous, collaborative process involving teachers, academics and education sector experts. School immersions conducted across diverse settings helped capture on-ground insights, gauging AI awareness, perceptions and usage among students, teachers and parents. A curriculum landscaping exercise was conducted to review existing frameworks and derive learnings. The curriculum has been informed by global AI content and curricula such as, Day of AI¹⁵, Experience AI¹⁶, Hour of Code¹⁷, AIEdu¹⁸, K-12 UNESCO AI curricula¹⁹, UNESCO's AI Competency Framework for Students²⁰, UNESCO AI Competency Framework for Teachers²¹ and Digital Promise's AI Literacy Framework²². This process helped derive the guiding principles and overarching learning outcomes for AI Samarth's AI Literacy curriculum framework. The curriculum framework was reviewed with K-12 teachers to ensure it is practical, relevant and ready for classroom use.

1.2.2 Building a high-quality, open-source content stack

Based on the AI Samarth AI Literacy curriculum framework, the AI Samarth content stack will be designed as an open-source multilingual repository of contextually relevant learning materials to make AI literacy accessible, engaging and comprehensible for students, teachers and parents across India. The content will be available in English, Hindi, Bengali, Odia and Marathi in the first year, with the potential to introduce other regional Indian languages in subsequent years. It will include curriculum-aligned videos, in-class teaching materials, lesson plans, teacher guides and assessments tailored to the diverse learning environments in India. Learnings from global courses such as, Day of AI, Experience AI, Hour of Code, AIEdu will be incorporated to ensure the content is engaging and interactive for the audiences. This content stack, comprising videos and teaching-learning materials (TLMs), will be available as an open-source public good and will be designed for flexible integration within existing school routines and subject areas. Details regarding guidance on using the curriculum are outlined in Section 5.

¹⁵ Massachusetts Institute of Technology. <u>Day of Al</u>.

¹⁶ DeepMind & The Raspberry Pi Foundation. Experience AI.

¹⁷ Code.org. Hour of Code.

¹⁸ The AI Education Project. *Intro to AI*.

¹⁹ United Nations Educational, Scientific and Cultural Organization. (2022). *K-12 Al Curricula*.

²⁰ United Nations Educational, Scientific and Cultural Organization. (2024). AI Competency Framework for Students.

²¹ United Nations Educational, Scientific, and Cultural Organization. (2024). <u>AI Competency Framework for Teachers</u>.

²² Mills, K., Ruiz, P., Lee, K., Coenraad, M., Fusco, J., Roschelle, J. & Weisgrau, J. (2024, May). Al Literacy: A Framework to Understand, Evaluate and Use Emerging Technology.

The content stack being built for different audiences and formats is shared below:

Table 1: Content Stack for Al Samarth's Target Audience

Audience	Delivery Pathway	Course Duration
	Engaging self-learning modules to be disseminated through online platforms	~3 hours
Teachers	Hybrid training programmes to enhance teachers' Al knowledge and capacity while enabling them to cascade this knowledge to students effectively	~6 hours
Students	In-person cascaded training programmes to be delivered by trained teachers	3-3.5 hours
Students and Parents	Engaging, easy-to-consume self-learning modules to be disseminated through online platforms	2-2.5 hours

1.2.3 Enabling large-scale dissemination of Al Samarth's Al Literacy content

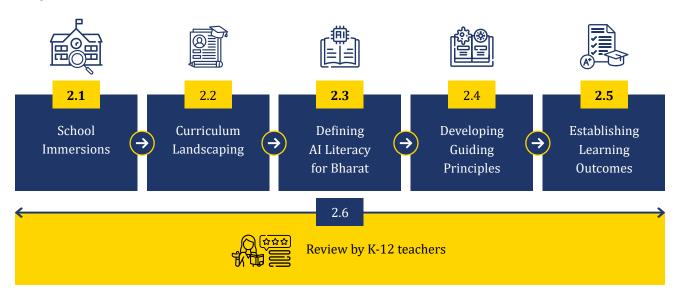
AI Samarth aims to equip over 5 million (50 lakh+) students, teachers and parents in government and affordable private schools with the essential knowledge and practices to engage with AI meaningfully, safely and responsibly. This will be achieved through the widespread dissemination of the content stack both through online platforms and cascaded training modules, in collaboration with local implementation partners and state governments across diverse learning contexts in India.

1.2.4 Building salience for Al literacy

Finally, the initiative seeks to mainstream AI literacy into the education landscape by building wider salience for its integration into school curricula at both the state and national levels. Through this effort, the initiative aims to build sustained AI awareness across the education ecosystem, enabling students, teachers and parents to engage with AI responsibly and effectively in teaching, learning and everyday life.

Design Process of the Al Literacy Curriculum Framework

The process followed for the build of the curriculum is described below:



2.1 School Immersions

School immersions were conducted as a key part of the curriculum framework design process to gain first-hand insights into the current levels of AI awareness and engagement across diverse educational settings in India. These immersions involved conducting field visits to interact and observe within classrooms to understand how students, teachers and parents perceive AI, their familiarity with its concepts and the ways, if any, it is currently being used in teaching and learning. The process helped highlight opportunities to make the curriculum framework more relevant, relatable and accessible to suit the needs of the diverse learners of Bharat.

2.2 Curriculum Landscaping

An in-depth curriculum and content landscaping exercise was conducted, informed by extensive secondary research on AI Literacy curriculum and courses such as, Day of AI, Experience AI, Hour of Code, AIEdu, K-12 UNESCO AI curricula, UNESCO's AI Competency Framework for Students and Digital Promise's AI Literacy Framework, which incorporated aspects of both AI literacy and technical skill development. This exercise was driven by a two-fold objective:

- a. How can an AI literacy curriculum be clearly defined and distinguished from one focused on technical skills?
- **b.** Which elements from existing frameworks can be meaningfully adopted to shape a holistic AI literacy curriculum for the AI Samarth target audience?

To address question (a), global curricula were analysed at both the topic and subtopic levels. The research revealed that AI literacy frameworks focus on conceptual understanding, ethical awareness and critical thinking. At the same time, these frameworks also include certain advanced components such as programming, coding and system design, which fall under the umbrella of technical AI skills or comprehensive engineering skills²³ aimed at enabling learners to build or engineer AI solutions to address real-world problems.

As the primary objective of AI Samarth's AI Literacy Curriculum Framework for Students and Teachers is to build foundational AI knowledge and foster meaningful and responsible AI use, therefore, building awareness and practical capacity to use AI effectively and safely has been prioritised over technical skill development at this stage. Concurrently, the framework is designed to spark curiosity among learners about AI and its potential career opportunities for those wishing to pursue opportunities in both STEM (Science, Technology, Engineering and Mathematics) and non-STEM fields.

To address question (b), the curriculum mapping process drew valuable insights from the frameworks mentioned in section 2.1; the competencies outlined in these frameworks helped shape the guiding principles and define the overall learning outcomes, which were further tailored to AI Samarth's target audience. The insights gained from these frameworks also informed the development of the core pillars, topics and subtopics of the AI Samarth AI Literacy Curriculum Framework for Students and Teachers, as detailed in Section 3 and 4.

2.3 Defining AI Literacy for Bharat

Based on the learnings gained from the AI curricula mentioned in section 2.1, AI Samarth developed a contextualised AI Literacy definition tailored to its target audience, ensuring accessibility and relevance for the Indian context.:



Al Samarth's Definition of Al Literacy

AI literacy refers to the knowledge and practices that help students, teachers and parents understand what Artificial Intelligence is, how it impacts our increasingly digital lives and how to use it meaningfully, safely and responsibly.



This definition aims to spark curiosity, raise awareness and cultivate safe, responsible AI use among students and teachers in government and affordable private schools. More importantly, this definition draws a clear distinction between AI Literacy and technical skill-building, as explained in section 2.2.

2.4 Developing Guiding Principles

The guiding principles²⁴ of the AI Samarth AI Literacy curriculum framework for students and teachers was developed based on key insights from the comprehensive curriculum landscaping analysis. These five principles aim to inform the development of knowledge, skills and practices essential for developing holistic AI literacy among learners:

²³ United Nations Educational, Scientific and Cultural Organization. (2024). <u>AI Competency Framework for Students</u>.

According to Ornstein, A. C., & Hunkins, F. P. (2017) "To develop a well-rounded curriculum, guiding principles are key elements that shape its purpose, structure and implementation, ensuring it is coherent, relevant and meets learners' needs and educational goals".



Building conceptual knowledge of AI - This principle aims to establish a clear understanding of fundamental AI concepts, including how AI functions and its inherent limitations.



Emphasising human agency and critical thinking - This principle highlights the importance of human judgment in using AI, ensuring prevention of over-reliance on technology. This principle also focuses on encouraging learners to think critically while engaging with AI tools and keeping human agency at the centre of the interaction.



Awareness of real-world applications of AI - This principle focuses on broadening the understanding of AI's potential by illustrating its practical uses in everyday contexts and its role in addressing real-world challenges.



Encouraging ethical and responsible use - This principle underscores the importance of recognising both the benefits and risks associated with AI, encouraging responsible and ethical engagement with the technology.



Leveraging AI tools meaningfully - This principle focuses on imparting practical skills for the effective use of AI tools, such as crafting thoughtful prompts, while also emphasising the need for critical evaluation and human judgment in assessing AI-generated outputs.

2.5 Establishing Learning Outcomes

The overarching learning outcomes of AI Samarth's AI Literacy Curriculum articulate the knowledge, understanding and competencies learners are expected to acquire by the end of their learning journey²⁵. Through these outcomes, students, parents and teachers gain awareness of AI and its relevance in everyday life, develop a clear understanding of essential AI concepts and learn to use AI tools safely, ethically and responsibly. Learners also strengthen critical thinking skills while engaging with AI and begin to explore its potential to address real-world challenges. Collectively, these outcomes lay the foundation for a future-ready, AI-literate society:

Table 3: Overarching Learning Outcomes of the Al Literacy Curriculum Framework for Students and Teachers



Conceptual Understanding

Learners will be able to demonstrate foundational knowledge of key AI concepts, including how AI systems function and the principles that underpin them. They will be able to identify and describe core domains within AI and articulate broader ethical considerations, such as bias, fairness, accountability, transparency, cybersecurity and digital identity.



Critical Thinking

Learners will be able to apply critical thinking and reasoning to determine when and how AI should be used, challenge misconceptions and critically evaluate AI outputs. Learners will also be able to engage with AI tools in ways that promote independent and creative thinking.



Using AI Safely and Responsibly

Learners will be able to develop the capability to use AI tools thoughtfully and ethically, maintaining human agency and exercising independent judgment. Learners will also be able to recognise the risks of over-reliance on AI tools and build an understanding of safety, responsibility and accountability when interacting with AI technologies.



Harnessing AI's Potential

Learners will identify practical applications of AI across various sectors and explore its potential to address real-world challenges. They will be equipped to apply diverse use cases of AI while considering the ethical, social and environmental impact of using AI, hence applying a balanced approach rooted in fairness, accountability and human-centered values.

^{25 24} Krathwohl, D. R. (2002). <u>A Revision of Bloom's Taxonomy: An Overview</u>. Theory Into Practice, 41(4), 212–218.

2.6 Review by K-I2 teachers

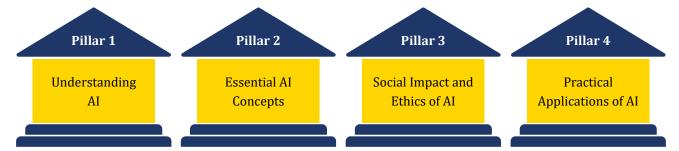
Teacher reviews were a core component of the AI Samarth curriculum design process, conducted at every stage to ensure the framework remained practical, relevant and ready for classroom use. K–12 teachers from government and affordable private schools provided feedback on draft frameworks, topic selection and guidance for further content development. Their insights into on-ground classroom conditions informed the curriculum's design, ensuring appropriateness, conceptual clarity and ease of implementation. This ongoing engagement helped align the curriculum framework with the needs of students and teachers from the target segments, making it adaptable and effective across diverse educational settings.

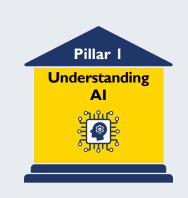
Al Literacy Curriculum Framework for Students

The AI Samarth AI Literacy Curriculum Framework builds on the curriculum landscaping, guiding principles and overarching learning outcomes outlined in the previous sections. This framework will provide a holistic, structured and relevant learning pathway for middle and high school students in India. The framework aims to achieve a balanced integration of conceptual understanding, ethical awareness, critical thinking and practical application to equip students to be informed and responsible contributors in an AI-powered world. The adoption strategy of the curriculum is further detailed in Section 5, providing a guiding pathway for curriculum integration into educational systems.

3.1 Curriculum Pillars

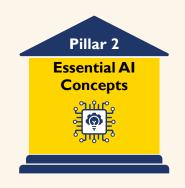
To ensure comprehensive coverage, the curriculum is structured around four interconnected pillars that together provide a holistic foundation for AI literacy:





This pillar aims to develop learners' awareness of what AI is, introduce how AI works and explain why it matters in their everyday lives. The pillar also helps learners distinguish between human and machine intelligence by highlighting the unique capabilities of both, fostering a deeper understanding of their respective roles. AI is introduced through familiar, real-world examples such as voice assistants, recommendation engines and navigation apps to help students recognise AI in their surroundings.

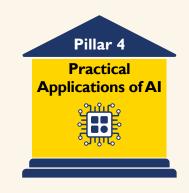
By offering a general overview of AI's capabilities, history and use cases, this pillar builds a conceptual foundation for informed engagement with AI technologies.



This pillar aims to develop learners' understanding of key technical domains that underpin AI systems, such as data literacy, machine learning (ML), natural language processing (NLP) and computer vision (CV). While the curriculum remains focused on AI literacy, this pillar aims to ensure students can grasp how AI tools function and understand the training and development process of AI tools at a broad level.



This pillar aims to raise learners' awareness of AI's profound impact on society and its applications across various sectors while highlighting potential risks and key ethical considerations. This includes understanding concepts of bias, fairness, accountability, privacy, cybersecurity, digital identity and transparency and their role in AI systems. Through this pillar, learners will build values, beliefs and ethical reasoning capabilities to assess when and how to engage with AI tools purposefully, responsibly and safely.



This pillar aims to develop learners' ability to use AI tools effectively and responsibly in real-life contexts, such as for learning and school project work, communication and creative expression. It emphasises the importance of critical thinking, encouraging learners to evaluate AI-generated content thoughtfully and to avoid over-reliance on AI. Learners will be introduced to methods for verifying information, recognising AI's limitations and understanding the importance of questioning sources. This pillar ensures that learners are equipped to engage with AI in ways that preserve human accountability and agency, emphasising the importance of keeping human agency at the center of decision-making.

Together, these pillars ensure that students develop the knowledge, capacity, values and practices needed for safe, ethical and meaningful interaction with AI.

3.2 Curriculum Topics, Subtopics and Learning Outcomes

The four pillars of the AI Samarth Curriculum Framework are further broken down into specific topics and subtopics, each aligned with clearly defined learning outcomes. These outcomes articulate what students are expected to know, understand and be able to do by the end of their learning experience. The table below provides a detailed overview of how each pillar is translated into corresponding topics and subtopics:

AI Samarth's AI Literacy Curriculum Framework for Students				
Topic	Sub-topic	Learning Outcomes		
	Pillar 1: Understanding AI			
AI Around Us	Applications of AI in daily life	Students identify how AI is present around them and connects it with usage in daily life		
Ai Around US	Applications of AI around the world	Students develop awareness about the applications or use cases of AI in various fields and its impact across the world		
	History of AI	 Students develop curiosity about the history of AI Students will develop the ability to describe how and why AI was developed 		
What is AI?/ Introduction to AI	Foundations of AI	• Students will develop the ability to describe what AI is and its basic concepts		
	Types of AI	 Students will develop the ability to describe the difference between the types of AI (Traditional AI, Generative AI & Agentic AI) 		
AI and Human Intelligence	Machine's Capabilities & Human's Capabilities	Students will develop the ability to describe the distinguishing factors between AI and human intelligence		
	Pillar 2:	Essential Concepts of AI		
	Data Literacy	• Students will develop the ability to describe what data is and identify how machines receive and gather data		
Fundamentals of AI	Machine Learning (ML)	 Students will develop the ability to describe what machine learning is and how it works Students will develop awareness about the widespread 		
	Deep Learning (DL) and Neural Networks (NN)	 Students will develop the ability to describe the basic concept of neural networks and deep learning as a field in AI Students will develop awareness about the widespread applications of neural networks and DL in real-life 		
	Natural Language Processing (NLP)	 Students will develop the ability to describe the basic concept of NLP as a field in AI Students will develop awareness about the widespread applications of NLP in real-life 		
Domains of AI	Computer Vision (CV)	 Students will develop the ability to describe the basic concept of CV as a field in AI Students will develop awareness about the widespread applications of CV in real-life 		
	Applications of Physical AI	Students develop awareness about the concepts of physical AI such as autonomous vehicles, robotics, industrial AI and agentic AI		

Pillar 3: Social Impact and Ethics of AI			
Social Impact of	Potential benefits of AI	Students will develop a general awareness about the potential benefits of AI in society and the environment	
AI/ Impact of AI on Society	AI for Good	Students will develop the ability to describe and analyse the potential of AI in certain sectors	
	Potential risks of AI	Students will explore the potential risks of AI in society and the environment	
	Bias and Fairness in AI	Students will develop the ability to describe what ethical terms such as 'bias' and 'fairness' mean concerning AI	
	Dias and ran ness in Ai	Students will explore real-life examples of bias and fairness in AI systems	
Ethical & Risk	Data Privacy and Security in AI	• Students will develop the ability to describe and critically analyse the ethical issues around data privacy and security	
Considerations of AI	Cyber Security & Digital Identity	Students will develop awareness about cybersecurity & digital identity	
	Accountability, Responsibility, Inclusivity and Transparency around AI	 Students will develop the ability to describe the meaning and role of Accountability, Responsibility, Inclusivity and Transparency when interacting with AI tools 	
	Impact of AI on the planet	Students will be able to demonstrate curiosity and explore the environmental and societal impacts of AI, such as energy consumption and changes in the employment market	
	Pillar 4: Practica	l Applications of AI in Daily Lives	
	What are prompts?	• Students will develop the ability to describe what prompts are and where they are applicable	
Prompting Strategies for AI	Developing effective prompts for daily life	 Students will develop the ability to describe certain components of prompts such as clarity, specificity and context of well-structured prompts while interacting with AI tools 	
	p	 Students will develop the ability to think critically and design effective prompts and distinguish between clear and ambiguous prompts 	
	Guidance for using AI	• Students will develop the ability to identify when and how to use AI for learning	
Dwastical	for Learning	• Students will have the ability to engage with AI tools critically and use it meaningfully to support their learning journey	
Practical Application of AI in Daily Activities	MC Q II T	Students will explore how AI tools can support creative expression and innovation in areas such as art, writing and music	
	AI for Creative Projects	 Students will develop the ability to engage with AI tools critically and understand that these tools are used to aid the creative journey and not replace their cognitive abilities 	

	AI for Schoolwork and	 Students will develop awareness on how AI can assist in gathering, organising and summarising information for school work
	Problem-Solving	 Students will develop the ability to critically engage and apply AI tools to produce solutions for real-world problems in their community
	Challenges in the Application of AI	• Students will develop the ability to critically assess Algenerated outputs, recognise potential errors or inaccuracies and cross-verify the information generated by AI
	Users of AI: Adoption of AI in various sectors	Students will develop awareness about potential career opportunities in the non-STEM field
Careers with AI	Builders of AI: Creation of new AI systems to solve real-world problems	 Students will develop awareness about potential career opportunities in AI in the Science, technology, engineering and mathematics (STEM) field

^{*} In view of the rapid and continuous evolution of the field of AI, the curriculum reflects the state of knowledge and practice up to September 2025, to the extent possible.

4 Al Literacy Curriculum Framework for Teachers

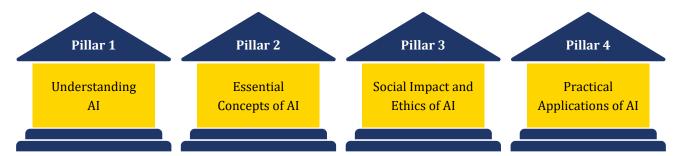
The AI Samarth AI Literacy Curriculum Framework for Teachers builds on the guiding principles and broader vision of AI Samarth's AI literacy outlined in the earlier sections. This framework is designed to provide teachers with a holistic and structured pathway to equip them with the foundations of AI Literacy and guide students through their own learning journeys. It emphasises a balanced integration of foundational AI concepts, effective use and ethical considerations, ensuring that teachers are well-equipped with knowledge while fostering meaningful engagement for learners. At its core, the framework seeks to empower teachers not only by strengthening their own AI literacy but also by enabling them to confidently adapt, innovate, and lead in classrooms shaped by emerging technologies.

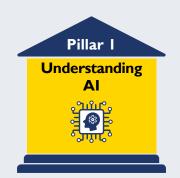
The curriculum framework for teachers has been developed to complement the curriculum framework for students, while addressing the unique needs of teachers. The pillars remain the same to ensure consistency, and the framework for teachers begins by sensitising them to what AI literacy is and why it matters, highlighting the critical role of AI in shaping education and society. The curriculum framework places significant emphasis on professional development while also addressing practical day-to-day applications of AI, such as supporting teachers in designing lesson plans and assessments and streamlining administrative tasks like drafting notices or circulars. It also extends beyond the classroom, helping teachers use AI for their own professional development, enhancing subject knowledge, classroom management, communication skills and career development.

Most importantly, the curriculum framework for teachers reinforces the principle that teachers remain the guiding force in classrooms, with AI serving as an enabling resource. This ensures that teachers not only help students in using AI responsibly and critically but also model ethical and meaningful engagement themselves, strengthening AI literacy across the education ecosystem.

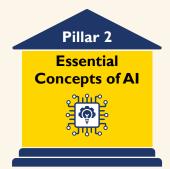
4.1 Curriculum Pillars

To ensure comprehensive coverage, the curriculum is structured around four interconnected pillars that together provide a holistic foundation for AI literacy for teachers. This curriculum also aims to equip teachers to discuss AI literacy confidently and engage students effectively in related conversations:





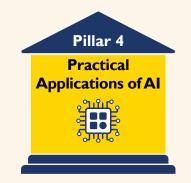
This pillar helps teachers build a foundational awareness of AI by exploring its history, core concepts, types, and the distinguishing factors between AI and human intelligence. It introduces additional topics contextualised specifically for teachers, such as AI's potential to transform classroom practices and educational administration, while also debunking myths and addressing common misconceptions to build confidence and comfort before delving into essential concepts of AI. Teachers are encouraged to reflect on their evolving role in an AI-enabled classroom, and understand why AI literacy is essential for their professional growth and for guiding students.



This pillar aims to develop teachers' understanding of key technical domains that underpin AI systems, such as data literacy, machine learning (ML), natural language processing (NLP) and computer vision (CV). While the curriculum remains focused on AI literacy, this pillar aims to ensure teachers can grasp how AI tools function and understand the training and development process of AI tools at a broad level. These topics are aimed at developing a theoretical understanding of AI concepts, while ensuring that teachers can understand and explain how AI tools function and recognise their applications in daily life.



This pillar raises teachers' awareness of the wider social, ethical, and environmental impact of AI on society while highlighting potential risks and key ethical considerations. This includes understanding concepts of bias, fairness, accountability, privacy, cybersecurity, digital identity and transparency and their role in AI systems. By examining real-life examples, teachers develop the ability to reflect critically, evaluate risks, and foster ethical reasoning. This equips them to use AI responsibly themselves and to nurture similar values in their students.



This pillar equips teachers with practical strategies to use AI effectively in classrooms, school administration, creative projects, and professional development. It emphasises prompting skills, critical evaluation of AI-generated outputs, and an understanding of AI's limitations. Teachers learn how to guide students in using AI for learning and problem-solving, while also leveraging AI to streamline their own work and enhance teaching efficiency. The pillar reinforces the teacher's role as a guide and mentor, ensuring that AI use always keeps human judgment and agency at the center.

4.2 Curriculum Topics, sub-topics and learning outcomes

The four pillars of the AI Samarth Curriculum Framework are further broken down into specific topics and subtopics, each aligned with clearly defined learning outcomes. These outcomes articulate what teachers are expected to know, understand and be able to do by the end of their learning experience. The table below provides a detailed overview of how each pillar is translated into corresponding topics and subtopics:

Table 5:AI Samarth's AI Literacy Curriculum Framework for Teachers

AI Samarth's AI Literacy Curriculum Framework for Teachers			
Торіс	Sub-topic	Learning Outcomes	
	1	Pillar 1: Understanding AI	
Why Does AI Literacy Matters for Teachers?	Importance of AI Literacy	• Teachers will be able to understand the relevance of AI in today's world, gain a basic overview of the AI Samarth initiative, and recognise the importance of AI literacy for teachers	
AI Around Us	Applications of AI in daily life	• Teachers will be able to identify how AI is present around them and connects it with usage in daily life	
	Application of AI around the world	• Teachers will be able to develop awareness about the applications or use cases of AI in various fields and its impact across the world	
What is AI?/ Introduction to AI	History of AI	 Teacher develops curiosity about the history of AI Teacher will have the ability to describe how and why AI was developed 	
	Foundations of AI	Teachers will have the ability to describe what AI is and its basic concepts	
	Types of AI	• Teachers will have the ability to describe the difference between the types of AI (Traditional AI, Generative AI & Agentic AI)	
AI and Human Intelligence	AI's Capabilities & Human's Capabilities	• Teachers will have the ability to describe the distinguishing factors between AI and human intelligence	
Understanding AI in Education	Role of AI in Education	 Teachers will be able to describe the potential of AI in enhancing teaching and learning, while also recognizing the importance of using AI thoughtfully and responsibly Teachers will be able to understand the evolving nature of their role in an AI-driven education system. 	
	Debunking key AI myths for Teachers	• Teachers will be able to identify and reflect on common concerns about AI in education and develop a positive attitude in exploring AI for education.	
Pillar 2: Essential Concepts of AI			
Fundamentals of AI	Data Literacy	Teachers will have the ability describe what data is and identify how machines receive and gather data	

	Machine Learning (ML)	 Teachers will have the ability to describe what machine learning is, how it works Teachers will develop awareness about the common applications of
		ML in real life
	Deep Learning (DL) and Neural Networks (NN)	Teachers will have the ability to describe the basic concept of neural networks and deep learning
		• Teachers will develop awareness about the common applications of neural networks and DL in real life
Domains of AI	Natural Language Processing (NLP)	 Teachers will have the ability to describe the basic concept of NLP as a field in AI
		• Teachers will develop awareness about the common applications of NLP in real life
	Computer Vision (CV)	 Teachers will have the ability to describe the basic concept of computer vision in AI
		• Teachers will develop awareness about the common applications of CV in real life
	Applications of Physical AI	• Teachers develop awareness about the concepts of physical AI such as autonomous vehicles, robotics and industrial AI
	Pillar	3: Social Impact and Ethics of AI
Social Impact of AI/ Impact of AI	Potential benefits of AI	 Teachers will be able to develop a general awareness about the potential benefits of AI in society and the environment
on Society	AI for Good	• Teachers will have the ability to discuss and analyse the potential of AI in certain sectors
Ethical & Risk Considerations	Potential risks of AI	 Teachers will explore the potential risks of AI in society and the environment
of AI	Bias and Fairness in AI	 Teachers will have the ability to critically engage with AI tools to understand how bias works
	Data Privacy and Security in AI	• Teachers will have the ability to describe and critically analyse the ethical issues around data privacy and security
		 Teachers will explore real-life examples of data privacy & security in AI systems
	Cyber Security & Digital Identity	 Teachers will develop awareness about cybersecurity & digital identity
		 Teachers will explore real-life examples of cybersecurity & digital identity
	Accountability, Responsibility, Inclusivity, and	 Teachers will have the ability to describe the meaning and role of Accountability, Responsibility, Inclusivity, Transparency and Explainability when interacting with AI tools
	Transparency around AI	 Teachers will explore real-life examples of Accountability, Responsibility, Inclusivity, Transparency and Explainability when interacting with AI tools

	Impact of AI on the planet	Teachers develop curiosity and explores the impact of AI on the planet	
Pillar 4: Practical Applications of AI in Daily Lives			
Prompting Strategies for AI	What are prompts?	Teacher has the ability to describe what prompts are and where they are applicable	
	Developing effective prompts for daily life for students	 Teacher has the ability to describe components of a well-structured prompts for interacting with AI tools Teacher will think critically and distinguish between an effective prompt and a non-effective one for a given task Teachers will be able to guide students on structuring effective prompts 	
	Developing effective prompts for daily life for Teachers	 Teachers will be able to write effective sample prompts in the context of their work Teacher will be able to think critically and distinguish between an effective prompt and a non-effective one for a given task 	
Practical Application of AI in Daily Activities	Guidance for using AI for Learning	 Teachers identify when and how students should use AI for learning Teachers have the ability to guide students to critically engage with AI tools and use it meaningfully to support their personal learning journey 	
	AI for Creative Projects	 Teachers develop awareness on how AI tools can be used to create innovative projects and explore creativity (e.g., for art, writing, or music) Teachers have the ability to critically engage with AI tools and understand that these tools are used to aid creative journey and not replace their creative and cognitive abilities Teachers will be able to guide students in using AI tools effectively and ethically to support their creative expression. 	
	AI for Schoolwork and Problem- Solving	 Teachers develop awareness on how AI can assist in gathering, organizing, and summarising information for school assignments Teacher has the ability to critically engage and apply AI tools to produce solutions for real-world problems in their community Teachers will be able to guide students in using AI tools effectively and ethically to gather, organize, and evaluate information for research. 	
	Challenges in the Application of AI	 Teachers have the ability to describe that AI is capable of making errors and generating incorrect output. Eg: Hallucinations Teacher has the ability to think critically and cross-verify the information generated by AI Teachers will be able to guide students in understanding that AI can make errors, and help them critically evaluate and cross-verify AI-generated information. 	

Careers with AI	Users of AI: Adoption of AI in various sectors	 Teachers develop awareness about potential career opportunities in the non-STEM field Teachers will be able to guide students in understanding how AI is used across various careers and inspire curiosity about future opportunities in AI-related non-STEM fields.
	Builders of AI: Creation of new AI systems to solve real-world problems	 Teachers develop awareness about potential career opportunities in the STEM field. Teachers will be able to guide students in understanding how AI can solve real-life problems and inspire curiosity about future opportunities in AI-related STEM fields.
Practical Application of AI for Professional Development	Using AI to Make Teaching Learning more Efficient	• Teachers will be able to enhance classroom learning by effectively using AI tools for generating lesson plans and creating assessments.
	Making School Administrative Work streamlined with AI	• Teachers will be able to use AI tools to organise their daily work better, such as setting reminders, drafting responses to parents, making reports, creating timetables, notices for school events, etc.
	Using AI for Professional Growth	 Teachers will be able to explore and use AI tools to support their personal growth, build confidence, and access resources for improving professional skills such as communication, leadership, and career readiness.
	Teacher as the guide and mentor	 Teachers will be able to understand their role in supervising AI use in classrooms and guiding students while using AI Teachers will be able to leverage the best practices emphasised in this pillar

^{*} In view of the rapid and continuous evolution of the field of AI, the curriculum reflects the state of knowledge and practice up to September 2025, to the extent possible.

4.3 Teacher capacity building for cascading AI Literacy

This section of the curriculum framework for teachers aims to equip them with the knowledge and resources required to effectively teach AI literacy in classrooms across the country. Teachers are oriented to the AI Literacy Curriculum Framework for Students, which includes taking them through the detailed AI Literacy content stack including self-learning videos, teaching-learning materials (TLMs), enabling them to balance instruction, activities, and engagement. The training builds their capacity to manage diverse learning contexts, use participatory teaching strategies, and lead reflective discussions on topics like social impact and ethics of AI. Teachers are also introduced to simple assessment approaches for gauging student understanding and sparking curiosity.

Table 6:AI Samarth's AI Literacy Curriculum Framework for Teachers

AI Samarth's AI Literacy Curriculum Framework for Teachers			
Topic	Sub-topic	Learning Outcomes	
(Capacity Building for	Conducting In-Class AI Literacy Sessions for Students	
Preparing to Teach AI Literacy to Students	Understanding the AI Samarth Student Curriculum	• Teachers will be able to describe the structure, learning outcomes, and progression of the AI Samarth Student Curriculum.	
Students	Understan ding the Session Plans	• Teachers will be able to familiarise themselves with the session plans that incorporate AI Samarth content, balancing instruction time, activity flow, and student engagement.	
	Familiarity with AI Samarth Content & TLMs	• Teachers will be able to effectively use the videos, presentations (PPTs), and lesson plans included in the AI Samarth content stack	
	Managing Diverse Learning Contexts	 Teachers will be able to identify and address common classroom challenges, including varying learning levels and low-tech environments. 	
Facilitating Engaging and Ethical AI Learning	Conducting Teaching-Learning Strategies and Routines	Teachers will be able to facilitate hands-on and collaborative learning experiences that encourage exploration AI concepts	
	Leading Reflective Discussions around Ethical Considerations	Teachers will be able to guide classroom conversations on ethical AI use, fairness, and bias in a safe and inclusive manner	
	Understanding Assessment Strategies	Teachers will be able to apply simple formative assessment tools to check student understanding and spark curiosity.	
Strengthening Facilitation	Reflecting on Teaching Practice	• Teachers will be able to reflect on their classroom experiences, learn from student feedback, and improve their facilitation techniques.	
Practice and Extending Impact	Engaging Beyond the Classroom	Teachers will be able to encourage student-led projects and promote AI conversations with parents and communities to extend learning beyond the classroom	



Guidance on using Al Samarth's Al Literacy Curriculum Framework

The AI Samarth AI Literacy Curriculum Framework for students and teachers serves as a flexible and adaptable blueprint for integrating AI literacy into India's school ecosystem. The curriculum framework supports the development of a flexible, holistic curriculum designed to cater to diverse learning levels, allowing institutions to customise its depth and breadth based on local contexts, grade levels, institutional goals and the varying readiness of students and teachers in terms of their awareness, understanding and use of AI. Topic selection and instructional approaches can be tailored to align with classroom time, student competencies and regional AI readiness, ensuring accessibility and relevance across diverse settings.

How Different Stakeholders Can Adopt the Curriculum Framework:



Education departments and state curriculum bodies can adopt the AI Literacy curriculum framework as part of their state-level AI literacy or digital literacy initiatives. The framework outlines the curricular structure and progression and enables states to integrate AI literacy into existing subject curricula or introduce it as a standalone module for middle and high school students and teachers.



Education service providers, teacher training institutions and NGOs can use the AI literacy curriculum and content library in their programs to enhance digital literacy, foundational AI awareness or 21st-century skills, especially in government and affordable private schools.



Publishers and EdTech content developers can adopt the AI literacy curriculum framework to design textbooks, digital modules, and learning products aligned to the AI Samarth learning outcomes by customising the topics and sub-topics to cater to different boards, languages and learner needs.



Schools and school networks of both government and private schools may leverage the AI literacy curriculum as a guiding framework for gaining knowledge and awareness on AI Literacy. Teachers can deliver lessons as part of STEM, Information & Communication Technology (ICT) or computer science periods.

6 Conclusion

As AI continues to reshape industries, economies and our everyday lives, it is essential to build a strong foundation in AI literacy early on to create an AI-literate society that can fully harness its potential. Initiatives like the IndiaAI Mission reflect India's commitment to embracing this technological shift and establishing itself as a global leader in the AI ecosystem.

AI Samarth envisions a future where AI literacy is embedded across all schools in India, enabling students, teachers and parents to engage with AI meaningfully, safely and responsibly. AI Samarth aims to collaborate with government bodies, education departments, school leaders and civil society organisations to raise awareness and promote the strategic integration of AI literacy into the national and state education fabric.

As we move toward an increasingly AI-driven world, it is essential to equip every student and teacher with the knowledge, skills and mindset to engage with AI safely, ethically and effectively. Building an inclusive foundation for AI literacy today will ensure that learners across the country are prepared to lead, adapt and thrive in the world of tomorrow.

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