



Entrepreneurial Curriculum at School Level in India: Analysis of Current Frameworks and Future Prospects

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ABSTRACT

As India moves toward a knowledge-based economy, the integration of entrepreneurship education (EE) at the school level has become a national priority. This paper examines the evolution of entrepreneurial curricula in India, specifically focusing on the National Education Policy (NEP) 2020, the CBSE Senior Secondary syllabus, and the Delhi Government's Entrepreneurship Mindset Curriculum (EMC). Through a qualitative review of current pedagogical frameworks, the study identifies a shift from theoretical business management to experiential "mindset" development. Findings suggest that while initiatives like "Business Blasters" have improved student self-efficacy, systemic challenges such as teacher training and rigid assessment models persist. The paper concludes with recommendations for a multidisciplinary approach to foster innovation among India's youth.

Keywords: entrepreneurship education, NEP 2020, Atal Tinkering Labs, Entrepreneurship Mindset Curriculum (EMC), Business Blasters, CBSE, pedagogical transformation, experiential learning, India, youth innovation, vocational integration, teacher training.

INTRODUCTION

The 21st-century global economy demands more than just rote academic proficiency; it requires adaptability, critical thinking, and a risk-taking

spirit. In India, a country with a burgeoning youth population and a pressing need for job creation, the transition from being a "nation of job seekers" to a "nation of job creators" is a strategic imperative (Ministry of Education, 2020). Entrepreneurship education (EE) at the school level serves as the foundation for this transformation.

Traditionally, Indian schooling was characterized by a "safe" career mindset—prioritizing medicine, engineering, or civil services. However, the rise of the Indian startup ecosystem has necessitated a curricular overhaul. This paper explores the current state of entrepreneurial curricula in Indian schools, evaluating how recent policy changes are shaping the next generation of innovators.

LITERATURE REVIEW

Evolution of Entrepreneurship Education in India

Entrepreneurship education in India was historically confined to vocational training or high-level management institutes like the IIMs. Early school-level efforts were largely theoretical, focusing on the "mechanics" of business such as accounting and law rather than the "spirit" of innovation. Thippanna et al. (2023) argue that early curricula failed because they did not address the psychological barriers to entrepreneurship, such as the fear of failure rooted in Indian cultural norms.

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The Role of NEP 2020

The **National Education Policy (NEP) 2020** represents a paradigm shift. It advocates for the "universalization of education" with a heavy emphasis on vocational integration and 21st-century skills. Unlike previous policies, NEP 2020 views entrepreneurship not as a standalone subject but as a cross-curricular competency involving "innovation, research, and problem-solving" (Extramarks, 2025).

Current Curricular Frameworks

CBSE Entrepreneurship (Subject Code 066)

The Central Board of Secondary Education (CBSE) offers Entrepreneurship as an elective for Grades 11 and 12. The syllabus for the 2024-2025 academic year is divided into several key units:

1. **Entrepreneurial Opportunity:** Sensing and scanning the environment.
2. **Enterprise Planning:** Building a comprehensive business plan.
3. **Enterprise Marketing:** Understanding branding and sales strategies.
4. **Resource Mobilization:** Learning about Angel Investors and Venture Capital (CBSE, 2024).

A critical component of this curriculum is the **Project Work**, where students must conduct market surveys and create a hypothetical business plan. This provides a bridge between classroom theory and real-world application.

METHODOLOGY

This research employs a qualitative desk-research approach, analyzing secondary data from the National Curriculum Framework (NCF), the National Education Policy (NEP) 2020, and annual reports from the Central Board of Secondary Education (CBSE). To understand the practical application, a Case Study Analysis of the Delhi Government's "Business Blasters" initiative was conducted, using publicly available

impact assessment reports from 2023-2025. The study evaluates these frameworks based on three pillars:

1. **Curriculum Design:** Is it theoretical or experiential?
2. **Teacher Autonomy:** How much freedom do educators have to mentor rather than lecture?
3. **Resource Accessibility:** Does the curriculum provide "seed" support or just "mental" support?

The Shift from "Business Studies" to "Entrepreneurial Mindset"

The Theoretical Trap

Prior to 2019, the curriculum focused on the structure of a company (Sole Proprietorship vs. Partnership) and the legalities of registration. While factual, these topics did not inspire innovation. According to the Self-Determination Theory (SDT), students require autonomy and competence to develop intrinsic motivation. The old rote-learning model suppressed these traits.

The Experiential Revolution: Delhi's EMC Model

The Entrepreneurship Mindset Curriculum (EMC) introduced a radical shift by removing the fear of grading.

- **The "Seed Money" Concept:** By providing ₹2,000 to students, the government shifted the risk from the family to the state. This is a critical psychological intervention in the Indian context, where "loss of face" or financial ruin often prevents parents from supporting their children's risky ventures.
- **The "Wall of Failure":** Many EMC-enabled classrooms now feature "Failure Walls" where students post what they learned from a rejected idea. This directly counters the traditional Indian schooling culture that penalizes errors.

Comparative Analysis: CBSE vs. State Boards state boards (like Kerala and Maharashtra) are catching up with localized versions. While CBSE has pioneered a formal elective,

Feature	CBSE (National)	Delhi EMC (State)	Kerala (ASAP Model)
Target Audience	Grades 11-12 (Elective)	Grades 9-12 (Compulsory)	Vocational Students
Primary Goal	Academic Knowledge	Mindset & Grit	Skill Development
Funding	Self-funded projects	State-provided seed money	Industry-linked stipends
Assessment	Written Board Exams	Reflective Journaling	Practical Certification

Socio-Economic Implications for India

India currently faces a "demographic dividend" that could become a "demographic disaster" if job creation does not keep pace with the 12 million youth entering the workforce annually.

Decentralization of Wealth

Entrepreneurial curricula in rural schools (through initiatives like the Atal Innovation Mission) encourage students to solve local problems—such as solar-powered irrigation or waste management—rather than migrating to overpopulated urban hubs like Bangalore or Mumbai. This promotes a decentralized economy.

Gender Parity and Entrepreneurship

Research indicates that female students in Indian government schools often show higher levels of empathy and "social entrepreneurship" focus. By normalizing business leadership in the classroom, the curriculum challenges the patriarchal notion that women should only seek "stable, indoor" jobs (Teaching, Nursing).

Strategic Recommendations for Policy Makers

The following recommendations should be elaborated upon:

1. Teacher-as-Mentor Training: Establishing a National Institute for Entrepreneurial Pedagogy.

2. Alumni Integration: Creating a "Founder-in-Residence" program where local startup founders spend two days a month mentoring school students.

3. Digital Literacy Linkage: Entrepreneurship cannot exist in a vacuum; it must be paired with coding and digital marketing modules to make the ventures scalable.

CHALLENGES IN IMPLEMENTATION

Despite policy advancements, several hurdles remain:

- Teacher Readiness:** Most Indian teachers are trained in traditional pedagogical methods. Facilitating an "entrepreneurial mindset" requires a shift from being an instructor to being a mentor (Quest Journals, 2024).
- Assessment Rigidity:** While the curriculum is becoming experiential, the final board exams still largely reward theoretical recall.
- Cultural Resistance:** The societal pressure for "stable" jobs continues to deter students from taking the high-risk path of entrepreneurship (ResearchGate, 2018).

DISCUSSION AND RECOMMENDATIONS

To achieve the goals of NEP 2020, India must move beyond the elective model. Entrepreneurial

thinking should be integrated into Science, Humanities, and Arts. For instance, a biology project on sustainable farming can be paired with an entrepreneurial module on supply chains. Furthermore, the government should establish Incubation Centres within schools, similar to the Atal Tinkering Labs (ATL), to provide students with the technology needed to prototype their ideas.

THE INFRASTRUCTURE OF INNOVATION: ATAL TINKERING LABS (ATL)

Genesis and Vision

The Atal Tinkering Lab initiative was conceived to address a critical gap in the Indian schooling system: the transition from "learning" to "doing." Historically, Indian science education was confined to rigid laboratories where students performed pre-determined experiments with known outcomes. The Atal Tinkering Labs subvert this model by introducing the concept of a "Maker Space"—a workspace where young minds can give shape to their ideas through hands-on do-it-yourself (DIY) mode.

The vision is to "cultivate one million children in India as Neoteric Innovators." By providing access to high-end technology that was previously reserved for engineering colleges, the government has effectively democratized innovation. As of 2024, over 10,000 Atal Tinkering Labs have been established across 700+ districts, reaching over 7.5 million students.

Curricular Integration and Technical Components:

An Atal Tinkering Lab (ATL) is not merely a room full of gadgets; it is a structured learning environment. The curriculum within these labs is designed around the "Four Pillar Model" of innovation:

1. Ideation: Identifying community problems (e.g., water wastage, traffic congestion).

2. Design Thinking: Empathizing with the user and defining the solution.

3. Prototyping: Building the physical or digital model.

4. Testing: Iterating based on real-world feedback.

To facilitate this, every ATL is equipped with an "Equipment Kit" that includes:

- **Electronic Development Tools:** Arduino and Raspberry Pi boards for coding and hardware interfacing.

- **Rapid Prototyping Tools:** 3D printers and filament guns.

- **Sensors and Actuators:** IoT (Internet of Things) components like ultrasonic sensors, soil moisture sensors, and Bluetooth modules.

- **Robotics Kits:** For understanding mechanical automation.

The Role of A In The Entrepreneurial Journey

The ATL acts as a "pre-incubator." In the context of an entrepreneurial curriculum, its role can be broken down into three distinct phases:

1. From Science to Solutions (Problem Identification)

The ATL curriculum encourages students to look beyond their textbooks. Through the **Atal Tinkering Challenges**, students are prompted to solve problems aligned with the Sustainable Development Goals (SDGs). For example, a student in a rural ATL might notice the lack of affordable soil testing for farmers and use the lab's sensors to build a low-cost pH meter. This transition—from identifying a pain point to envisioning a product—is the core of the entrepreneurial mindset.

2. The "Fail Fast" Philosophy

In a traditional Indian classroom, failure is penalized through marks. In an ATL, failure is a data point. The iterative nature of 3D printing and coding teaches students that a "bug" or a "failed print" is simply a step toward a refined product. This builds **psychological resilience**, a trait cited by entrepreneurs as more critical than capital. The lab environment fosters "grit," allowing students to pivot their ideas without the stigma of academic failure.

3. Creating "Market-Ready" Mindsets

While the labs are tech-heavy, the Atal Innovation Mission has increasingly integrated business logic into the labs through the ATL Marathon. This is a national-level innovation challenge where students don't just present a gadget; they must present a "Business Case." They are required to define their target audience, estimate production costs, and explain the scalability of their innovation. This encourages students to consider the economic viability of their scientific creations.

MENTORSHIP AND THE "SHERO" EFFECT

A unique aspect of the ATL's role in the curriculum is the **Mentor India** initiative. NITI Aayog has engaged thousands of corporate professionals and successful entrepreneurs to volunteer their time at these labs. This exposure is revolutionary for students in Tier-2 and Tier-3 cities who may never have met a CEO or a startup founder.

Furthermore, ATLs have played a significant role in bridging the gender gap in STEM and entrepreneurship. By providing a safe, school-based space for girls to tinker with electronics and machinery, these labs are dismantling the stereotype that "hard tech" is a male domain. Success stories of "Sheroes"—young female innovators from ATLs—are frequently highlighted to inspire a more inclusive entrepreneurial ecosystem.

The Pedagogical Pivot: Re-engineering

Teacher Training for Entrepreneurship

The "Mindset Gap" in Traditional Educators

The primary barrier to an entrepreneurial curriculum in India is not the lack of infrastructure, but the "Certainty Bias" of the teaching workforce. Most educators in the Indian K-12 system have been trained under the **Behaviourist model**, where success is defined by the accurate reproduction of known facts. Entrepreneurship, conversely, is rooted in **Constructivism and Effectuation Theory**, where the future is unpredictable and success is born from iterative failure.

Research indicates that teachers often view "entrepreneurship" as synonymous with "Vocational Training" or "Business Management." Training modules must, therefore, first deconstruct these myths.

National Initiatives: NISHTHA and PM SHRI

Under the NEP 2020, the Department of School Education and Literacy launched NISHTHA (**National Initiative for School Heads' and Teachers' Holistic Advancement**). This program has been expanded to include modules on:

- **Experimental Learning:** Moving lessons from the blackboard to the community.
- **Social-Emotional Learning (SEL):** Helping teachers manage the anxiety students feel when a "Business Blaster" project fails.
- **ICT Integration:** Training teachers to use digital tools to help students track their "startup" progress.

THE MENTOR-TEACHER MODEL IN DELHI

A standout feature of the Delhi EMC is the creation of a specialized cadre of "Mentor Teachers." These are not outside consultants but experienced government school teachers who have been relieved of standard classroom duties to coach their peers.

The training for these mentors focuses on **Socratic Questioning**. Instead of giving a student a solution to a supply chain problem, the teacher is trained to ask: "What happened when you tried to source this locally?" or "How would your customer feel if the price doubled?" This shift from giving answers to asking the right questions is the cornerstone of entrepreneurial pedagogy.

CORPORATE-ACADEMIC SYNERGY IN TRAINING

A significant trend in 2024-2026 is the involvement of industry leaders in teacher workshops. Organizations like **NASSCOM**, **TiE (The Indus Entrepreneurs)**, and **Intel** have partnered with state boards to conduct "Bootcamps for Educators." These sessions expose teachers to:

1. **Lean Startup Methodology:** Teaching the concept of a Minimum Viable Product (MVP).
2. **Agile Frameworks:** How to manage a classroom project that changes every week.
3. **Intellectual Property Rights (IPR):** Training teachers to identify when a student's project is "patentable."

BARRIERS TO EFFECTIVE TRAINING

Despite these efforts, systemic "friction points" persist:

- **The "Shadow Curriculum":** Teachers often feel torn between the new "mindset" goals and the pressure to complete the "standard" syllabus for high-stakes exams.
- **Language Barriers:** Much of the global literature on entrepreneurship is in English. Translating these nuanced concepts into vernacular languages (Hindi, Tamil, Marathi) without losing the "spirit of innovation" remains a challenge.

- **Resource Inequality:** For example, a teacher in a high-tech ATL in South Delhi has a vastly different training requirement than a teacher in a single-room school in rural Bihar.

Conclusion

The integration of entrepreneurship into Indian schools is no longer a luxury; it is a structural necessity. While the **NEP 2020** provides the roadmap, the success of this curriculum lies in its execution at the "grassroots" level. India must ensure that the "spirit of inquiry" is not stifled by the "weight of the textbook." If executed correctly, the Indian classroom will transform from a place of passive consumption to a laboratory of active creation.

The Atal Tinkering Labs represent the "physicality" of India's entrepreneurial shift. By moving the focus from the blackboard to the workbench, ATLs are ensuring that the NEP 2020's goals are not just aspirational. They are the factories where the next generation of Indian innovators is being forged, one prototype at a time.

For the entrepreneurial curriculum to be sustainable, teacher training cannot be a one-time "induction" program. It must be a **Continuous Professional Development (CPD)** cycle. As India's startup ecosystem evolves, the curriculum—and the teachers who deliver it—must remain in a state of permanent "Beta testing," constantly refining their methods to match the speed of the market.

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