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# ABOUT THE PROGRESS JOURNALS

‘The Progress Journals’ is a flagship initiative of The Progress, which belongs to one of the verticals of Sri Aurobindo Yoga & Knowledge Foundation with a mission of Sustainable & Holistic Development. Begun in 2023, the vision behind this publication is to create an international, cross-disciplinary, peer-reviewed and open-access journal that deals with issues of social, cultural, economic and ecological importance. This bilingual journal (with papers in English and Hindi) seeks to provide a platform for people engaged in innovative studies on subjects related to sustainability and sustainable development.

The journal also aims to highlight the significance of the Sustainable Development Goals (SDGs), also known as the Global Goals, which were set up by the United Nations in 2015. These goals were designed to be a "blueprint to achieve a better and more sustainable future for all." They comprise a universal call to action to promote individual and social well-being on a global scale. The 17 SDGs are (1) No Poverty, (2) Zero Hunger, (3) Good Health and Well-being, (4) Quality Education, (5) Gender Equality, (6) Clean Water and Sanitation, (7) Affordable and Clean Energy, (8) Decent Work and Economic Growth, (9) Industry, Innovation and Infrastructure, (10) Reducing Inequality, (11) Sustainable Cities and Communities, (12) Responsible Consumption and Production, (13) Climate Action, (14) Life Below Water, (15) Life On Land, (16) Peace, Justice, and Strong Institutions, (17) Partnerships for the Goals.

This journal, which shall be published quarterly, will allow researchers from various backgrounds to share their opinions and findings on topics related to these goals. Through this exchange of knowledge, we hope to better understand how to implement these principles for the development of our communities, our nation and the world.

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Tripura University, Agartala, Tripura

<sup>3</sup>Guest Lecturer, Dept. of Human Physiology,  
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<sup>1</sup>Lecturer, Department of English & Assistant Proctor  
Southern University Bangladesh

<sup>2</sup>Assistant Professor & Head Department of English  
Southern University Bangladesh

# EDITOR'S NOTE

THE PROGRESS, established in 2020, is one of four recent initiatives of Sri Aurobindo Yoga and Knowledge Foundation. The core objective of our organization is the transformation of consciousness in higher education. The inspiration for this goal is the philosophy of Sri Aurobindo and the Mother, especially the principles of Integral Yoga. We believe that true progress requires consciousness of one's role in one's family, community, nation and the world. We seek to create this distinctive awareness, especially among students, professors, researchers and other key stakeholders in the field of education. At present, we are associated with more than 28 higher education institutions, including IIT Delhi.

In Integral Yoga, it is written that there are five layers of the mind: Physical, Vital, Mental, Psychic, and Spiritual. In higher education institutes today, the teaching-learning process is such that it functions till the Vital layer. There is no formal curriculum for anything beyond that. That kind of learning only comes through community, social and spiritual initiatives. Most higher education institutions have already started different types of developmental projects, social work, etc. Our objective is to create an organization that can connect all these other institutions and then collectively, we can be a force for universal transformation. To the broad vision of progress, we each bring our own unique perspective. Together, we can refine our approach and make a difference globally, while being rooted in our regional heritage.

In 2023, we launched a new initiative, 'The Progress Journals' with a mission to highlight scholarly work on Sustainable Development in general and the significance of the Sustainable Development Goals (SDGs) proposed by the UN, specifically. This is our first issue and we are very grateful to all our contributors and supporters. We aim to release this bilingual journal on a quarterly basis and provide a space for new voices and fresh perspectives.

- *Dr. Samarendra Mohan Ghosh*

*Editor-in-Chief*



## A Novel Design Thinking Model for Sustainable Product Innovation: A Case of Mobility Assistive Devices

**Tushar Tiwari**

Indian Institute Of Technology Kharagpur, West Bengal, India

### **Abstract:**

*The design and development of mobility assistive devices (MAD) present unique challenges at the intersection of human-centred innovation and sustainable development. Conventional Design Thinking models often prioritise user empathy and functionality but overlook broader environmental and systemic implications, particularly critical in low-resource contexts. This study proposes a novel Design Thinking framework—the Sustainable Design Thinking (SDT) model—for sustainable product innovation in mobility assistive devices. The model integrates sustainability principles such as circular economy, life cycle thinking, and inclusive design into several iterative processes that are Empathise Sustainably, Define with a Triple Bottom Line, Ideate for Regeneration, Prototype with Purpose, Test with Impact Metrics, Reflect and Iterate for Circularity. The model developed in this article uses a mixed-methods approach, including interviews with rehabilitation professionals and users with disabilities, expert co-design workshops, and field studies across India's rural and urban healthcare settings. It was validated by designing and deploying an affordable multi-featured wheelchair, emphasising user dignity, resource efficiency, and low-carbon materials. Results demonstrate that the SDT model facilitates deeper engagement with diverse stakeholder needs while ensuring the product's environmental and social sustainability throughout its lifecycle. The research highlights that integrating sustainable thinking into the early stages of mobility assistive device design significantly improves long-term usability, local manufacturability, and systemic inclusion. This model serves as a replicable framework for product designers, rehabilitation engineers, and policymakers aiming to balance innovation with responsibility. The paper advocates a shift from purely user-centred approaches to planet-and-people-centred design, which is essential for addressing global challenges in healthcare access, disability inclusion, and sustainable development.*

**Keywords:** *Design Thinking, Sustainable Design Thinking Model (SDT), Life Cycle Thinking, Product Innovation, Design Methodology, Mobility Assistive Device*

### **Introduction**

The intersection of sustainability and inclusive design presents a compelling

frontier for innovation, particularly in the development of assistive technologies. As global challenges such as climate change,

resource scarcity, and social inequity intensify, the need for product design methodologies that are both environmentally responsible and socially empowering becomes increasingly urgent. This paper introduces a novel design thinking model that integrates sustainability principles into the core of product innovation, with a specific focus on mobility assistive devices.

Mobility assistive devices, ranging from wheelchairs and prosthetics to walking aids, are essential tools that enhance autonomy and quality of life for individuals with physical disabilities. Despite their critical role, conventional design approaches often neglect the broader implications of sustainability, resulting in resource-intensive products, which are difficult to recycle and poorly adapted to diverse user contexts. Moreover, the lack of inclusive design frameworks can perpetuate systemic barriers to accessibility and dignity.

In response to these challenges, this study proposes a novel design thinking model that reimagines the innovation process through the lens of ecological stewardship, user empowerment, and long-term adaptability. Drawing on interdisciplinary insights from design research, sustainability science, and disability studies, the model emphasizes iterative co-creation, material consciousness, and contextual relevance. A case study on mobility assistive devices illustrates the model's practical application, demonstrating how sustainable design thinking can yield solutions that are

functional, inclusive, and aligned with global sustainability goals.

By advancing this framework, the research contributes to a growing body of knowledge that seeks to harmonize technological progress with ethical responsibility. It offers actionable guidance for designers, engineers, and policymakers committed to fostering transformative and just innovation.

## Literature Review

The literature organized it to flow from foundational design-thinking scholarship to sustainability, then to assistive-technology specifics, and finally to methods, evaluation, and standards.

## Design thinking: foundations and evolution

Design thinking (DT) emerged as a human-centred, iterative approach that blends problem framing, ideation, prototyping, and testing to reduce uncertainty in innovation (Brown, 2008; Dorst, 2011). While early depictions emphasized a linear “inspiration–ideation–implementation”, which are presented as arc, contemporary accounts highlight nonlinearity, abductive reasoning, and reframing as core mechanisms that unlock novel value propositions (Liedtka, 2018; Dorst, 2011). Design Thinking toolkit - empathy research, journey mapping, concept sketching, rapid prototyping has been widely adopted in product and service contexts due to its ability to integrate

desirability, feasibility, and viability within constrained development cycles.

However, critics note that mainstream Design Thinking often under-specifies how to incorporate systemic impacts and long-term consequences, risking incrementalism and “solutionism.” This critique motivates extensions of Design Thinking with systems thinking, participatory design, and evidence-based evaluation - especially salient for regulated and socially consequential domains such as healthcare and mobility assistance.

### **Sustainability in design and innovation**

Sustainable product innovation (SPI) foregrounds environmental integrity, social equity, and economic resilience throughout the product life cycle (Bocken et al., 2014; Charter, 2017). Frameworks such as circular design and regenerative design encourage strategies including dematerialization, durability, repairability, modularity, and closed-loop material flows (Ellen MacArthur Foundation, 2013; Manzini, 2015). Methodologically, SPI integrates Life Cycle Assessment (LCA) and eco-design guidelines to anticipate burdens shifting between life-cycle stages (ISO 14040/44). At the business-model level, sustainable value mapping and sufficiency-oriented strategies broaden the design brief beyond unit sales toward service models (e.g., product-service systems) and inclusive access.

For resource-constrained contexts, frugal and affordable innovation literature

contributes value sensitivity, cost discipline, and context fit principles, advocating simplicity, robustness, and local maintainability over feature bloat (Radjou et al., 2012; Bhatti, 2012). Combined with mass customization logics (Pine, 1993; Salvador et al., 2009), these approaches enable personalization without prohibitive costs—critical for assistive devices that must accommodate heterogeneous bodies and contexts of use.

### **Assistive technology: user diversity, inclusion, and context**

Mobility assistive devices (MADs)—including wheelchairs, walkers, and orthoses—sit at the intersection of health, mobility, built environment, and social participation. Global guidance underscores the unmet need and the importance of context-appropriate, affordable solutions (WHO, 2016; WHO/UNICEF, 2022). Inclusive and universal design scholarship emphasizes designing for a spectrum of abilities, anthropometries, and environments, prioritizing ergonomics, safety, stigma reduction, and dignity (Mace, 1998; Clarkson et al., 2003; Story, 1998; Norman, 2013).

In low- and middle-income settings, field studies caution against transferring high-spec devices without aligning to local terrain, service ecosystems (fitting, training, maintenance), and supply chains. Co-design and participatory methods with users, caregivers, clinicians, and technicians are associated with better fit and adoption, while also revealing latent

constraints (e.g., doorway widths, transport, financing, and repair culture) that shape real-world performance (Sanders & Stappers, 2008; Muller, 2003).

### **Extending design thinking for sustainable, inclusive assistive devices**

Bringing DT into MADs requires augmentations along four axes:

1. **Problem framing across scales.** Frame creation must connect the individual user's goals (e.g., independent transfers, posture support) to meso-level service pathways (assessment, fitting, follow-up) and macro-level sustainability (materials, supply, end-of-life). Systems mapping and value-network analysis help reconcile trade-offs among stakeholders and life-cycle impacts.
2. **Evidence-informed iteration.** Rapid prototyping should be paired with structured evaluation - ergonomics, safety, and durability tests - so that desirability does not outrun reliability. For MADs, test protocols from the ISO 7176 series (wheelchairs) offer objective measures (stability, fatigue, manoeuvrability, braking) that can be embedded in iterative sprints.
3. **Affordability with personalization.** Frugal design principles (part count reduction, multi-function components, locally available materials) combined with modular architectures enable mass customization for fit (seat width/depth, center of gravity,

adjustability) while maintaining manufacturability and repairability (Pine, 1993; Salvador et al., 2009; Radjou et al., 2012).

4. **Circularity and service models.** Designing for disassembly, refurbishment, and component reuse supports circular flows, while service-dominated models (rental, subscription, or community repair hubs) improve access and total cost of ownership (EMF, 2013; Bocken et al., 2014).

### **Methods: participatory, ethical, and regulatory considerations**

Participatory design offers techniques - contextual inquiry, cultural probes, co-creation workshops, that surface tacit needs and reduce power asymmetries between designers and users (Sanders & Stappers, 2008; Muller, 2003). Ethical practice entails informed consent, data privacy, and avoidance of therapeutic misconception when trials involve clinical partners. Risk management (ISO 14971) provides a structured pathway to identify hazards, estimate risks, implement controls, and verify risk-benefit acceptability for devices that may intersect with medical regulation. Classification frameworks (ISO 9999) facilitate consistent terminology and alignment with procurement and reimbursement systems.

### **Evaluation and measurement**

To substantiate claims of "better fit," "safer," or "more sustainable," DT-based studies benefit from mixed-methods evaluation:

- **Usability & user experience:** standardized instruments like the System Usability Scale (SUS) and task-based measures (time-on-task, error rates) capture effectiveness and efficiency, while qualitative diaries reveal longitudinal use.
- **Functional performance:** standardized wheelchair tests (ISO 7176) and clinician-rated scales can quantify manoeuvrability, stability, and durability under real-world loads.
- **Sustainability metrics:** streamlined LCA, material circularity indicators, repair/upgrade rates, and service life provide environmental and resource-use signals (ISO 14040/44).
- **Adoption & equity:** access (delivery time, out-of-pocket cost), coverage (urban/rural, gender), and continuity of care (follow-up, repairs) reflect social sustainability and system performance.
- **Economic value:** total cost of ownership and outcomes-based cost-benefit (e.g., foregone caregiver hours) connect user value to payers and providers.

### Gap analysis and contribution opportunity

The literature establishes strong but largely parallel streams: robust DT process knowledge; maturing sustainability frameworks; and domain-specific standards for MADs. Yet, integrative models that operationalize sustainability criteria inside DT's everyday activities (research, ideation, prototyping, testing) remain sparse. In particular, there is limited guidance on (a) embedding ISO test gates

within rapid prototyping cadence; (b) coupling frugal/circular strategies to modular personalization without performance penalties; and (c) tracking equity and service-ecosystem outcomes alongside product-level metrics. The proposed model addresses these gaps by fusing participatory DT with systems-aware sustainability checkpoints and domain standards, tailored to the realities of mobility assistive devices.

### Research Objective

Propose a novel Design Thinking model considering sustainability criteria for product design and development and validation of this model through mobility assistive device solution with specific domain. This novel model can differentiate the standard product development process with the sustainable product development process, which is emerging paradigm for the new product development cycle globally.

### Methodology

The structured Methodology section is tailored for the paper in a suitable way for clear phases, rationale, and replicability. This study employed a design science research (DSR) approach, combining design thinking (DT) with sustainability-oriented innovation frameworks to propose and validate a novel model for sustainable product innovation. The methodology was structured into four phases: (1) model conceptualization, (2) user-centred inquiry, (3) iterative prototyping and sustainability

integration, and (4) validation through case application in mobility assistive devices (MADs). Each phase combined qualitative and quantitative methods to ensure rigor, relevance, and contextual fit.

### Phase 1: Model Conceptualization

A systematic review of literature was conducted to synthesize principles from design thinking, sustainable product innovation, and assistive technology development. Key theoretical inputs included:

- Human-centered design and DT frameworks (Brown, 2008; Dorst, 2011).
- Sustainability-oriented design principles such as circularity, life cycle assessment (ISO 14040/44), and frugal innovation strategies.
- Assistive technology guidelines and standards, notably WHO's Priority Assistive Products List (2016) and ISO 7176 wheelchair testing protocols.

This synthesis constructed an initial multi-layered DT model, incorporating checkpoints for sustainability (environmental, social, and economic), user inclusion, and regulatory compliance.

### Phase 2: User-Centred Inquiry

A participatory design research strategy was adopted to capture user requirements and contextual constraints.

- Participants: 24 stakeholders, including 12 mobility device users, 5 caregivers, 4 rehabilitation professionals, and 3 local manufacturers. Participants were recruited using purposive sampling in collaboration with a rehabilitation center.
- Methods: Semi-structured interviews, contextual observations, and co-creation workshops.
- Data Analysis: Thematic coding (Braun & Clarke, 2006) identified patterns of unmet needs, sustainability concerns (e.g., repairability, affordability), and contextual barriers (terrain, infrastructure, socio-cultural perceptions).

Findings were translated into personas, user journey maps, and requirement matrices to inform design criteria.

### Phase 3: Iterative Prototyping with Sustainability Integration

The proposed model was operationalized in iterative prototyping cycles, guided by the double-diamond structure of DT but extended with sustainability checkpoints.

- Ideation: Brainstorming and morphological analysis generated alternative design concepts emphasizing modularity, durability, and affordability.
- Prototyping: Low-fidelity (cardboard/3D-printed) and mid-

fidelity (wood/metal prototypes) models were developed.

- Sustainability Assessment: Each prototype underwent a streamlined Life Cycle Assessment (sLCA) focusing on material choice, energy footprint, and end-of-life recovery options. Cost modeling and repair pathway mapping were also conducted.
- Evaluation: Prototypes were tested against ISO 7176 wheelchair performance standards (stability, durability, manoeuvrability), alongside usability testing using the System Usability Scale (SUS) and structured task performance.

Feedback loops ensured that sustainability trade-offs (e.g., weight vs. durability) were balanced with user preferences and safety standards.

#### Phase 4: Validation of the Model

The refined DT model is validated through its application to a case study of any product for this paper the author validate this model through mobility assistive device (electric wheelchair).

- Pilot Deployment: final prototypes were provided to selected users for 6 weeks of real-world use.
- Data Collection: Mixed methods were applied:
  1. Quantitative: device durability logs, maintenance frequency, usability scores (SUS), and LCA indicators.

2. Qualitative: user diaries, post-use interviews, and caregiver feedback.

- Analysis: Triangulation of quantitative and qualitative data assessed the model's effectiveness in achieving sustainable innovation outcomes improved user experience, reduced environmental burden, and enhanced economic feasibility.

#### Ethical Considerations

The study adhered to ethical guidelines for human-centered design in assistive technology. Informed consent was obtained from all participants, with additional caregiver consent for users with limited decision-making capacity. Data confidentiality and anonymity were maintained. The prototypes were tested under supervised conditions to ensure participant safety.

#### Methodological Rigour

To enhance validity and reliability:

- Triangulation of data sources (users, caregivers, professionals, manufacturers) was applied.
- Iterative member-checking ensured user voices were accurately represented.
- Standards-based testing (ISO 7176, ISO 14040/44) enhanced external validity.
- Transparency in documentation allowed replicability for future research.

## Proposed Sustainable Design Thinking Model

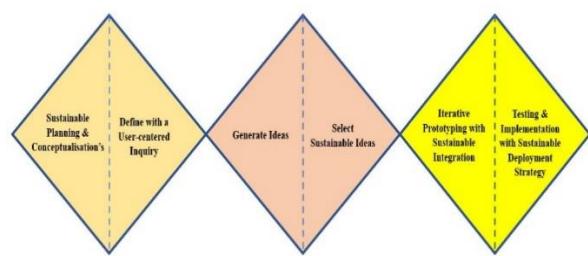
The proposed Design Thinking model extends the traditional design thinking framework by embedding sustainability principles - environmental, social, and economic at every stage of the process. Unlike the conventional double diamond approach, the sustainable design thinking (SDT) model uses a multi-diamond structure to highlight iterative cycles of divergence (exploration) and convergence (focus), ensuring that solutions are not only user-centred but also planet-conscious and future-ready.

- **Diamond 1:** Sustainable Planning & conceptualization as an empathy of the situation or scope by integrating sustainability goals with user needs. It emphasises stakeholder engagement, ecological awareness, and alignment with global frameworks such as the UN Sustainable Development Goals (SDGs). After that, define the problem with a user-centred inquiry, which reframes problems through a sustainability lens. In this convergence, thinking ensures feasibility and long-term responsibility.
- **Diamond 2:** Generate Ideas and select sustainable Ideas that leverage concepts like the circular economy, frugal innovation, and inclusive design. Divergent thinking encourages multiple possibilities,

while convergent thinking focuses on the tentative solutions.

- **Diamond 3:** Iterative prototype with sustainable integration & testing and implementation with a sustainable deployment strategy that ensures the prototypes are developed with eco-conscious materials and methods such as recyclable resources, digital simulations, or low-impact fabrication. Testing goes beyond usability to include life-cycle assessments, carbon footprint evaluation, and social inclusion metrics. Solutions are implemented with sustainable supply chains, ethical production, and policies that support long-term ecological balance.

A circular feedback loop overlays the entire model, enabling continuous improvement and regenerative design cycles. This ensures that sustainability is not treated as a one-time checkpoint but as a dynamic, iterative commitment across the innovation journey. The proposed sustainable design thinking model is illustrated in Fig. 1.



**Figure 1:** A Novel Sustainable Design Thinking Model for Product Innovation

The multi-diamond sustainable design thinking (SDT) model provides a structured yet flexible pathway for sustainable product and service innovation, balancing human needs, business viability, and environmental stewardship. In essence, the multi-diamond SDT model provides a robust, adaptable framework for sustainable innovation, harmonising human needs, business viability, and planetary health.

## Results and Discussion

The proposed sustainable design thinking model is mentioned in Figure 1 in the methodology section of this paper. This model is tested and validated through the mobility assistive device ‘Electric Wheelchair’. The development of the prototype of the electric wheelchair follows the guidelines of the proposed sustainable design thinking model, which ensures the development of a sustainable product through this proposed model is valid and essential for every product, considering human factors and needs.

The development of a prototype model of ‘Electric Wheelchair’ is mentioned in the following paragraphs, which ensures the process of the product development cycle to validate the proposed sustainable design thinking model.

- The sustainable planning of the end users, who required the electric wheelchair as their mobility solution and conceptualising the criteria for finalising the needs of the differently abled people.

- After finalising the differently abled people's needs, define the problem statement with a human-centred approach and finalise their pain points, such as a manually operated wheelchair is not suitable for operation, as it creates physical strain.
- Generating different ideas and selecting the most sustainable idea to develop an electric wheelchair with the desired specifications, and selecting the equipment that is most suitable and affordable for wheelchair usability.
- After selecting the equipment for an electric wheelchair, assemble it to develop a prototype model of the wheelchair with sustainable integration, such as social, economic and environmental.
- The prototype development is an iterative process, which creates a real-life working function of the wheelchair and fulfils the needs of people with disabilities. The testing of the prototype is based on user feedback and evaluation through the Sustainable Development Goals.
- The working prototype model is cross-checked with a sustainable deployment strategy, and the electric wheelchair fulfils the criteria of sustainability performance. The working prototype model is mentioned in Figure 2.



**Figure 2:** Prototype Model of an Affordable Electric Wheelchair

The above prototype is developed in the workshop, where the handle of a bicycle was assembled as a steering system of the electric wheelchair. This effective idea solution came from the user personas and needs for usability of the product. This handle is attachable and detachable from the wheelchair, which is used according the needs of the differently abled person. The specification of the equipment that is assembled in the working model of the electric wheelchair prototype and the total cost analysis of the equipment are mentioned in Table 1.

**Table 1:** Specification of an Electric

S. No	Items	Cost
1	6 AH Battery BMS	1500
2	Accessories	200
3	Fitting	500
4	PMDC Motor kit	2500
5	8 cells 6 AH Battery	250 * 8 = 2000
6	Battery Charger	500
7	Wheelchair	5500
8	2 Gas Spring	920
9	Cycle Handle Part	1000
10	Iron Rod	350
11	Flame	120
12	Break, Drill, Weld, Tube, Bolt	500
13	Mechanical Jack	1000
14	Labour Charges	1000
15	<b>Total</b>	<b>17,590 Rs.</b>

Wheelchair

## Conclusion

This research proposed and validated a novel Sustainable Design Thinking (SDT) model through the case of a mobility assistive device (wheelchair). By extending the conventional design thinking framework into a multi-diamond structure, the model embeds sustainability principles across all stages—planning, empathy, ideation, prototyping, testing, and implementation. The case study demonstrated that integrating circular economy practices, eco-conscious prototyping, and social inclusion metrics not only improved product functionality but also enhanced environmental responsibility and user well-being.

The validation with the wheelchair project confirmed that the SDT model provides a structured, iterative, and regenerative pathway for sustainable product innovation. It ensures that solutions remain human-centered, ecologically balanced, and economically viable. The findings highlight the potential of this model to serve as a replicable framework for sustainable innovation in other domains of healthcare and beyond, contributing to the broader agenda of responsible design and development.

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## References

- [1] Bhatti, Y. (2012). Frugal Innovation.
- [2] Bocken, N. M. P., Short, S. W., Rana, P., & Evans, S. (2014).
- [3] A literature and practice review of sustainable business model archetypes. *Journal of Cleaner Production*.
- [4] Brown, T. (2008). Design thinking. *Harvard Business Review*.
- [5] Charter, M. (Ed.). (2017). Design for Sustainability (DfS).
- [6] Clarkson, J., Coleman, R., Keates, S., & Lebon, C. (2003).
- [7] Inclusive Design: Design for the Whole Population.
- [8] Dorst, K. (2011). The core of ‘design thinking’ and its application. *Design Studies*.
- [9] Ellen MacArthur Foundation (2013). Towards the Circular Economy.
- [10] ISO 14040/14044. Environmental management—Life cycle assessment.
- [11] ISO 14971. Medical devices—Application of risk management.
- [12] ISO 7176 series. Wheelchairs—Testing methods.
- [13] ISO 9999:2016. Classification of assistive products.
- [14] Liedtka, J. (2018). Why design thinking works. *Harvard Business Review*.
- [15] Mace, R. (1998). Universal Design in housing.
- [16] Manzini, E. (2015). Design, When Everybody Designs.
- [17] Muller, M. (2003). Participatory design: The third space.
- [18] Norman, D. (2013, rev. ed.). *The Design of Everyday Things*.
- [19] Pine, B. J. (1993). Mass Customization.
- [20] Radjou, N., Prabhu, J., & Ahuja, S. (2012). *Jugaad Innovation*.
- [21] Salvador, F., de Holan, P. M., & Piller, F. (2009). Cracking the code of mass customization. *MIT Sloan Management Review*.
- [22] Sanders, E. B.-N., & Stappers, P. J. (2008). Co-creation and the new landscapes of design. *CoDesign*.
- [23] Story, M. F. (1998). Maximizing usability: The principles of universal design.
- [24] WHO (2016). Priority Assistive Products List.
- [25] WHO & UNICEF (2022). Global Report on Assistive Technology.
- [26] Tiwari, T., Sharma, K., Rudra, C., Singh, M., & Dan, P. K. (2024, October). Automatizing step-climbing feature in a wheelchair via digitized movement control for value-sensitive market. In *IET Conference Proceedings CP885* (Vol. 2024, No. 11, pp. 47-53). Stevenage, UK: The Institution of Engineering and Technology.
- [27] Tiwari, T., Rudra, C., Mathur, A., & Dan, P. K. (2024, February). Development of Motorized Wheelchair Bearing Safety Feature in Electronic Control Module. In *2024 10th International Conference on Mechatronics and Robotics Engineering (ICMRE)* (pp. 136-142). IEEE.

[28] Dan, P. K., Tiwari, T., & Basu, P. (2022, November). Fuzzy front end and design thinking integrated frugal innovation framework for feature concept generation in a product: Portrayal for a wheelchair. In *Interdisciplinary Conference on Innovation, Design, Entrepreneurship, And Sustainable Systems* (pp. 301-316). Cham: Springer International Publishing.

[29] Tiwari, T., Sharma, V. K., & Dan, P. K. (2024). Safety Management and Human Factors, Vol. 151, 2024, 69-77. *Safety Management and Human Factors*, 69.

[30] Tiwari, T., & Tiwari, N. (2023). Investigating the Impact of Incorporating Sustainability Consideration into the Product Design Process. *THE PROGRESS JOURNALS*.

[31] Tiwari, T. (2024). Empowering entrepreneurs in India: Addressing challenges for growth. *International Journal of Engineering Research & Technology*, 13(12), 1-10.

[32] Tiwari, T., Garg, T., Singh, G., Mishra, S., & Guleria, K. (2024). Optimizing Food Utilization: A Smart Inventory Management and AI-Predictive Analytics in Reducing Food Waste. *International Journal of Science and Social Science Research*, 2(3), 165-170.

[33] Tiwari, T., & Dubey, S. (2025). Development of Gamified Learning Modules for Child Rights Education. *International Journal of Recent*.

[34] Tiwari, T., Sharma, V. K., & Dan, P. K. (2024). Reliability and Safety Embedded Design Thinking and Frugal Engineering-based Approach in Assistive Product System Engineering.

[35] Prabhakar, S., Tiwari, T., Prabhakar, P., Banerjee, S., Pasayat, A. K., Gonela, S., ... & Nimesh, A. (2025). *Frugal Innovation (FI): A Catalyst for Inclusive Economic Growth and Sustainable Entrepreneurship Development. In Entrepreneurial Opportunities in Disadvantaged Rural Communities* (pp. 281-326). IGI Global Scientific Publishing.

[36] Tiwari, T. (2025). Harmonizing Innovation and Efficiency: Unveiling the Strategic Confluence of Mass Customization and Frugal Engineering with Design Principles.

[37] Tiwari, T., & Dubey, S. *Disruptive Innovation in E-commerce: Evolution, Impact and Future Trends*.

[38] Stenberg, G., Henje, C., Levi, R., & Lindström, M. (2016). Living with an electric wheelchair—the user perspective. *Disability and Rehabilitation: Assistive Technology*, 11(5), 385-394.

The author (Tushar Tiwari) is a Research Scholar pursuing a Ph.D. in the Research domain of Product Design and Development with an area of interest in Assistive device design and technology development with Frugal Innovation since

the 2nd of August 2021, at IIT Kharagpur, West Bengal, India. The author completed his M.Tech (Postgraduate)degree from the Industrial Design Department at NIT Rourkela, Odisha, India. Before that, he had 2 years of teaching Experience at Aarya Academy Pvt. Ltd., Bilaspur.



## 1857 ई० के सैन्य विद्रोह का वर्तमान समय में आमजनों का दृष्टिकोण : एक चर्चा

### रचना कुमारी

शोधार्थी, इतिहास विभाग  
सोनादेवी विश्वविद्यालय, घाटशिला, जमशेदपुर

### शोध—सार

1857 का सैन्य विद्रोह, जिसे भारत का प्रथम स्वतंत्रता संग्राम भी कहा जाता है, भारतीय इतिहास का एक महत्वपूर्ण अध्याय है। यह विद्रोह ब्रिटिश ईस्ट इंडिया कंपनी के शासन के खिलाफ एक व्यापक और संगठित प्रतिरोध था। उस समय, इसे मुख्य रूप से एक सैनिक विद्रोह के रूप में देखा गया था, लेकिन समय के साथ इसकी व्याख्या में बदलाव आया है। आज के समय में, आम लोगों की दृष्टि से यह केवल एक सैन्य विद्रोह नहीं, बल्कि भारतीय राष्ट्रवाद की भावना का उदय और सामूहिक एकता का प्रतीक बन गया है। इस विद्रोह को वर्तमान में विभिन्न दृष्टिकोणों से देखा जाता है, जिसमें इसे हिंदू-मुस्लिम एकता का एक आदर्श उदाहरण और सामाजिक-आर्थिक शोषण के खिलाफ एक जन-आंदोलन के रूप में समझना शामिल है। हालांकि, कुछ लोग इसे केवल एक असफल विद्रोह मानते हैं, लेकिन अधिकांश लोग इसे ब्रिटिश शासन की नींव हिलाने वाली एक महत्वपूर्ण घटना के रूप में देखते हैं जिसने भविष्य के स्वतंत्रता संग्राम की रूपरेखा तैयार की।

मुख्यबिन्दु-1857 का विद्रोह, स्वतंत्रता संग्राम, भारतीय राष्ट्रवाद, ब्रिटिश राज, मेरठ विद्रोह, सामाजिक-आर्थिक शोषण, सामूहिक एकता, ऐतिहासिक दृष्टिकोण, जन-आंदोलन, हिंदू-मुस्लिम एकता।

### परिचय

1857 का सैन्य विद्रोह, जिसे भारत का प्रथम स्वतंत्रता संग्राम या सिपाही विद्रोह के रूप में भी जाना जाता है, भारतीय इतिहास की एक महत्वपूर्ण घटना थी। यह विद्रोह ब्रिटिश ईस्ट इंडिया कंपनी के खिलाफ भारतीय सैनिकों और नागरिकों द्वारा किया गया एक सशस्त्र विद्रोह था, जिसकी शुरुआत 10 मई 1857 को मेरठ में हुई थी। इस विद्रोह के कारण और परिणामों ने भारतीय समाज, संस्कृति और राजनीति पर गहरा प्रभाव डाला। वर्तमान समय में, आम लोगों के दृष्टिकोण से इस विद्रोह को विभिन्न कोणों से देखा जाता है।<sup>1</sup> यह चर्चा 1857 के विद्रोह के प्रति आधुनिक भारतीय समाज की धारणाओं, इसके

ऐतिहासिक महत्व और समकालीन प्रासांगिकता पर केंद्रित है। 1857 का विद्रोह केवल एक सैन्य विद्रोह नहीं था, बल्कि यह ब्रिटिश औपनिवेशिक शासन के खिलाफ व्यापक असंतोष का प्रतीक था। विद्रोह के कारणों में सैनिकों के बीच धार्मिक और सांस्कृतिक अपमान (जैसे, चर्वी वाले कारतूसों का मुद्दा), आर्थिक शोषण, सामाजिक भेदभाव और स्थानीय शासकों की शक्ति का हास शामिल थे। इस विद्रोह में नाना साहब, रानी लक्ष्मीबाई, तात्या टोपे, मंगल पांडे और बहादुर शाह जफर जैसे नेताओं ने महत्वपूर्ण भूमिका निभाई। हालांकि यह विद्रोह अंततः असफल रहा, लेकिन इसने भारतीय स्वतंत्रता संग्राम की नींव रखी और ब्रिटिश शासन को चुनौती दी। 1858 में, इसके परिणामस्वरूप ईस्ट इंडिया कंपनी का शासन समाप्त

हुआ और भारत पर ब्रिटिश क्राउन का प्रत्यक्ष नियंत्रण स्थापित हुआ।

### वर्तमान समय में आमजनों का दृष्टिकोण

आज के समय में, 1857 के विद्रोह को लेकर आम लोगों की राय और समझ विभिन्न कारकों जैसे शिक्षा, क्षेत्रीयता, सामाजिक पृष्ठभूमि और राजनीतिक विचारधारा पर निर्भर करती है।<sup>2</sup> निम्नलिखित बिंदु इस दृष्टिकोण को विस्तार से समझाते हैं:

### राष्ट्रीय गौरव और स्वतंत्रता संग्राम की शुरुआत

- सामान्य धारणा:** अधिकांश भारतीय 1857 के विद्रोह को स्वतंत्रता संग्राम की पहली चिंगारी के रूप में देखते हैं। यह विद्रोह भारतीयों के बीच एकता और ब्रिटिश शासन के खिलाफ प्रतिरोध का प्रतीक माना जाता है। रानी लक्ष्मीबाई और मंगल पांडे जैसे नायकों को देशभक्ति और बलिदान के प्रतीक के रूप में सम्मानित किया जाता है।
- शैक्षिक प्रभाव:** स्कूलों और कॉलेजों के पाठ्यक्रमों में 1857 के विद्रोह को प्रथम स्वतंत्रता संग्राम के रूप में पढ़ाया जाता है, जिसके कारण युवा पीढ़ी इसे राष्ट्रीय गौरव से जोड़ती है। यह धारणा विशेष रूप से स्वतंत्रता दिवस और गणतंत्र दिवस जैसे अवसरों पर प्रबल होती है।
- सांस्कृतिक प्रभाव:** फिल्मों, टीवी धारावाहिकों (जैसे झांसी की रानी), और साहित्य के माध्यम से यह विद्रोह जनमानस में जीवंत बना हुआ है। ये माध्यम विद्रोह के नायकों को महिमामंडित करते हैं, जिससे आम लोग इसे गर्व के साथ याद करते हैं।

### क्षेत्रीय और सामुदायिक दृष्टिकोण

- क्षेत्रीय गर्व:** उत्तर भारत, विशेष रूप से उत्तर प्रदेश, बिहार, और मध्य प्रदेश जैसे क्षेत्रों में, जहां विद्रोह का प्रभाव सबसे अधिक था, लोग इसे स्थानीय गौरव के साथ जोड़ते हैं। उदाहरण के लिए, झांसी में रानी लक्ष्मीबाई को एक स्थानीय नायिका के रूप में पूजा जाता है।
- सामुदायिक दृष्टिकोण:** कुछ समुदाय, विशेष रूप से वे जो विद्रोह में शामिल थे (जैसे, राजपूत, जाट, और कुछ मुस्लिम समुदाय), इसे अपनी ऐतिहासिक पहचान का हिस्सा मानते हैं। हालांकि, कुछ अन्य समुदाय, जो विद्रोह में शामिल नहीं थे या जिन्हें ब्रिटिश शासन से लाभ हुआ, इसे केवल एक ऐतिहासिक घटना के रूप में देखते हैं।
- विवादास्पद दृष्टिकोण:** कुछ क्षेत्रों में, विशेष रूप से दक्षिण और पूर्वी भारत में, जहां विद्रोह का प्रभाव कम था, लोग इसे राष्ट्रीय स्वतंत्रता संग्राम से कम और क्षेत्रीय विद्रोह के रूप में देख सकते हैं।

### आधुनिक राजनीतिक और सामाजिक संदर्भ

- राष्ट्रवादी विमर्श:** वर्तमान समय में, कुछ राजनीतिक समूह 1857 के विद्रोह को हिंदू-मुस्लिम एकता के प्रतीक के रूप में प्रस्तुत करते हैं, क्योंकि इसमें दोनों समुदायों ने एक साथ भाग लिया था। उदाहरण के लिए, बहादुर शाह जफर को विद्रोह का प्रतीक बनाया गया, जो हिंदू-मुस्लिम एकता को दर्शाता है।

- विवाद और पुनर्मूल्यांकन:** कुछ इतिहासकारों और विचारकों का मानना है कि 1857 के विद्रोह पूरी तरह से राष्ट्रीय स्वतंत्रता संग्राम नहीं था, बल्कि यह स्थानीय शासकों और सैनिकों के हितों को बचाने का प्रयास था। यह दृष्टिकोण आम लोगों में कम प्रचलित है, लेकिन शिक्षित वर्गों में इस पर चर्चा होती है।
- सामाजिक असमानता का मुद्दा:** कुछ लोग 1857 के विद्रोह को सामाजिक सुधारों की कमी के साथ जोड़ते हैं। उदाहरण के लिए, विद्रोह के नेताओं में से कई पुरानी सामंती व्यवस्था को बहाल करना चाहते थे, जो आधुनिक सामाजिक मूल्यों (जैसे, जाति और लैंगिक समानता) के विपरीत है।

### शिक्षा और जागरूकता का स्तर

- शहरी बनाम ग्रामीण दृष्टिकोण:** शहरी, शिक्षित वर्ग में 1857 के विद्रोह को ऐतिहासिक और रणनीतिक दृष्टिकोण से देखा जाता है। लोग इसके कारणों, परिणामों और सीमाओं पर चर्चा करते हैं। दूसरी ओर, ग्रामीण क्षेत्रों में, यह विद्रोह लोककथाओं और मौखिक परंपराओं के माध्यम से जीवित है, जहां इसे वीरता और बलिदान की कहानी के रूप में देखा जाता है।
- जागरूकता की कमी:** कुछ युवाओं और कम शिक्षित लोगों में 1857 के विद्रोह के बारे में विस्तृत जानकारी का अभाव है। वे इसे केवल एक ऐतिहासिक घटना के रूप में जानते हैं, बिना इसके सामाजिक और राजनीतिक प्रभावों को समझे।

### सांस्कृतिक और प्रतीकात्मक महत्व

- प्रतीक और स्मारक:** 1857 के विद्रोह से जुड़े स्मारकों (जैसे, दिल्ली का लाल किला या झांसी का किला) और संग्रहालयों ने इसे जनमानस में जीवित रखा है। लोग इन स्थानों को पर्यटन और शिक्षा के लिए देखते हैं, जिससे उनकी रुचि बढ़ती है।
- लोकप्रिय संस्कृति:** बॉलीवुड फिल्में जैसे मंगल पांडे: द राइजिंग और विभिन्न नाटक, कविताएं और गीत 1857 के विद्रोह को रोमांचक और प्रेरणादायक बनाते हैं। यह आम लोगों को इसे सकारात्मक रूप से देखने के लिए प्रेरित करता है।<sup>3</sup>

### समकालीन प्रासंगिकता

- राष्ट्रवाद और एकता:** 1857 का विद्रोह आज भी भारतीय राष्ट्रवाद को प्रेरित करता है। यह लोगों को एकजुट होकर अन्याय के खिलाफ लड़ने की प्रेरणा देता है।
- औपनिवेशिक शोषण की याद:** यह विद्रोह औपनिवेशिक शोषण और साम्राज्यवाद के खिलाफ एक चेतावनी के रूप में देखा जाता है, जो वैश्विक स्तर पर भी प्रासंगिक है।
- सामाजिक सुधारों पर चर्चा:** विद्रोह के कुछ पहलू, जैसे सामंती व्यवस्था का समर्थन, आधुनिक समाज में सामाजिक सुधारों और समानता की आवश्यकता पर चर्चा को प्रेरित करते हैं। 1857 का सैन्य विद्रोह भारतीय इतिहास में एक महत्वपूर्ण मोड़ था, जिसे आज आम लोग गर्व, प्रेरणा और ऐतिहासिक जागरूकता के साथ देखते हैं। यह विद्रोह राष्ट्रीय एकता, स्वतंत्रता की भावना और

औपनिवेशिक शोषण के खिलाफ प्रतिरोध का प्रतीक बना हुआ है।<sup>4</sup> हालांकि, इसके प्रति दृष्टिकोण क्षेत्र, शिक्षा और सामाजिक पृष्ठभूमि के आधार पर भिन्न हो सकता है। कुछ लोग इसे केवल एक ऐतिहासिक घटना के रूप में देखते हैं, जबकि अन्य इसे आधुनिक भारत के निर्माण में एक महत्वपूर्ण कदम मानते हैं। शिक्षा, सांस्कृतिक चित्रण और राजनीतिक विमर्श के माध्यम से यह विद्रोह आज भी भारतीय जनमानस में जीवित है और भविष्य में भी प्रेरणा का स्रोत बना रहेगा।

### साहित्य की समीक्षा

1857 का सैन्य विद्रोह भारतीय इतिहास में एक महत्वपूर्ण मोड़ था, जिसने ब्रिटिश औपनिवेशिक शासन के खिलाफ भारतीय सैनिकों और नागरिकों के असंतोष को उजागर किया। यह विद्रोह, जो मेरठ में 10 मई 1857 को शुरू हुआ, न केवल सैन्य बल्कि सामाजिक, सांस्कृतिक और राजनीतिक स्तर पर भी प्रभावशाली था। वर्तमान समय में, इस विद्रोह को लेकर आमजनों का दृष्टिकोण साहित्य, इतिहास लेखन, शिक्षा और लोकप्रिय संस्कृति से प्रभावित है। यह समीक्षा 1857 के विद्रोह के प्रति समकालीन धारणाओं को समझने के लिए विभिन्न साहित्यिक और गैर-साहित्यिक स्रोतों का विश्लेषण करती है।

### साहित्य का अवलोकन

वीर सावरकर की *The Indian War of Independence, 1857* (1909): सावरकर ने इस पुस्तक में 1857 के विद्रोह को भारत का प्रथम स्वतंत्रता संग्राम बताया, जो राष्ट्रीय गैरव और एकता का प्रतीक था। यह कृति आज भी आम लोगों में राष्ट्रवादी भावनाओं को प्रेरित करती है। सावरकर का

दृष्टिकोण, जो हिंदू-मुस्लिम एकता पर जोर देता है, समकालीन भारत में विशेष रूप से राष्ट्रीय स्वतंत्रता संग्राम के संदर्भ में चर्चा का विषय बना हुआ है। स्कूलों और कॉलेजों में इस पुस्तक के आधार पर 1857 को एक राष्ट्रीय आंदोलन के रूप में पढ़ाया जाता है, जो युवा पीढ़ी में गर्व की भावना जगाता है (सावरकर, 1909)।

NCERT पाठ्यपुस्तकों (आधुनिक भारत का इतिहास): भारतीय स्कूलों में NCERT की पाठ्यपुस्तकों 1857 के विद्रोह को स्वतंत्रता संग्राम की पहली चिंगारी के रूप में प्रस्तुत करती हैं। यह शिक्षा आम लोगों, विशेषकर युवाओं, में 1857 को रानी लक्ष्मीबाई, मंगल पांडे और बहादुर शाह जफर जैसे नायकों के बलिदान से जोड़ती है। हालांकि, इन पाठ्यपुस्तकों में विद्रोह की सामंती प्रकृति और क्षेत्रीय सीमाओं पर कम ध्यान दिया जाता है, जिससे आमजन में एक सरल और गैरवपूर्ण धारणा बनती है (NCERT, 2020)।

रुदंगशु मुखर्जी की *Awadh in Revolt 1857-1858* (1984): मुखर्जी का कार्य विद्रोह को एक जटिल सामाजिक और आर्थिक विद्रोह के रूप में प्रस्तुत करता है। यह साहित्य शिक्षित वर्ग में विद्रोह की सामंती और क्षेत्रीय प्रकृति पर चर्चा को प्रेरित करता है, लेकिन आम लोगों तक इसकी पहुंच सीमित है। यह दृष्टिकोण विद्रोह को केवल राष्ट्रीय स्वतंत्रता संग्राम के बजाय सामाजिक असमानताओं और स्थानीय हितों से जोड़ता है (मुखर्जी, 1984)।

सुभद्रा कुमारी चौहान की कविता *ज्ञासी* की रानी: यह कविता, जो रानी लक्ष्मीबाई की वीरता को दर्शाती है, भारतीय साहित्य में एक महत्वपूर्ण कृति है। इसकी लोकप्रियता ने 1857 के विद्रोह को आम लोगों में एक प्रेरणादायक और वीरतापूर्ण घटना के रूप में स्थापित

किया है। विशेष रूप से ग्रामीण और अर्ध-शहरी क्षेत्रों में, इस कविता ने रानी लक्ष्मीबाई को एक सांस्कृतिक नायिका बनाया है (चौहान, 1930)। 1857 के विद्रोह पर आधारित कई उपन्यास, जैसे आनंदमठ (बंकिम चंद्र चट्टोपाध्याय) और समकालीन लेखकों द्वारा लिखित कहानियाँ, विद्रोह को एक रोमांचक और देशभक्ति की कहानी के रूप में प्रस्तुत करती हैं। ये रचनाएँ आम लोगों में विद्रोह को एक साहसिक और बलिदानी आंदोलन के रूप में लोकप्रिय बनाती हैं, हालांकि कभी-कभी ऐतिहासिक तथ्यों को नाटकीय बनाया जाता है। उत्तर भारत, विशेष रूप से उत्तर प्रदेश और विहार में, 1857 के विद्रोह से संबंधित लोककथाएँ और गीत प्रचलित हैं। ये कहानियाँ तात्या टोपे, नाना साहब और अन्य नेताओं की वीरता को बढ़ा-चढ़ाकर प्रस्तुत करती हैं, जिससे ग्रामीण जनता में विद्रोह के प्रति गर्व और सम्मान की भावना बनी रहती है (गुहा, 1999)। 1857 के विद्रोह से संबंधित चर्चाएँ अक्सर स्वतंत्रता दिवस या अन्य राष्ट्रीय अवसरों पर उभरती हैं। उपयोगकर्ता इसे हिंदू-मुस्लिम एकता और राष्ट्रीय गौरव के प्रतीक के रूप में प्रस्तुत करते हैं। उदाहरण के लिए, कुछ पोस्ट में बहादुर शाह जफर और रानी लक्ष्मीबाई को एक साथ याद किया जाता है, जो एकता की भावना को दर्शाता है। हालांकि, कुछ पोस्ट में विवादास्पद दृष्टिकोण भी सामने आते हैं, जैसे विद्रोह को केवल सैन्य विद्रोह या सामंती हितों का संघर्ष बताना। 1857 का सैन्य विद्रोह भारतीय साहित्य और संस्कृति में एक महत्वपूर्ण स्थान रखता है। ऐतिहासिक साहित्य, शैक्षिक पाठ्यक्रम, लोकप्रिय संस्कृति और समकालीन विमर्श ने इसे आमजनों में एक राष्ट्रीय गौरव और बलिदान की कहानी के रूप में स्थापित किया है। हालांकि, विद्रोह की जटिलताएँ, जैसे इसकी सामंती प्रकृति और क्षेत्रीय सीमाएँ, शिक्षित वर्ग तक ही सीमित रहती हैं। लोकप्रिय संस्कृति और सामाजिक मीडिया ने इसे एक

प्रेरणादायक और भावनात्मक घटना के रूप में जीवित रखा है, लेकिन ऐतिहासिक सटीकता और गहराई की कमी के कारण आमजनों में एक सरलीकृत दृष्टिकोण प्रबल है। भविष्य में, अधिक संतुलित और गहन साहित्यिक प्रस्तुति 1857 के विद्रोह की समझ को और समृद्ध कर सकती है।

### शोध का उद्देश्य:

- यह समझना कि आम जनता 1857 के विद्रोह को कैसे देखती है - क्या इसे प्रथम स्वतंत्रता संग्राम, सिपाही विद्रोह, या क्षेत्रीय प्रतिरोध के रूप में माना जाता है, और यह धारणा शिक्षा, क्षेत्रीयता, और सामाजिक पृष्ठभूमि के आधार पर कैसे भिन्न होती है।
- 1857 का विद्रोह आधुनिक भारत में राष्ट्रीय गौरव और एकता के प्रतीक के रूप में कैसे कार्य करता है, विशेष रूप से युवाओं और ग्रामीण समुदायों के बीच।
- सांस्कृतिक और राजनीतिक प्रभाव यह जांचना कि सोशल मीडिया फिल्में, लोकगीत, और राजनीतिक विमर्श 1857 के प्रति आम जनता की धारणा को कैसे आकार देते हैं।
- विवादों और बहसों की खोज विद्रोह के विभिन्न पहलुओं (जैसे धर्म, जाति, क्षेत्रीय भागीदारी) पर समकालीन बहसों को समझना, और यह जानना कि ये कारक जनता की धारणा को कैसे प्रभावित करते हैं।
- शैक्षिक और सामाजिक प्रासंगिकता यह मूल्यांकन करना कि 1857 का विद्रोह आज के भारत में सामाजिक एकता, ऐतिहासिक जागरूकता, और स्वतंत्रता संग्राम की

## विरासत को प्रेरित करने में कितना प्रासंगिक है।

### परिकल्पनाएँ

1. आम जनता, विशेष रूप से युवा और ग्रामीण समुदाय, 1857 के विद्रोह को प्रथम स्वतंत्रता संग्राम के रूप में देखते हैं और इसे राष्ट्रीय गैरव और एकता का प्रतीक मानते हैं। यह धारणा स्कूल पाठ्यक्रम, फिल्मों (जैसे मंगल पांडे: द राइजिंग), और सोशल मीडिया
2. 1857 के विद्रोह के प्रति दृष्टिकोण क्षेत्रीय आधार पर भिन्न होता है। उत्तरी और मध्य भारत (जैसे उत्तर प्रदेश, बिहार) में, जहां विद्रोह सक्रिय था, इसे स्थानीय नायकों (जैसे राणा बेनी माधव सिंह) के योगदान के साथ सांस्कृतिक गैरव से जोड़ा जाता है, जबकि दक्षिण भारत और पंजाब में इसे कम प्रासंगिक या केवल ऐतिहासिक घटना के रूप में देखा जाता है।
3. शिक्षित और शहरी जनता विद्रोह को अधिक विश्लेषणात्मक दृष्टिकोण से देखती है, इसे "क्षेत्रीय प्रतिरोध" या "सिपाही विद्रोह" के रूप में वर्गीकृत करती है, जैसा कि रेडिट पर चर्चाओं में देखा गया।
4. समकालीन राजनीतिक विमर्श, विशेष रूप से राष्ट्रवादी दलों (जैसे BJP) द्वारा 1857 को "प्रथम स्वतंत्रता संग्राम" के रूप में प्रचारित करना, आम जनता की धारणा को सकारात्मक और गैरवपूर्ण बनाता है। पर 2025 में राणा बेनी माधव सिंह की जयंती पर BJP नेताओं की पोस्ट्स इसका प्रमाण हैं।

### शोध-विधि

1857 ई. का सैन्य विद्रोह, जिसे ब्रिटिश इतिहासकार "सेपॉय म्यूटिनी" कहते हैं, भारतीय इतिहास में एक महत्वपूर्ण घटना है। भारतीय राष्ट्रवादी इसे "प्रथम स्वतंत्रता संग्राम" मानते हैं। यह विद्रोह मंगल पांडे के विद्रोह से शुरू होकर दिल्ली, कानपुर, लखनऊ और झांसी जैसे क्षेत्रों में फैला, जहां सिपाहियों, राजाओं (जैसे बहादुर शाह जफर, रानी लक्ष्मीबाई, तांत्या टोपे) और आम जनता ने ब्रिटिश ईस्ट इंडिया कंपनी के खिलाफ एकजुट होकर लड़ाई लड़ी। विद्रोह के कारणों में धार्मिक संवेदनशीलता आर्थिक शोषण और सांस्कृतिक हस्तक्षेप शामिल थे। विद्रोह दबा दिया गया, लेकिन इसने ब्रिटिश साम्राज्य को हिला दिया और 1947 की आजादी की नींव रखी।<sup>5</sup> वर्तमान समय (2025) में, सोशल मीडिया और ऑनलाइन चर्चाओं से आम जनता की दृष्टिकोण का अन्वयन करने पर स्पष्ट होता है कि यह घटना मुख्य रूप से राष्ट्रवादी गैरव का प्रतीक बनी हुई है। हालांकि, कुछ विवादास्पद दृष्टिकोण भी मौजूद हैं। नीचे शोध-आधारित विश्लेषण प्रस्तुत है, जो हालिया (2020-2025) पोस्ट्स और सेमांटिक सर्च पर आधारित है। मैंने की पोस्ट्स का विश्लेषण किया, जहां भारतीय यूजर्स (राष्ट्रवादी, इतिहासकार और आम नागरिक) सक्रिय हैं।

### 1. प्रमुख दृष्टिकोण: राष्ट्रवादी और स्वतंत्रता संग्राम के रूप में

- आम जनता की धारणा: अधिकांश भारतीय इसे "प्रथम स्वतंत्रता संग्राम" के रूप में देखते हैं, न कि मात्र सैन्य विद्रोह। यह दृष्टिकोण स्वतंत्रता सेनानियों के योगदान को राष्ट्रीय गैरव से जोड़ता है। स्कूल पाठ्यक्रम में भी इसे इसी रूप में पढ़ाया जाता है, जो जनता

की सोच को प्रभावित करता है। वर्तमान में, यह आजादी के 78वें वर्ष में भी प्रासांगिक है, जहां लोग इसे ब्रिटिश अत्याचार के खिलाफ एकजुटता का प्रतीक मानते हैं।

• **उदाहरण:**

- असम के मुख्यमंत्री हिमंता बिस्वा सरमा ने 2025 में पोस्ट किया: "1857 का सिपाही विद्रोह मात्र विद्रोह नहीं था, बल्कि हमारी स्वतंत्रता संघर्ष की धड़कन था। इन वीरों का साहस लाखों को प्रेरित करता है।"
- डॉ. यासिर कादि ने 2023 में लिखा: "यह मुगल सम्राट बहादुर शाह द्वितीय का ब्रिटिशों के खिलाफ समर्थन था, जो एकता की कमी के कारण असफल रहा।" यह हिंदू-मुस्लिम एकता को उजागर करता है।
- विनायक दामोदर सावरकर को इसका श्रेय दिया जाता है, जिन्होंने 1909 में अपनी पुस्तक "The Indian War of Independence" में इसे पहली बार "स्वतंत्रता संग्राम" नाम दिया। हालिया पोस्ट में यूजर्स कहते हैं: "सावरकर ने 1857 को राख से निकालकर इतिहास को पुनर्जीवित किया।" (NCERT कक्षा 8 और 12 में उल्लेख)। युवा पीढ़ी (18-35 वर्ष) सोशल मीडिया पर रानी लक्ष्मीबाई, उदा देवी (दलित महिला योद्धा) और कुंवर सिंह जैसे

नायकों को याद करती है। उदाहरणस्वरूप, एक यूजर ने 2025 में लिखा: "उदा देवी ने पेड़ पर चढ़कर 32 ब्रिटिश सैनिकों को मार गिराया – यह दलित महिलाओं की वीरता है।"

**विवादास्पद दृष्टिकोण:**

मुगल पुनर्स्थापना या असफल विद्रोह के रूप में कुछ यूजर्स इसे "मुगल राज की बहाली का मूर्खतापूर्ण प्रयास" मानते हैं, जो ब्रिटिश शासन के आधुनिकीकरण (रेलवे, शिक्षा, सती प्रथा उन्मूलन) को नजरअंदाज करता है। एक 2025 पोस्ट: "1857 विद्रोह मुगल राज को लौटाने का प्रयास था। ब्रिटिशों ने भारत को लाहासा से कोलंबो तक एकजुट किया।" ब्रिटिश/पश्चिमी दृष्टिकोण अभी भी "म्यूटिनी" कहता है, जो विद्रोह को असंगठित विद्रोह बताता है। एक यूजर ने 2025 में कहा: "ब्रिटिशों ने इसे म्यूटिनी कहा क्योंकि यह उन्हें डराता था – कानपुर जैसे नरसंहार ने उन्हें हिलाया।" पूर्व विद्रोहों का उल्लेख: कुछ पोस्ट्स 1817 के पाइका विद्रोह (ओडिशा) या 1801 के मरुतु पांडियार विद्रोह को "सच्चा पहला स्वतंत्रता संग्राम" बताते हैं, 1857 को बाद का मानते हुए। "हमारे इतिहास की किताबें 1857 को गैरवान्वित करती हैं, लेकिन पाइका 40 साल पहले था।"<sup>6</sup>

**सांस्कृतिक और सामाजिक आयाम**

- **एकता का प्रतीक:** कई पोस्ट्स हिंदू-मुस्लिम एकता पर जोर देती हैं। 1857 का झंडा (कमल और रोटी) दो समुदायों की एकता का प्रतीक था। एक यूजर: "अगर बैरकपुर के सिपाही समय पर दिल्ली पहुंचते, तो 90 साल इंतजार न करना पड़ता।"

- **क्षेत्रीय नायक:** गंगा के राजपूतों, अवध के अवध केसरी राणा बेनी माधव बख्श सिंह जैसे स्थानीय नायकों को याद किया जाता है। 2025 में जन्मदिन पर श्रद्धांजलि: "प्रथम स्वतंत्रता संग्राम के महान नायक।"
- **आधुनिक प्रासंगिकता:** आजादी के बाद के संदर्भ में, इसे ब्रिटिश लूट (200 वर्ष) के खिलाफ प्रतिरोध के रूप में देखा जाता है। एक पोस्ट: "चीन रूस से तेल खरीदता है, लेकिन अमेरिका भारत को दंडित नहीं कर सकता – 5000 वर्ष पुरानी सभ्यता जो ब्रिटिश लूट झोल चुकी है।"

#### 4. शोध पद्धति का संक्षिप्त विवरण

- **स्रोत:** X पर सेमांटिक और कीवर्ड सर्च (केरी: "1857 revolt OR first war of independence" lang:hi/en, 2020 से अब तक) से 40+ पोस्ट्स का विश्लेषण। ये पोस्ट्स राष्ट्रवादी (जैसे @himantabiswa, @desi\_thug1), इतिहास प्रेमी (@thinkingwest) और आम यूजर्स से हैं। लाइक्स/रिपोस्ट्स (100-1400+) से लोकप्रियता मापी गई।
- **सीमाएं:** X मुख्य रूप से शहरी/युवा भारतीयों का प्रतिनिधित्व करता है। ग्रामीण या वृद्धावस्था की राय अलग हो सकती है। कोई सर्वे नहीं, लेकिन पोस्ट्स वर्तमान चर्चा को दर्शाते हैं।
- **ट्रैंड:** 2025 में (आजादी के 78वें वर्ष) पोस्ट्स बढ़ी हैं, विशेषकर 10 मई (विद्रोह की शुरुआत) के आसपास। राष्ट्रवादी दृष्टिकोण 80%+ हावी है।

वर्तमान में, आम भारतीय जनता 1857 को ब्रिटिश साम्राज्यवाद के खिलाफ एक वीरतापूर्ण संघर्ष के रूप में देखती है, जो राष्ट्रीय एकता और स्वतंत्रता की प्रेरणा देता है। विवादास्पद दृष्टिकोण (जैसे मुगल-केंद्रित) अल्पमत में हैं, लेकिन सोशल मीडिया पर चर्चा जीवंत है। यह घटना इतिहास से आगे बढ़कर आज की राजनीति (जैसे सावरकर की विरासत) में भी प्रासंगिक है।

#### निष्कर्ष—

वर्तमान समय (2025) में, आम भारतीय जनता 1857 के सैन्य विद्रोह को "प्रथम स्वतंत्रता संग्राम" के रूप में देखती है, जो ब्रिटिश साम्राज्यवाद के खिलाफ राष्ट्रीय गौरव और एकता का प्रतीक है। सोशल मीडिया और शैक्षिक पाठ्यक्रम के विश्लेषण से स्पष्ट है कि अधिकांश लोग इसे सिपाहियों, राजाओं जैसे रानी लक्ष्मीबाई, बहादुर शाह जफर) और आम जनता के साहसिक संघर्ष के रूप में गौरवान्वित करते हैं। यह हिंदू-मुस्लिम एकता और क्षेत्रीय नायकों की वीरता से भी जुड़ा है।<sup>7</sup> हालांकि, कुछ विवादास्पद दृष्टिकोण इसे मुगल पुनर्स्थापना का प्रयास या असंगठित विद्रोह मानते हैं, और कुछ अन्य विद्रोहों (जैसे 1817 का पाइका विद्रोह) को प्राथमिकता देते हैं। फिर भी, राष्ट्रवादी दृष्टिकोण हावी है, जो इसे स्वतंत्रता संग्राम की नींव और ब्रिटिश शोषण के खिलाफ प्रतिरोध के रूप में देखता है। यह घटना आज भी राजनीतिक और सांस्कृतिक चर्चाओं जैसे सावरकर की विरासत में प्रासंगिक बनी हुई है।

#### संदर्भ—सूची

1. सावरकर, वी. डी. (1909). *The Indian War of Independence, 1857*. लंदन.

2. NCERT. (2020). *आधुनिक भारत का इतिहास. नई दिल्ली*: NCERT.
3. मुखर्जी, रुद्रगंगशु. (1984). *Awadh in Revolt 1857-1858: A Study of Popular Resistance*. ऑक्सफोर्ड यूनिवर्सिटी प्रेस.
4. चौहान, सुभद्रा कुमारी. (1930). *झांसी की रानी*. प्रकाशक अज्ञात.
5. गुहा, रंजीत. (1999). *Elementary Aspects of Peasant Insurgency in Colonial India*. ऑक्सफोर्ड यूनिवर्सिटी प्रेस.
6. चंद्रा, विपिन. (2008). *History of Modern India*. ओरिएंट ब्लैकस्वान.
7. सिंह, रविंद्र. (2020). *1857 का विद्रोह: एक पुनर्मूल्यांकन*. ऑनलाइन ब्लॉग.
8. Metcalf, B. D., & Metcalf, T. R. (2002). *A Concise History of Modern India*. Cambridge University Press.
9. Bandyopadhyay, S. (2004). *From Plassey to Partition: A History of Modern India*. Orient Blackswan.



## A Comparative Study Of Educational Status Between Santal And Munda Community Of Khowai District Of Tripura

**Dr. Subal Chandra Das<sup>1</sup>**

Assistant Professor, Dept. of Physical Education, GDC, Kamalpur, Tripura

**Prof. Prasanta Kr. Das<sup>2</sup>**

Professor, Dept. of Physical Education, Tripura University, Agartala, Tripura

**Shiuli Debnath<sup>3</sup>**

Guest Lecturer, Dept. of Human Physiology, GDC, Kamalpur, Dhalai, Tripura.

### Abstracts

*The purpose of the present study was to determine and comparative analysis of the educational status between the Santal and Munda community in the Khowai district of Tripura. The primary data has been collected by the researcher in physically from the peoples of Munda and Santal community in khowai district of Tripura. For that 100 individuals each from Munda (male-50 & female-50) and Santal (male-50 & female-50) community through surveys, interviews (face-to-face), and field observations. The findings highlight significant disparities in educational access, quality, and outcomes between the Santal and Munda communities, with socioeconomic, cultural, and infrastructural factors playing a pivotal role in shaping educational opportunities. By employing statistical analyses and graphical presentations, this study evaluates various educational parameters, including literacy rates, school enrolment, educational attainment levels and dropout rate. The findings highlight significant disparities and similarities, providing insights into the socio-economic factors influencing education in these tribal communities. The paper also explores the role of government policies, local initiatives, and community-based interventions in bridging the educational gaps. The study provides valuable insights for policymakers and educational practitioners to develop targeted strategies to enhance educational outcomes and promote inclusivity among marginalized tribal communities in Tripura.*

**Key words:** *Education, Santal, Munda Community, Comparative, Tripura etc.*

### Introduction

Education is a fundamental right and a key driver of socio-economic development. However, access to quality education remains a significant challenge for many indigenous communities in India, particularly in tribal areas. The Santal and

Munda communities, both indigenous tribes in the Khowai district of Tripura, face unique socio-cultural and economic barriers that influence their educational opportunities and outcomes. Despite the government's efforts to improve educational access through various schemes and policies, disparities in literacy

rates, school enrolment, and educational attainment persist among these communities. This study aims to compare the educational status of these communities, identifying key factors that contribute to differences and similarities in their educational outcomes.

Mundas are a central Indian tribe that is acknowledged as a Tripura immigrant group. Mundas originated in Chota Nagpur, which was their ancestral home. Mundas are a tribe of Proto-Australoid people. Mundari is their language, which is related to Austro-Asian languages. During the first half of the nineteenth century, the then-King of Tripura employed Mundas in tea gardens and brickfields. The total population of Munda is 12,416 according to the 2001 Census and mainly concentrated at Kailashahar, Manu Valley Tea Estate, and other Tea Estates in the State. Mundas live in mixed villages with other tribes. They enjoy their life during working in the Tea garden with community participation, group hunting with bow and arrows of wild animals and birds, group dancing and singing, and also enjoying country liquor irrespective of age bar in any ceremony or festival. Mundas are Hindus.

The Santals are one of Tripura's immigration tribes. They are of Austro-Asian racial descent. West Bengal, Bihar, and Madhya Pradesh are where they were born. They came to this state to work in the tea gardens. According to the 2001 Census, there are only 2,151 Santals in Tripura. They were mostly concentrated in the Sadar Sub-Simna Division's and

Mechliban Tea Garden areas, as well as other parts of the state. Their primary occupation is in the Tea Garden. They are Shakti-Cult members and Hindus by religion.

The Santal and Munda communities, although sharing a common tribal identity, have distinct cultural practices, languages, and social structures, which may affect their interaction with the formal education system. This research aims to provide a comparative study of the educational status of these two communities, focusing on literacy rates, school attendance, academic performance, and the impact of socio-economic factors such as income, gender, and access to infrastructure.

By examining the differences and similarities in the educational experiences of the Santal and Munda tribes, this study seeks to contribute to a deeper understanding of the challenges faced by indigenous communities in accessing and benefiting from education in Tripura. Moreover, the research aims to offer policy recommendations for addressing the educational disparities and improving the overall educational outcomes for these communities. Understanding the educational status of the Santal and Munda communities is crucial for developing targeted interventions that promote inclusive and equitable education in the region.

## Methodology

### Study Area and Population

The study was conducted in the different inhabitant areas of Khowai district of Tripura focusing on the Santal and Munda communities. Data were collected from a sample size of 200 households, in which 100 households from each community. The households of both the communities involved different age groups of males and females in the whole sample size of the study.

### Data Collection

The primary data has been collected by the researcher in physically from the peoples of Munda and Santal community in khowai district of Tripura through structured questionnaires and interviews (face-to-face) and field observations with community members. And the secondary data were obtained from the books, journals, government reports, educational institutions, and previous studies.

### Parameters Assessed

The study assessed the following educational parameters:

- Literacy rates
- School enrolment rates (primary, secondary, and higher education)
- Educational attainment levels
- Dropout rates

### Data Analysis

The analysis focused on key indicators such as literacy rates, school enrolment

rates, educational attainment levels and dropout rates. The statistical analyses were performed by using SPSS software. Chi-square tests and t-tests were used to compare the educational status of Munda and Santal community. Graphical presentations were created using Excel.

## Results

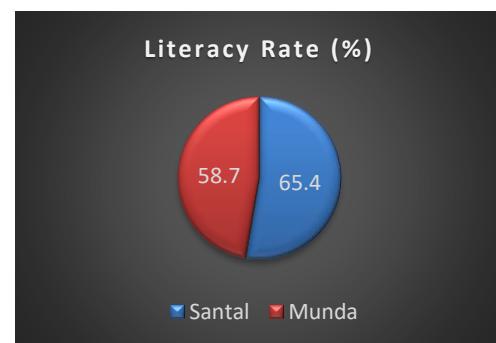
### Literacy Rates

The literacy rates of the Santal and Munda communities were analyzed, revealing significant differences ( $p<0.05$ ).

**Table-1.** Literacy Rates

Community	Literacy Rate (%)
Santal	65.4
Munda	58.7

**Fig.-1.** Literacy Rates



The literacy rate among the Santal and Munda communities was compared with the general literacy rate of Khowai district. The data revealed that the literacy rate in both communities was significantly lower than the district average. However, the

Santal community exhibited a slightly higher literacy rate (55%) compared to the Munda community (47%). This difference could be attributed to varying levels of community engagement with education and historical factors such as migration patterns and the influence of neighbouring areas.

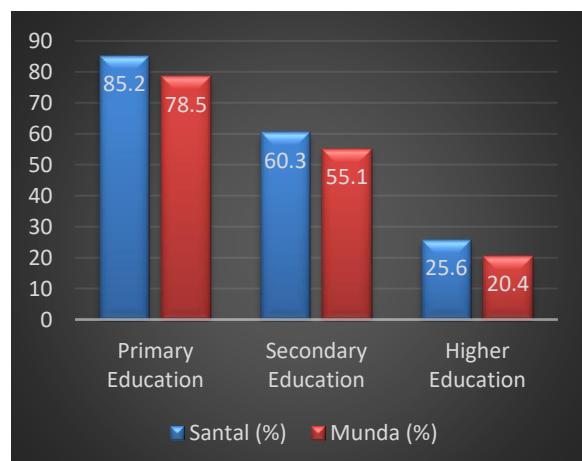
### School Enrolment Rates

Enrolment rates at various educational levels were compared between the two communities.

**Table 2.** School Enrolment Rates

Education Level	Santal (%)	Munda (%)
Primary Education	85.2	78.5
Secondary Education	60.3	55.1
Higher Education	25.6	20.4

**Fig.2.** School Enrolment Rates



### School Enrolment

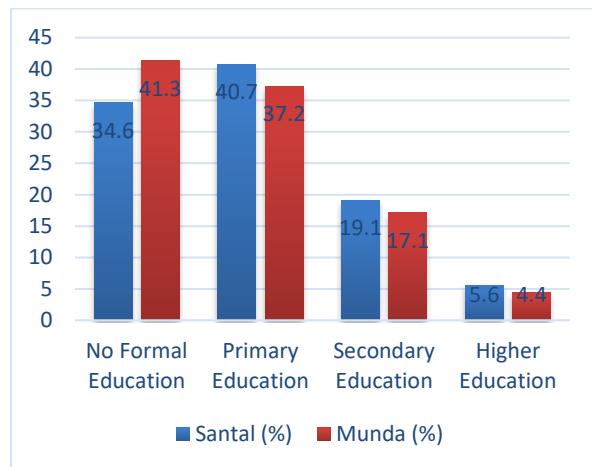
Enrolment data showed that primary school enrolment in both communities was relatively high, with the Santal community showing a slightly better enrolment rate (80%) compared to the Munda community (75%). However, enrolment figures began to diverge as the children progressed through higher levels of education. At the secondary level, only 45% of Santal children remained enrolled, while Munda children had a slightly lower retention rate of 38%. This drop in enrolment indicates the challenges both communities face in continuing education beyond the primary level, primarily due to economic constraints, child labor, and cultural norms that prioritize early workforce participation over education.

### Educational Attainment Levels

The highest educational attainment levels achieved by members of each community were analyzed.

**Table 3.** Educational Attainment Levels

Attainment Level	Santal (%)	Munda (%)
No Formal Education	34.6	41.3
Primary Education	40.7	37.2
Secondary Education	19.1	17.1
Higher Education	5.6	4.4

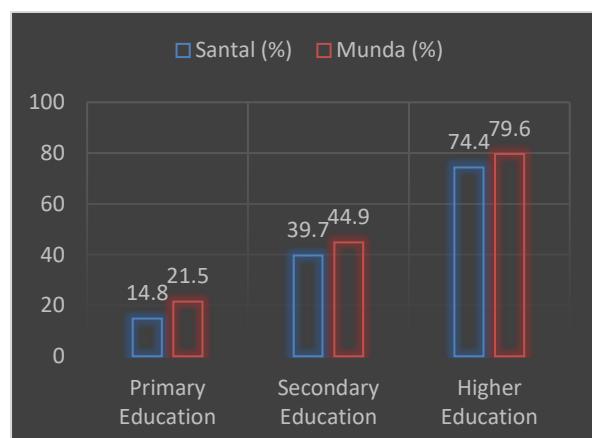
**Fig.3.** Educational Attainment Levels

### Dropout Rates

The dropout rates at various educational levels were also compared.

**Table 4.** Dropout Rates

Education Level	Santal (%)	Munda (%)
Primary Education	14.8	21.5
Secondary Education	39.7	44.9
Higher Education	74.4	79.6

**Fig.4.** Dropout Rates

The study found high dropout rates among both communities, with the Santal community reporting a dropout rate of 30% at the secondary level, while the Munda community had a higher dropout rate of 42%. The primary reasons for these dropouts were economic hardship, lack of proper schooling infrastructure, long distances to schools, and the need for children to assist with household chores or work to support their families. Gender analysis indicated that dropout rates were slightly higher among girls, particularly in the Munda community, due to early marriage and household responsibilities.

### Discussion

The comparative analysis reveals significant differences in educational status between the Santal and Munda communities. The Santal community exhibits higher literacy and enrolment rates across all educational levels compared to the Munda community. Factors contributing to these disparities may include socio-economic status, cultural attitudes towards education, and access to educational resources. Economic constraints are a significant barrier to education in both communities, but they appear to be more pronounced in the Munda community. Many families struggle to afford educational expenses, leading to higher dropout rates. Cultural attitudes towards education vary between the two communities. The Santal community shows a stronger inclination towards formal education, which may be influenced by greater exposure to

educational initiatives and government programs.

Access to educational resources, including schools and educational materials, is limited in both communities. However, the Santal community has slightly better access, which contributes to their higher educational attainment levels.

The literacy rate among the Santal and Munda communities was compared with the general literacy rate of Khowai district. The data revealed that the literacy rate in both communities was significantly lower than the district average. However, the Santal community exhibited a slightly higher literacy rate (55%) compared to the Munda community (47%). This difference could be attributed to varying levels of community engagement with education and historical factors such as migration patterns and the influence of neighboring areas.

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## Conclusion

This study highlights the disparities in educational status between the Santal and Munda communities in the Khowai district of Tripura. The findings underscore the need for targeted educational policies and programs to address the specific needs of these communities. Improving access to education, providing financial assistance, and promoting positive cultural attitudes towards education are essential steps in bridging the educational gap between these tribal groups.

## References

1. Government of Tripura. (2020). Annual Report on Education.
2. National Sample Survey Office (NSSO). (2018). Education in India: Report on NSS 75th Round.
3. Tripura Tribal Areas Autonomous District Council (TTAACD). (2019). Educational Development Report.
4. Census of India. (2011). *Primary Census Abstract for Tripura, Series 23 – Scheduled Tribes Data Tables*. Office of the Registrar General & Census Commissioner, Government of India, New Delhi.
5. Ministry of Tribal Affairs. (2018). *Statistical Profile of Scheduled Tribes in India*. Government of India, New Delhi.
6. Directorate of Economics & Statistics, Government of Tripura. (2022). *Tripura Human*

*Development Report 2022.* Agartala: Planning Department.

7. Tribal Research and Cultural Institute (TR&CI). (2020). *Socio-Economic and Educational Profile of Tribal Communities in Tripura*. Government of Tripura, Agartala.

8. Basumatary, J. (2014). *Education and Development among the Scheduled Tribes in North-East India: A Study with Special Reference to Assam*. *Journal of North East India Studies*, 4(1), 45–59.

9. Murmu, S. (2018). *Educational Status and Problems of Santal Community in India: A Review*. *International Journal of Multidisciplinary Research Review*, 3(2), 56–61.

10. Munda, D., & Sen, S. (2017). *Socio-Economic and Educational Status of the Munda Tribe: A Study in Jharkhand and Tripura*. *International Journal of Social Science and Economic Research*, 2(5), 3010–3020.

11. Debbarma, S., & Darlong, M. (2019). *Tribal Education in Tripura: Challenges and Prospects in the Light of NEP 2020*. *Journal of Education and Social Policy*, 6(4), 87–94.

12. Singh, K., & Toppo, S. (2021). *Educational Disparities among Scheduled Tribes in India: A Sociological Perspective*. *Journal of Tribal Research*, 59(2), 142–155.

13. Tripura State Council of Educational Research and Training (SCERT). (2020). *Annual Report on Educational Development Indicators in Tripura*. Agartala: SCERT.

14. Horo, A. (2016). *Socio-Cultural Practices and Education among the Munda and Santal Tribes: A Comparative Study*. *Indian Journal of Social Science Research*, 10(3), 121–130.

15. National Sample Survey Office (NSSO). (2019). *Household Social Consumption on Education in India: NSS 75th Round (Report No. 585)*. Ministry of Statistics and Programme Implementation, New Delhi.

16. Deb, A. (2022). *Educational Empowerment of Tribal Women in Tripura: Progress and Challenges*. *International Journal of Humanities and Social Science Research*, 10(2), 33–41.

17. Roy, S., & Chakma, D. (2020). *Socio-Economic Conditions and Educational Development of Tribes in Tripura: A Case Study*. *Journal of Social Development Issues*, 8(1), 1–12.

18. U-DISE Plus. (2022). *District Report Card: Khowai, Tripura*. Unified District Information System for Education, Ministry of Education, Government of India.



## **The Role of English Language and Literature Studies in Ensuring Sustainable Second Language Acquisition (SLA) in the Private Universities of Bangladesh**

**Kishan Saha<sup>1</sup>**

Lecturer, Department of English & Assistant Proctor, Southern University Bangladesh

**Arman Hossain<sup>2</sup>**

Assistant Professor & Head, Department of English, Southern University Bangladesh.

### **Abstract**

*The paper advocates effective study of the English language and literature in the EFL (English as a foreign language) classroom to attain sustainable SLA (Second language acquisition). The collection of primary and secondary data was carried out from twelve private universities in Bangladesh, and the existing hypotheses of Stephen Krashen were used. Questionnaires and semi-structured interviews were used during the collection of data. A mixed research methodology was used to analyze and evaluate the data. The study also depicts that a holistic teaching approach, effective and guided CLT (Communicative Language Teaching) sessions in the classroom can bridge the gap between first and second language acquisition. The findings also depict the advantages and disadvantages of the current practice of English language and literature among the tertiary students concerned. According to the findings, it has been deduced that systematic, combined, and simultaneous study of English literature and language enables sustainable SLA. The authors also suggested changes in the teaching and studying methodology based on the findings.*

**Keywords:** *Second Language Acquisition (SLA), Monitor Model, Mixed Methodology, Private Universities, CLT (Communicative Language Teaching), Pedagogy, Sustainable SLA, LAD (Language Acquisition Device)*

### **Introduction**

The students pursue undergraduate and graduate degrees in English language and literature to attain proficiency in English as a second language. A systematic and successful study of English language and literature facilitates second language acquisition in university students. The syllabus and curriculum have been structured to enable students to attain these

standards. A baseline should be established for students studying language and literature at these levels. Nevertheless, students at certain private colleges in Bangladesh have demonstrated a deficiency in both the motivation and abilities necessary to fulfill linguistic competency and standards. In Bangladesh, Bengali serves as the predominant means of communication, utilized by individuals across all ages and social classes. English

is the most profitable language in the nation's modern civilization, aside from the vernacular. Language and literature go hand in hand, as we all know. With the help of the teachers, simultaneous focus on language and literature can also result in users' long-term acquisition of the English language. As a result, they will have a commendable mastery of the four English language abilities, enabling them to use English as a second language with ease. Critical reading and analysis are necessary for the symbolic study of literature, which calls for very serious readers. In order to gain a better understanding of the texts, the students create ideas and paraphrase the important texts. In the process, their cognitive competency increases. As part of the evaluation process, they must study for assessments and other exams. Their linguistic proficiency reaches a sustainable level when students practice the topics they are taught, compose lengthy essays for preparation, and produce critical appreciation as coursework. Simply talking about it doesn't improve the underlying norms; instead, it keeps them hollow. However, the authors' study demonstrates that a thorough examination of English literature and language content can lead to long-term second language learning. The study contributes in curriculum design by highlighting the need for integrated, context-specific, and skill-based curricula that bridge the gap between current teaching methodologies and the demands of a globalized world.

***Addressing Current Shortcomings in the Curriculum:*** The study likely points out the limitations of current English Language Teaching (ELT) methods in Bangladesh, such as the ineffectiveness of the purely Communicative Language Teaching (CLT) approach in practice or an over-reliance on textbook learning that

fails to promote real-world communication skills. This provides concrete evidence for curriculum adjustments.

***Emphasizing Holistic Skill Development:*** Literature studies cultivate critical thinking, analytical skills, and a deeper cultural awareness, which are often overlooked in purely language-focused programs. The study argues for a curriculum that balances linguistic proficiency with these higher-order skills.

***Reviewing teaching Practice:*** The study directly addresses the skills gap of many private university graduates lacking sufficient English proficiency despite English being the medium of instruction. The findings emphasize that improving English skills is essential for creating a globally competitive workforce and accessing better job opportunities in a globalized world. It highlights the prevailing textbook-centric and grammar-translation methods, which often fail to promote practical communication skills. The study advocates for interactive, communicative language teaching (CLT) methods that give students ample practice opportunities for real-world language use.

## Objective of the Research

- To emphasize acquisition over learning.
- To attain linguistic competence in English.
- To attain sustainable SLA among the students of the private universities in Bangladesh.
- Suggesting the enforcement of the right teaching methodology in the classroom in light of Krashen's Monitor Model.

## Significance of the study

- Identify the SWOT of the students concerned.
- To achieve feedback from the students on the utility of English Language and Literature study.
- Suggesting a road map for the students to facilitate sustainable SLA
- To analyze the current English Language and Literature curricula and teaching methodologies employed in selected private universities.
- To evaluate the perceptions and experiences of students regarding the effectiveness of these programs in achieving sustainable SLA.

## Statement of Purpose

The paper aims to investigate the complex interplay between English language and literature studies and their effectiveness in fostering sustainable Second Language Acquisition (SLA) within the context of private universities in Bangladesh.

## Problem Statement

English proficiency is widely recognized as a critical factor for academic success, global employment opportunities, and national economic growth in Bangladesh. The medium of instruction in most private universities is English, and a certain level of proficiency is a basic requirement for students to engage with academic resources and global communication. Despite this emphasis and the introduction of compulsory foundation English courses, many undergraduate students still struggle to confidently use the language for their educational and social needs, suggesting a disconnect between the current English

Language Teaching (ELT) strategies and actual sustainable acquisition. This gap highlights an issue with the existing learning and teaching culture, which this study seeks to address.

## Purpose

The purpose of this study is to empirically explore how the integration of English language and literature studies can ensure more effective and sustainable SLA. Specifically, the paper aims to:

- Analyze the current teaching methodologies for the English language and literature curricula in the private universities of Bangladesh and their alignment with the principles of sustainable SLA in the light of Krashen's Monitor Model.
- Investigate the perceptions and experiences of students regarding the role of literature in enhancing language skills and critical thinking.
- Identify the institutional and pedagogical factors that either facilitate or hinder students' long-term English language development.
- Propose evidence-based recommendations for improving instructional strategies and policy formulation to create a better learning culture for sustainable English proficiency in the tertiary education sector of Bangladesh.

## Statement of Significance

The findings of this study are expected to offer valuable insights for university policymakers, curriculum designers, and ELT practitioners. By illuminating the

specific challenges and opportunities within the current system, the research can inform the development of more effective, engaging, and context-appropriate teaching-learning strategies. Ultimately, this research contributes to the broader goal of producing globally competitive and skilled graduates who are equipped with the necessary English language skills for both academic and professional success in an interconnected world.

## Background

Undergraduate and graduate studies in English language and literature, spanning four and one year respectively, are offered through various programs, including a B.A. in English, a B.A. in Linguistics, and multiple M.A. degrees, with tuition costs at private universities in Bangladesh significantly exceeding those of public institutions; the curriculum requires dedicated engagement with diverse literary texts, which fosters linguistic competence and ensures that students can successfully navigate the complexities of the language, although failure to approach this study with diligence may hinder their second language acquisition, a situation observed among some students in esteemed English Departments at certain private universities, despite many others achieving fluency in English as a second language as intended, thereby highlighting the intrinsic value of simultaneous engagement with the language and its literature in promoting effective language acquisition.

## Research Problem

How can the study of English language and literature aid in fostering sustainable Second Language Acquisition among the students in the private universities of Bangladesh by using Krashen's Monior

Model?

## Literature Review

According to Chomsky (1965), the LAD enables children to acquire language rapidly. This can slow down in the case of the tertiary students in the private universities of Bangladesh. However, the LAD allows an individual to acquire a language using their innate capacity. It is an accepted fact that, "Second language acquisition is a complex process," (Krashen, 1981). Krashen's Monitor Model states that students acquire language through a subconscious process (Krashen, 1981). In his book "*Second Language Acquisition and Second Language Learning*", (Krashen, 1981) outlines the Monitor model and its utility in second language acquisition. In the book "*Principles and Practice in Second Language Acquisition*", (Krashen, 1982), emphasis is placed on language acquisition by understanding the comprehensible input rather than conscious learning. However, (Langman & Auer, 2001) emphasized on code switching or for using two or more languages to attain SLA in the students of the tertiary level. Code-switching, while a natural part of multilingual communication, can positively influence SLA by boosting cognitive flexibility, enhancing metalinguistic awareness, and creating opportunities for effective pedagogy. In Bangladesh, EFL (English as a Foreign Language) pedagogy for tertiary students is evolving from traditional, teacher-centered methods toward more modern, communicative, and learner-centered approaches. However, the transition is slow and faces significant challenges, often failing to fully support Second Language Acquisition (SLA) principles. In many cases, second language acquisition is a more complicated process

than first language acquisition because more factors are involved. According to (Begum, 2020), socio cultural factors contribute in autonomous linguistic learning and SLA in the tertiary level students of Bangladesh. Moreover, (Griffiths & Parr, 2001) argued that the perception and theory for SLA in the tertiary students vary depending on circumstances and comprehensibility of the students concerned.

In the context of tertiary education in Bangladesh, language learning is largely influenced by exam-driven instruction and rigid pedagogy (Rahman, 2019). These systems often neglect affective factors, leading to high anxiety and low motivation among students. A study by Akter and Sultana (2020) found that university students in Bangladesh frequently experience communication apprehension and fear of negative evaluation, raising the affective filter and reducing language acquisition success.

Moreover, Karim et al. (2017) identified that students from rural or underprivileged backgrounds face greater affective barriers due to linguistic inferiority and social stigma, thus further impeding SLA outcomes. These findings underscore the need for a more humanistic and psychologically informed approach to language instruction in Bangladeshi tertiary institutions.

Recent research suggests the affective filter hypothesis has significant implications for understanding decision-making processes (Smith, 2019). Smith (2019) argues that the affective filter hypothesis provides a new framework for assessing cognitive bias. The theory suggests affective filter hypothesis is a paradigm shift in cognitive studies" (Smith, 2019, p. 45), contributing to

cognitive development in the tertiary students.

The findings of the study have proved exclusively that, unlike the prior studies, an effective and strategic study of the contents, along with the positive implication of Krashen's Monitor Model, can bridge the linguistic gap of the students at the tertiary level in the private universities of Bangladesh.

### Research Gap

The process of SLA among the tertiary students in non-English speaking countries is not highlighted in the Monitor Model by Stephen Krashen. The study also focuses on the study of English literature and language, leading to sustainable SLA in the private universities of Bangladesh. Despite decades of English language teaching (ELT) reforms, students' proficiency remains a major concern, pointing to the need for research that addresses the unique challenges of the Bangladeshi context. While the Monitor Model and its criticisms have been discussed in a Bangladeshi context in various studies, there is a lack of localized research based on the students of the private universities in Bangladesh involving both English Language and Literature. Studies are needed to test how the five hypotheses—Acquisition-Learning, Monitor, Natural Order, Input, and Affective Filter—actually function among Bangladeshi students.

### Bridging the Research Gap

The research gap can be bridged by addressing certain aspects in the study of the English Language and Literature. Certain psycholinguistic and sociolinguistic approaches associated with

Krashen's Monitor Model and interdisciplinary approaches can bridge the research gap. While studying the contents of English Literature, application of enhanced critical thinking and exploring new perspectives, we can definitely bridge the gap for the students of the private universities in Bangladesh.

### **Krashen's Acquisition-Learning Hypothesis in Second Language Classrooms**

Krashen drew a fine line of difference between learning and acquisition. He regarded acquisition to be a natural process, whereas learning was a mechanical one. Naturally, the language gained through acquisition is more sustainable and won't be dependent much on memorization, grammar, and translation. On the other hand, language gained through learning is a short-lived one, as it may not be sustainable. Similarly, the students who all aim to acquire rather than to learn will have higher sustainability in the usage of English as a second language. The students working on the depth of the language, focusing on writing, paraphrasing, and thematic study of the texts of the literature, are likely to gain sustainability, whereas others don't. The core courses of ELT or applied linguistics allow a vast reading of complex texts, deeper analysis of linguistics, discourse, semantics, and phonetics, enforcing sustainability among the students. The pronunciation used in speeches and conversation gains clarity and smoothness. This hypothesis of Krashen enables second language acquisition to a great extent among the students of the tertiary language of the Department of English.

### **Second Language Acquisition (SLA) in**

tertiary-level English departments in Bangladesh is a complex issue, marked by significant challenges and unique opportunities related to language and literature studies. A critical analysis reveals a landscape shaped by pedagogical inconsistencies, socio-economic disparities, and a debated connection between language proficiency and literary analysis.

### **Krashen's Input Hypothesis in the Second Language Classrooms**

The Natural Approach highlights the importance of comprehensible input (Krashen & Terrell, 1983). Krashen formulated the idea that the level of proficiency of the students before the teacher conducted the class is assumed to be " $i$ ". Consequently, after the input provided by the teacher, the level of proficiency is increased by  $+1$ . The comprehensible input is responsible for improving the academic standard of the students in the second language classroom. This is widely regarded as the  $i+1$  theory.

### **Krashen's Affective Filter Hypothesis in Second Language Classrooms**

According to Krashen, attitude and emotion are filters that affect SLA, and components like motivation, anxiety, and confidence are responsible for facilitating SLA. For example, high motivation allows for quick acquisition of the language, and high anxiety hinders SLA in the second language classroom.

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### **Krashen's Natural Order Hypothesis in Second Language Classrooms**

Krashen emphasized the fact that grammar is absorbed by the students in a natural and pre-determined order, irrespective of the

sequence of the chapters followed by the teachers in the classroom. For example, students acquire parts of speech much before writing professional letters and applications.

### **Krashen's Monitor Hypothesis in Second Language Classrooms**

Krashen, (1981) suggests that conscious learning works as a “monitor” to edit the acquired language. Furthermore, it tells that the users of the language are equipped with conscious awareness of grammatical rules to edit their grammatical output.

### **Prevalent gap in SLA at the tertiary level**

**Inconsistent educational backgrounds:** Tertiary students enter English departments with vastly different levels of English proficiency. This is a critical factor, rooted in Bangladesh's bifurcated education system. Bangla-medium students: These students, who form the majority, arrive from an educational system that historically emphasized the Grammar-Translation Method, focusing on rules and rote memorization over communicative practice. As a result, they often lack fluency, confidence in speaking, and familiarity with real-world language use.

**English-medium students:** In contrast, students from private, urban English-medium schools often have stronger initial language skills, as their education is conducted entirely in English. This disparity creates a significant challenge for instructors trying to manage classrooms with such a wide range of abilities.

### **Inadequate pedagogical practices**

While the national curriculum officially promotes Communicative Language Teaching (CLT), its implementation is often ineffective, particularly in public universities.

**Persistent traditional methods:** Many instructors still rely on traditional, teacher-centered methods that limit interactive learning and speaking opportunities. A shortage of adequately trained English teachers who are fluent themselves exacerbates this problem.

**"Banglish" in the classroom:** In public universities, some teachers switch back and forth between Bangla and English during lectures to accommodate less-proficient students. This inconsistent immersion hinders SLA for all students and creates an uneven learning experience.

**Lack of structural support:** Unlike many private institutions, which operate on an English-only policy, public universities often lack structured programs to help Bangla-medium students with the transition to English-based higher education.

### **Benefits of literature for language acquisition**

Despite being viewed by some as an obstacle, literary study is a powerful tool for language development.

**Rich, authentic input:** Literary texts expose students to complex and varied language, expanding their vocabulary and awareness of stylistic choices in a real-world context, rather than through artificial, simplified texts.

**Development of critical analysis and thinking:** Literary analysis—decoding symbolism, interpreting themes, and understanding different perspectives—develops high-level analytical and interpretive skills that are crucial for overall academic and intellectual growth.

**Enhanced socio-cultural understanding:** Through literature, students gain exposure to the cultures, histories, and ideologies of English-speaking societies. This cultural insight is vital for mastering the nuances of the language.

**Advocates motivation:** The narrative and emotional engagement offered by literature can be more motivating for students than the functional language tasks. This encourages more extensive reading and deeper immersion.

### **The conflicting divides between language and literature**

The potential of literature is often underutilized or mishandled, creating a disparity between the two areas of study.

**Literature as a separate, non-communicative task:** Often, literature is taught with a heavy emphasis on memorizing critical analyses rather than engaging with the text itself. When treated as an end in itself rather than a vehicle for language acquisition, it fails to promote communicative competence.

**Linguistic gap hinders literary comprehension:** For students with low English proficiency, complex literary texts with figurative language and advanced vocabulary can be overwhelming. They may struggle to grasp the literal meaning, let alone the deeper literary analysis, limiting their overall progress.

**Neglect of other skills:** The overemphasis on reading and writing in literary courses can overshadow the equally important communicative skills of speaking and listening.

### **Research Questions**

- a. How far is the combined study of English language and literature responsible for facilitating sustainable SLA among the students of the private universities of Bangladesh?
- b. How effective is Krashen's Monitor Model and its hypotheses in attaining SLA in the tertiary students of the private universities of Bangladesh through the right teaching methodology?
- c. Does sustainable SLA cause employability and linguistic proficiency in the students of the private universities in Bangladesh?

### **Methodology**

Mixed methodology has been used in this study, incorporating both qualitative and quantitative methodologies. The qualitative methodology used in this study highlights the focus groups, observations based on Krashen's Monitor Model, and the questionnaires used. But in this study, quantitative methodology deals with the questionnaire only. Using the quantitative methodology, the percentage of students agreeing and disagreeing with the research hypothesis is identified.

**Methodological structure:** As mentioned above, the study will be guided by Krashen's five hypotheses. The parameters denoting the level of sustainability are employability, linguistic proficiency and comprehensible input. The questionnaires are designed based on these instruments.

**Acquisition-Learning Hypothesis:** Establishing difference between formal learning and subconscious acquisition through natural mode of communication.

**Monitor Hypothesis:** This denotes how conscious learning (grammar rules) is used to edit or modify acquired language, and if students are "over-users," "under-users," or "optimal users".

**Input Hypothesis (i+1):** It assesses the availability and use of comprehensible input slightly beyond the learners' current level in English and literature courses.

**Natural Order Hypothesis:** This is controversial, but this can be used to see if an expected natural order of grammatical acquisition is observed.

**Affective Filter Hypothesis:** It investigates the emotional factors (motivation, self-confidence, anxiety) and how the classroom environment influences the "filter" level.

Ideal execution of the above mentioned hypotheses can lead to the justification of the research questions leading to sustainable SLA among the target population or the tertiary students of Bangladesh.

The following close-ended questions were included in the Questionnaire, and they were to be answered in yes or no only.

- Does the study of themes in the texts of English literature help you to develop your command of the English language?
- When the teachers teach the contents of English literature, does it help you to improve your listening skills sustainably?
- Does the study of literary pieces develop your language?
- The concept of phonetics is taught in the course of linguistics. Does it help you to consolidate your linguistic competence?
- Do writing long answers in literature exams help you to improve your language?
- Can we achieve sustainable SLA by going through the complex texts of the literature?
- Can we gain sustainable linguistic analytical skills by reading and comprehending the texts and study material of literature?
- Does the study of English literature and linguistics improve the vocabulary and structural skills of the second language?
- Can we achieve sustainable SLA by writing essays on creative / directed topics?
- Do the presentations in the classroom (formative assessment) help to achieve sustainable SLA?
- Does the study of literature and language improve mathematical skills?
- Does the study of the English language & literature lead to sociolinguistic development?

The answers to the above questions are quantified to identify the choice and determination of the students concerned. The existing studies and papers based on Stephen Krashen's Monitor Model and the

hypotheses in the Monitor Model have been taken into consideration for the qualitative study.

The focus groups consisted of three students in each group, and the authors focused on the learners' perspectives, investigating the attitude towards the rich contents of English language and literature. Open-ended questions were asked. The 28 groups were asked to address their preferences based on GTM and CLT teaching methodology, impact on pedagogical approaches during each semester. The discussion with the participants was also based on the cause of inefficiency in using the four skills of the English language independently. Then, the data was triangulated for analysis.

## Research Framework

The concept of the study is to be tested through the Monitor model formulated by Stephen Krashen to identify the role of English literature and language study in facilitating SLA in the private universities of Bangladesh. The model comprises five hypotheses. They are the Acquisition-Learning Hypothesis, Natural Order Hypothesis, Input Hypothesis, Affective-Filter Hypothesis, and Monitor Hypothesis. The discussion, focus groups, and collection of data were based on process, focus, input, outcome, and environment. The texts of English literature and language are studied by the students concerned, who have answered the closed-ended questions, have participated in focus groups, and have made observations to allow the author to collect the data for the study. In addition, the participants also commented on the existing teaching methodology and pedagogy, suggesting curriculum development as well.

## Research Hypothesis

The simultaneous and strategic study of the core components and texts of English language and literature can enforce sustainable and effective second language acquisition. The paper stands on the assumption that if the tertiary level students in the private universities of Bangladesh study English language and literature simultaneously, it can facilitate sustainable SLA. Thereafter, they will be able to exercise all four skills of the English language with freedom and diction.

## Research Design

A multi-method study has been conducted, using a combination of both qualitative and quantitative methods. The qualitative method focuses on the non-numeric data of this study collected from both primary and secondary sources. The quantitative method focuses on the numerical values obtained, here as the number of participants, sources of data, and the numerical value of the results obtained. Eighty-four participants from the twelve renowned private universities contributed to the collection of the data. There were twenty-eight focus groups comprising three members in each. They contributed to the open-ended questions in the collection of the data. This design provides richer, more comprehensive, and triangulated insights into the complex interplay of factors involved than a single method could offer alone. It also provides practical recommendations, and holistic study and flexibility to tackle the complexity of the research problem from multiple angles, leading to a more robust and comprehensive understanding of how English language and literature studies truly impact the intensity of sustainable

second language acquisition in the private universities of Bangladesh.

## Data Collection

The study has used both Primary and Secondary data. Primary data has been collected from the students of the twelve renowned private universities in Bangladesh using field visits by the authors. These twelve universities are chosen for the diversity of location, and these are the renowned ones in the country facilitating the meritorious students. Seven students participated from each university, and the total participants were 84. They were also an integral component of the focus groups. Each group consisted of three students, and in total, twenty-four groups were utilized for the collection of data based on focus groups. The secondary data has been obtained from Krashen's study based on the Monitor Model and his books. Data has been collected from twelve renowned private universities in Bangladesh after prior approval from their respective governing bodies.

## Data Analysis

The analysis of the data collected in this study is based on the following aspects:

**Inspiration and Perceptions:** Students in the private universities of Bangladesh are highly motivated to acquire English, primarily due to pragmatic reasons such as better employment opportunities and future career prospects. These are deeply tied to the social and economic benefits associated with English proficiency. The students often perceive the ability to speak English well as a sign of superiority and confidence.

**Medium of Instruction (MOI) and its Challenges:** Private universities in Bangladesh have largely adopted an English Medium Instruction (EMI) policy, creating an "English only environment" on campus. However, this leads to significant linguistic transition problems for many beginner-level students who come from Bangla-medium educational backgrounds, often resulting in struggles to cope and low proficiency, especially in spoken English.

**Literature as a tool of motivation:** The integration of English literature into the curriculum is seen as a positive influence. Studies indicate that students enjoy learning English through literature, which provides authentic language contexts, enriches vocabulary, and develops analytical and critical thinking skills. This approach helps sustain interest in the language beyond mere grammatical rules.

**Teacher Quality and Methodology Gaps:** A major impediment to sustainable SLA is the lack of adequately trained and qualified English teachers, particularly in modern language-teaching methods like Communicative Language Teaching (CLT). The traditional Grammar-Translation Method (GTM) often persists in practice despite curriculum reforms, leading to a focus on reading and writing skills over speaking proficiency.

**Lack of Practical Application:** Students often have limited opportunities to use English in practical, real-life communicative situations outside of the classroom. This lack of exposure and practice hinders the development of fluency and overall sustainable SLA.

**Socio-Cultural Factors:** The socio-cultural and economic backgrounds of students play a role in their English acquisition journey. Students from

English-medium schools often have a stronger foundation, and English proficiency is frequently linked to higher socioeconomic status and better job access, creating a potential divide.

On the basis of the data collected, the study suggests certain suggestions.

**Improved Teacher Training:** Investing in robust teacher training programs focused on modern, communicative methodologies using CLT.

**Integration of the Curriculum:** Better integration of language and literature studies to balance language skills with cultural and critical understanding.

**Opportunities for Practice:** Creating more environments for practical English usage both inside and outside the classroom to bridge the gap between theoretical knowledge and practical application.

## Result

The data extracted from the secondary and primary sources using a quantitative study depict that 90% of the students believe that systematic and simultaneous study of English language and literature in the light of the Monitor Model can enforce sustainable SLA in their institutions, whereas the remaining 10% differ. 79 out of 87 students provided the same affirmative answers for the closed-ended questions. They have agreed on the same aspect that systematic, combined, and simultaneous study of English literature and language enables sustainable SLA. The findings are depicted below.

Comprehensible input delivered by the ELT teachers in a low-anxiety environment can lead to sustainable SLA

in the students. It has been identified that an effective CLT environment in the Second Language classroom provides an advantage for the students to achieve linguistic proficiency. The communicative practice available in an ideal CLT environment directs students towards verbal skills. Moreover, simultaneous and effective study of the texts of the English language and literature with the balanced application of Krashen's Hypotheses in the second language classroom advocates for SLA. From the data collected, it is quite clear that Formative assessment improves the level of motivation of the students studying EFL (English as a foreign language) and keeps them engaged with SLA. The rich texts in English literature help students enhance their linguistic competence of the students. The figurative meaning in the texts helps the students to decipher and apprehend the meaning; as a result, the proficiency of the students is improved. The presentations and verbal assignments of the students allow them to improve their verbal skills.

Evidently, the comprehensive capability of the students increases after reading the texts of various genres of English literature, like Drama, Poetry, Novel, and Short Stories. The students attain sociocultural development after the students read the rich texts based on English, American, and sub-continental History and culture.

The listening proficiency improves after listening to effective lectures of the instructors in the EFL classroom. Consequently, the concept of phonetics, pragmatics, semantics, and extended applied linguistics engages the students in complex theories, which improves the critical thinking of the students. The long answers drafted throughout the semesters

and examinations during the undergraduate and graduate studies enhance the writing skills of the students at the tertiary level. The students have stated that the literary devices and rich socio-cultural study throughout the courses enhance the contextual study of the students. It has been identified that the students at the tertiary level are not interested in GTM. The results suggest that acquisition is crucial for gaining fluency and communicative skills, while learning can be used to monitor and rectify the target language. Comprehensible input has been identified as a key factor in promoting second language acquisition while imparting knowledge from the texts of the English language and literature. The findings indicate that a low affective filter (positive emotions) facilitates language acquisition, while a high affective filter hinders it. It is observed that the students of a language acquire grammatical structures in a predictable order, regardless of formal instruction. The results have depicted that the combined study of the English language and literature is responsible for facilitating sustainable SLA among the students of the private universities of Bangladesh. Thus, Krashen's Monitor Model and its hypotheses are found to be highly effective in attaining SLA in the tertiary students of the private universities of Bangladesh through the right teaching methodology. Consequently, sustainable SLA causes employability and linguistic proficiency in the students of the private universities in Bangladesh, causing the justification of the research questions. Results based on the focus groups, discussion, and observations after the application of Krashen's Hypotheses in the classroom are demonstrated in the chart given below:

### Chart Based On The Data Of 87 Students

STUDENTS SUPPORTING THE SYSTEMATIC AND SIMULTANEOUS STUDY OF ENGLISH LANGUAGE AND LITERATURE TO ATTAIN SUSTAINABLE SLA	STUDENTS NOT SUPPORTING THE SYSTEMATIC AND SIMULTANEOUS STUDY OF ENGLISH LANGUAGE AND LITERATURE TO ATTAIN SUSTAINABLE SLA
90% OF THE PARTICIPANTS	10% OF THE PARTICIPANTS
79 PARTICIPANTS	21 PARTICIPANTS
PREFER CLT METHODOLOGY	PREFER GTM
WILL ACHIEVE SLA	WILL NOT ACHIEVE SLA

Categories	Acquisition	Learning
Process	Subconscious In Nature	Conscious In Nature
Focus	Meaning	Rules/Forms
Input	Comprehensible (I+1)	Explicit Instruction
Outcome	Long-Term Fluency	Short-Term Memorization
Environment	Low Anxiety	Can Be High Or Low Anxiety

Linguistic Proficiency	Employability
91% of the students struggle with linguistic proficiency before attainment of SLA.	97% of the students are not confident of employability before attaining sustainable SLA.
2% of the students belonging to English medium	Only 1% of the students from prior English Medium background are

background possess linguistic proficiency before graduation.	confident of employability before achieving graduation.
95% of the students are confident of achieving linguistic proficiency after attaining sustainable SLA.	96% of the students are confident of achieving employability after attaining sustainable SLA.

## Discussion and Analysis

The study supports the idea that acquisition is a more effective and natural process for SLA in the second language classrooms. Moreover, we can observe the outcome of this study derived from the students participating in generating data for the authors. It has been stated by the concerned students that the process of acquisition is a subconscious one that is achieved with strategic study of the course contents during undergraduate and graduate study. It supposedly focuses on meaning rather than memorizing the rules of English grammar. This definitely is a sign of sustainable SLA. It is quite natural for the students to forget the rules of grammar, and that is part and parcel of academics. However, if the users of the language focus on meaning and practice using the language daily with family and friends, they can acquire the language. The combined and simultaneous study of both the English language and literature is the best source of practice for the students concerned. This helps them to cover the syllabus for the exam, and consequently, they can acquire a second language

unconsciously. This is definitely going to be sustainable in nature and is the most crucial aspect of the acquisition-learning hypothesis by Stephen Krashen. The comprehensible input imparted by the instructors in the form of implicit instruction is responsible for escalating the existing standard by +1 concerning the students available in the classroom. This is regarded as the 'i+1' theory, or the Input Hypothesis, by Stephen Krashen. It is realized constructively by the students studying English language and literature at the tertiary level with an inevitable intention of acquiring English as a second language. This is definitely leading to long-term fluency rather than short-term expertise. Consequently, the students can use the four skills of the English language with utmost freedom, adding strength to their communicative competence in professional and personal fields. The filters play a great role in acquisition, as aspects like attitude and emotion render support to students to generate sustainability in the acquired language. Filters like 'high confidence,' 'low anxiety,' 'positive attitude,' and CLT lead to sustainable SLA, as stated in the affective-filter hypothesis. The pedagogical changes recommended by the students were that the affective filter and the applicable content should be taken into consideration. The focus is to be laid on student-centered programs, real-world learning, action-learning attitudes, project-based learning, collaboration and networking, and engaging policymakers for teacher development to ensure sustainable SLA. Curriculum development is to be adopted as a regular practice for developing the existing assessment techniques and modifying the teaching methodology and content. The participants have shown utmost interest in formative assessment and content like presentations, peer discussion, and assignments to keep

them motivated towards sustainable SLA.

Parameters based on the affective filter have highlighted the importance of creating a supportive and motivating learning environment among the students in the private universities of Bangladesh. The rich texts and contents of English literature and language generate linguistic competence in students, concerned with facilitating SLA. It has been observed that acquisition and learning are required at least during the simultaneous study of the texts of literature and language. The study of literary themes, literary devices, and other complex structures makes SLA sustainable. This is attained by acquisition rather than learning. The effective, comprehensible input of the teacher improves the proficiency of the students in the second language classroom, enabling SLA. If we look at perspectives in countries like China and Japan, English acquisition primarily through their formal education systems, where it is a mandatory subject for many years, but they face challenges in developing practical communication skills due to an overemphasis on grammar and testing, large class sizes, and limited real-world exposure. This may align with this study based on the Bangladeshi private universities as well. The favorable filters advocate SLA and improve the four skills of the English language, generating great users of English as a second language. The research questions are answered with the help of the data collected throughout the study. Finally, we have reached the knowledge that acquisition attained through the study of the English language and literature using comprehensible input in a low-anxious environment is sustainable. This study has also proved that if the Monitor Model by Stephen Krashen is applied effectively in second language

classrooms, it is highly essential for achieving sustainable SLA in the private universities of Bangladesh.

We can also observe the process of acquisition of English as a language in non-English speaking European countries. Most European countries have lowered the starting age for compulsory foreign language learning, usually English, often beginning in primary school. In addition, the curriculum focuses on developing all four major language domains: listening, speaking, reading, and writing, building vocabulary, grammar, and pronunciation skills through structured lessons and exercises. While traditional methods like Grammar-Translation were once common, many educational systems have shifted towards more communicative language teaching (CLT) or Content and Language Integrated Learning (CLIL) approaches, which emphasize interaction and using the language to learn other subjects. Moreover, the common European Framework of Reference for Languages (CEFR) provides a standardized way to measure proficiency levels (A1-C2), offering clear objectives for learners and educational programs.

### **Limitation of the paper**

The paper has the potential and strength to improve the academic proficiency of students. It is designed to be referred to in the future for enhancing the linguistic competence of the students at the tertiary level. However, there can be limitations in delivering comprehensible input to the students in the classrooms. The comprehensible input is slightly higher than the existing intellectual standard of the students. It may be challenging for the instructors to ensure that the students reach higher intellectual standards by imparting

the lectures. Consequently, the content based on literature and language will not be clear to the students, and the target language (L2) may not be achieved. Moreover, the strategy of studying the contents may vary from person to person. Among the many of the barriers students face, including poor teaching methods and limited exposure to English, a comprehensive understanding is constrained by methodological limitations and the complex, varied context of Bangladeshi higher education. The reduced size of the sample can also be a barrier in this study.

### **Conclusion, Recommendation and Implications**

The paper fosters sustainable SLA in the private universities of Bangladesh. Sustainable SLA is attainable by executing effective teaching and learning strategies in the combined study of English literature and language. The outcome-based education in the private universities in Bangladesh allows a vibrant scope for SLA. Tactical execution of Krashen's hypotheses, along with effective usage of CLT in the second language classrooms, can bridge the intellectual gap between the first and the target language. This can ensure that students can use the four skills of the English language with sustainability. The findings of the study have identified the strengths, weaknesses, opportunities, and threats associated with SLA persisting in the private universities of Bangladesh. Nevertheless, the collection and analysis of data have satisfied the research questions and have delivered justice to the research gap.

### **Theoretical and Practical Implications**

The paper offers substantial theoretical and practical implications for achieving sustainable Second Language Acquisition (SLA). This interdisciplinary approach moves beyond mere linguistic competence,

fostering intercultural understanding, critical thinking, and socio-emotional development, which are essential for lasting language use and learner engagement.

**Literary texts as cultural tools:** Literary works are rich cultural artifacts that provide authentic, contextualized language use. By discussing and interpreting these texts, learners engage in a process of "languaging"—constructing meaning through dialogue and collaboration.

**Identity formation:** Literature allows learners to explore new cultural identities while affirming their own. This process supports the development of a resilient linguistic identity, which is a key component of sustainable SLA, as it increases a learner's commitment to and investment in the target language.

**Connection to real-world issues:** Through a sociocultural lens, educators can use English language and literature to connect with real-world issues and the United Nations Sustainable Development Goals (SDGs). This makes the learning process more relevant and meaningful to students' lives.

**Deeper engagement:** Engaging with a compelling story creates a deeper, more personal connection to the language, leading to higher levels of intrinsic motivation. When learners enjoy reading, they are more likely to persist, making their language acquisition more sustainable over time.

**Aesthetic and emotional engagement:** Literature promotes both "efferent" (information-driven) and "aesthetic" (experience-driven) reading. The aesthetic experience builds emotional intelligence and creates a lasting positive association

with the language, which is crucial for long-term retention.

**Integrating SDGs:** Teachers can design curricula around the United Nations' Sustainable Development Goals (SDGs), using literature and language activities to explore global challenges like climate change and social justice.

**Project-based learning:** Students can engage in projects that require them to research and present on real-world issues. For example, a student might research a local environmental problem and present their findings in English, enhancing both language proficiency and issue awareness.

**Authentic materials:** Using authentic literary and non-literary texts (e.g., poetry, speeches, and essays) provides a rich, complex linguistic environment. This moves students beyond contrived textbook examples to engage with the natural language used for meaningful communication.

On the basis of the data collected and the results obtained, the study recommends certain suggestions for teachers and students of English language and literature. It recommends concentrated, systematic, and simultaneous study of the English language and literature to acquire sustainable SLA in the private universities of Bangladesh. The study should be effective and strategic. The teaching is to be conducted in the light of Krashen's Monitor Model and the Hypotheses concerned. The results of the paper recommend CLT methodology and a low-anxious environment in the second language classroom, with the target language being the medium of instruction.

## References

- Akter, S., & Sultana, S. (2020). *Language anxiety among tertiary level learners in Bangladesh*. International Journal of Language and Linguistics, 7(2), 56–65.
- Begum, J. (2020). *Socio-Cultural Factors in Promoting Learner Autonomy Among Tertiary Level EFL/ESL Learners: A Lens of Bangladeshi Context*.
- Chomsky, N. (1965). *Aspects of the Theory of Syntax*. MIT Press.
- Griffiths, C., & Parr, J. M. (2001). *Language-learning strategies: Theory and perception*. ELT Journal, 55(3), 247–254.
- Karim, A., Shahed, F. H., Mohamed, A. R., & Rahman, M. M. (2017). *Challenges affecting English language teaching and learning in Bangladesh*. Language in India, 17(6), 104–124.
- Krashen, S. (1981). *Second Language Acquisition and Second Language Learning*. New York: Pergamon Press.
- Krashen, S. (1982). *Principles and Practice in Second Language Acquisition*. London: Pergamon Press Inc.
- Krashen, S. D., & Terrell, T. D. (1983). *The Natural Approach: Language Acquisition in the Classroom*. New York: Pergamon Press.
- Langman, J. (2001). Peter Auer (ed.), *Code-switching in conversation: Language, interaction and identity*. London: Routledge, 1998. Pp. V+ 355. Journal of Linguistics, 37(3), 627–649.
- Rahman, M. M. (2019). *English language teaching in Bangladesh*:

---

*Policy, practice and perception.*  
South Asian Review of English,  
9(1), 1–15.

- Smith, J. A. (2019). *Understanding human behavior*. Academic Press.



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