

Accessible Digital Media in Video Format on  
Comprehension of 'Basics of Entrepreneurship'  
for Deaf



## **ABSTRACT**

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Entrepreneurship plays a pivotal role in driving global economic growth, and it is crucial that individuals with disabilities, particularly the Deaf community, are provided with equal access to entrepreneurial education. Traditionally, entrepreneurial resources rely heavily on auditory and verbal communication, thereby excluding those who communicate primarily through sign language or rely on visual aids. This research seeks to address this gap by developing accessible digital media in video format aimed at enhancing the comprehension of the basics of entrepreneurship for Deaf individuals. These modules integrate sign language, captions, and visually engaging content tailored to the cognitive and communicative needs of the Deaf community.

The study was conducted in collaboration with multiple renowned institutions across India, such as NISH (National Institute of Speech & Hearing) in Kerala, the Government Deaf College in Rajasthan, and the Indian Sign Language Research & Training Centre in New Delhi, along with organizations in the North East and Odisha. The modules were based on core concepts from the Central Board of Secondary Education (CBSE) Class XI entrepreneurship syllabus and Philip Kotler's 4 Ps of marketing (Product, Price, Place, Promotion), focusing on topics critical for entrepreneurial success:

1. Interest in Entrepreneurship – Assessing the aspirations of Deaf individuals towards entrepreneurship.
2. Convenience/Place – Understanding the role of business location and operational setup.
3. Finance/Money – Building financial literacy to start and sustain a business.
4. Resource Management – Managing resources efficiently to ensure business viability.
5. Marketing – Learning the principles of promoting a business effectively.

## **Methodology**

The modules were designed with the input of Deaf educators and sign language experts and were tested across various states including Kerala, Meghalaya, Nagaland, Manipur, Odisha, Rajasthan, and New Delhi, ensuring both regional linguistic and cultural diversity were incorporated. The design and delivery were carefully structured to ensure the modules were accessible through Indian Sign Language (ISL), with captioning and visual aids that addressed the unique visual learning needs of Deaf participants.

The research adopted a pre- and post-experimental design, with a focus on measuring the comprehension gain among Deaf individuals after engaging with these video-based modules. The participants were tested on their understanding of the entrepreneurial concepts, and an accessibility scale was used to evaluate the ease of use and overall experience with the digital content.

## **Findings**

The study revealed several key outcomes:

1. **Improved Comprehension:** There was a significant increase in comprehension levels among the Deaf participants after interacting with the modules. Participants displayed a better grasp of entrepreneurial concepts such as financial planning, resource management, and market strategies, as compared to their pre-test results.

In particular, the Finance/Money module saw the highest improvement, with participants demonstrating a clear understanding of financial terms and strategies necessary to start their own businesses.

2. **Effective Visual Learning:** The integration of sign language, captions, and visual storytelling proved to be highly effective in aiding comprehension. Participants reported that the visual format of the content, particularly the use of real-life examples and stories, made complex entrepreneurial concepts more relatable and easier to understand.

3. **Inclusivity in Learning:** The use of native sign language speakers and contextualized content based on regional settings contributed to the participants'

ability to relate to the material, especially when the modules were developed in collaboration with institutes like NISH in Kerala and the Government Deaf College in Rajasthan.

The participants from regions like the North East and Odisha, where there has been limited access to specialized entrepreneurial education for the Deaf, showed notable engagement and enthusiasm. The accessibility of the modules addressed long-standing gaps in educational resources for these underserved areas.

4. Accessibility Features: The captions and synchronized visuals were highlighted by participants as critical elements that supported their learning experience. Feedback from the participants underscored the need for clear, concise captions that follow sign language patterns, as traditional captioning methods often do not align with how Deaf individuals process information.

5. Impact on Entrepreneurial: Interest and Empowerment: The modules stimulated a significant interest in entrepreneurship among the Deaf participants. Many participants expressed that, prior to this experience, they had limited exposure to entrepreneurial knowledge due to the lack of accessible resources. The visual and sign-language-based content empowered them to consider entrepreneurship as a viable career option.

6. Gender and Regional Differences: The study found that gender and regional factors played a role in how participants engaged with the content. Female participants from rural areas, particularly in Odisha and the North East, demonstrated lower initial comprehension levels but showed the most substantial gains post-intervention. This points to the potential of accessible digital media to bridge educational gaps for underserved demographics, making entrepreneurship accessible to women in regions where educational resources for the Deaf are scarce.

7. Positive Attitude Toward Accessible Education: The feedback from participants reflected a positive shift in attitudes toward digital learning. They appreciated the personalized nature of the modules, which addressed their unique needs. The content's delivery in native sign language was particularly impactful, leading to deeper engagement with the material.

**8. Feedback for Improvement:** While the outcomes were overwhelmingly positive, participants offered constructive feedback for improving future modules. They recommended shorter, more focused segments to accommodate the memory limitations common among Deaf learners. Additionally, they emphasized the need for more relatable, real-life examples of Deaf entrepreneurs to inspire confidence in pursuing entrepreneurial ventures.

### **Outcomes and Implications**

1. **Increased Entrepreneurial Participation:** The study concluded that accessible digital media has the potential to increase entrepreneurial participation within the Deaf community. By breaking down complex concepts into digestible, visually rich content, these modules can serve as a blueprint for inclusive education that empowers individuals with disabilities to explore entrepreneurial opportunities.

2. **Scalability and Adaptability:** The success of these modules in diverse regions suggests that the model can be scaled and adapted to other contexts, not just within India but globally. The principles of inclusive design and accessible digital media can be applied to various educational and vocational subjects, opening up new learning avenues for the Deaf and other disabled populations.

3. **Policy and Institutional Impact:** The research has significant implications for policy-makers and educational institutions. It highlights the need for greater investment in accessible educational tools for the Deaf community and suggests that entrepreneurial education should be included in broader efforts to support economic independence among people with disabilities. Institutes such as NISH and the Government Deaf College could serve as centers of excellence for developing similar accessible content for other fields of study.

4. **Strengthening the Deaf Economy:** By equipping Deaf individuals with entrepreneurial skills, the study aims to foster economic inclusion. As more Deaf entrepreneurs emerge, they can contribute not only to their local economies but also serve as role models for others in the community, thereby breaking stereotypes and reducing societal biases against the Deaf.

5. Further Research Opportunities: This study opens avenues for further research into accessible educational methodologies. Future studies could focus on long-term impacts of such modules on the career trajectories of Deaf individuals, the sustainability of Deaf-led businesses, and the role of technology in enhancing inclusivity across educational sectors.

**Key Words-** Accessible digital media, entrepreneurship education, Deaf community, sign language, inclusive education, comprehension gain, visual learning, accessibility, entrepreneurial empowerment, educational technology, social inclusion, economic independence, gender differences, regional differences, digital learning, inclusive design.