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Technology as a Catalyst for Mother Tongue and Dialect Revitalization

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Abstract: - *Technology acts as a crucial catalyst for mother tongue and dialect revitalization by providing platforms for documentation, preservation, education, and community engagement through tools like digital archiving, language learning apps, AI-powered tools, and social media. While digital tools offer enhanced accessibility, promote language prestige, and reconnect communities, successful revitalization requires a balanced approach that prioritizes community ownership, data sovereignty, cultural sensitivity, and addressing the digital divide to ensure technology empowers rather than marginalizes vulnerable languages.*

Keywords:- Mother tongue, Revitalization, AI-powered tools, NEP 2020.

Introduction: -

Technology plays a vital role in promoting mother tongues and local dialects by providing tools for content creation, accessibility, translation, and preservation, especially through digital learning platforms, AI-driven educational content, voice-based technologies, and digital archives. These innovations help bridge linguistic divides, make education more inclusive, and ensure the survival of languages, particularly for indigenous and minority groups. Initiatives like India's Bhashini Project and the global efforts of UNESCO demonstrate the potential of technology to support and revitalize linguistic diversity

Technology provides powerful tools for promoting mother tongues and local dialects, allowing for documentation, education, and social connection that can combat language endangerment. By digitizing languages, these tools ensure cultural knowledge and heritage are preserved for future generations.

In India there are total of 270 mother tongues, grouped under 121 languages. The study desires that language planning in India shall be based on the empirical facts of this kind. NEP 2020 comes with a prodigious assurance, a welcome relief indeed to the population of India.

The National Education Policy (NEP) 2020 leverages technology to revitalize mother tongues and dialects by promoting digital learning platforms with multilingual content, developing AI-powered translation tools, creating digital banks of children's literature in regional languages, and offering virtual language learning opportunities to enhance student engagement and cultural preservation. Technology also supports teacher training in mother tongue instruction, enables the integration of cultural elements like films and music into language learning, and helps bridge the digital divide to ensure equitable access to quality, localized educational resources for all students. Extensive use of technology in teaching and learning, removing language barriers, increasing access for Divyang students, and educational planning and management.

Enjoyable and inspirational books for students at all levels will be developed, including through high-quality translation (technology assisted as needed) in all local and Indian languages, and will be made available extensively in both school and local public libraries. (p.9, NEP2020). Digital libraries will also be established. Extensive use of technology will be made for teaching and learning of different languages and to popularize language learning. (p.13, NEP2020).

For the enrichment of the children, and for the preservation of these rich languages and their artistic treasures, all students in all schools, public or private, will have the option of learning at least two years of a classical language of India and its associated literature, through experiential and innovative approaches, including the integration of technology, in Grades 6-12, with the option to continue from the middle stage through the secondary stage and beyond. (p.15, NEP2020). Develop and support technology tools for better participation and learning outcomes. (p.41)

In order to make high-quality learning materials and other important written and spoken material available to the public in various Indian and foreign languages. … an Indian Institute of Translation and Interpretation (IITI) will be established. … . The IITI shall also make extensive use of technology to aid in its translation and interpretation efforts. (p. 55, NEP2020.

It also promises, wherever necessary "promoting multilingualism and the power of language in teaching and learning.Further it says [4.11] "Teachers will be encouraged to use a bilingual approach, including bilingual teaching- learning materials, with those students whose home language may be different from the medium of instruction. All languages will be taught with high quality to all students;"

These really require that Indian languages shall be equipped with language technology. Not just only the major scheduled languages but all the 121 languages. Technology Development for Indian Languages

(TDIL) has in its Vision and mission statement, that "Digital unite and knowledge for all" and "Communicating & moving up the knowledge chain by overcoming language barrier."

Key Applications of Technology in Language Revitalization

Digital learning platforms and mobile apps: Interactive tools like Duolingo and Memrise can incorporate courses for lesser-known and Indigenous languages. Other platforms, such as India's DIKSHA portal, provide educational content and textbooks in multiple regional languages.

AI-powered learning tools: Artificial intelligence can create immersive learning experiences through chatbots and virtual tutors that simulate real conversations in native languages. This is especially useful for communities with limited access to fluent speakers.

Gamification: Turning language learning into a game with quizzes and interactive exercises boosts engagement, particularly for younger generations.

Bilingual classrooms: Digital content in local languages, including videos and interactive lessons, can help establish bilingual classroom environments and improve students' understanding and academic performance.

Technology for documentation and archiving

Digital archives and databases: Online repositories can store audio, video, and text from endangered languages. The Endangered Languages Project and the Living Tongues Institute are examples of organizations using digital archives to preserve linguistic diversity.

Automated transcription: For unwritten languages, AI systems can convert spoken words into text, providing an invaluable tool for documenting and standardizing their lexicon and phonetic features.

Crowdsourcing: Mobile applications enable native speakers, including those in remote areas, to contribute recordings, vocabulary, and grammatical structures. This empowers communities to build their own digital language resources.

Technology for communication and social engagement

Social media platforms: Social media provides a digital space for communities to use, celebrate, and promote their native languages through content sharing, hashtag campaigns, and online communities. For example, communities have used Facebook and X (formerly Twitter) to revitalize languages like Punjabi and Setswana.

Multimedia content creation: Users can share stories, songs, and cultural practices in their native language through videos on platforms like YouTube and TikTok. This makes cultural traditions accessible and engaging for wider audiences, especially young people.

Localization: To ensure that digital experiences are inclusive, technology can be localized to adapt to cultural context and regional dialects. This includes creating keyboards and software interfaces for less-resourced languages.

Challenges and considerations-While technology offers immense potential, it also presents challenges:

The digital divide: Disparities in internet access, especially in rural and remote areas, limit the reach of digital tools and content.

Data scarcity: Many lesser-known languages lack the large-scale linguistic data needed to train sophisticated AI models.

Ethical concerns: The use of linguistic data raises issues of community consent, ownership, and potential cultural dilution if not handled with care and respect.

Lack of standardized orthographies: For languages without a standardized written form, creating digital content can be challenging.

Conclusion-The use of technology in language promotion is a powerful, double-edged sword. By focusing on accessibility, community empowerment, and ethical practices, technology can significantly help in preserving and revitalizing mother tongues and local dialects in the digital age.

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