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Multi-Alphabetics: A Novel Model for the Simultaneous Learning of Alphabets for Five Languages by 2–5-Year-Old Children, Adding a New Dimension to the Multi-Languaging Concept and Method

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Abstract

India has 22 official state languages and more than 19,500 mother tongues or dialects, but no single accepted national language, which makes India both a goldmine and a minefield of languages. Multi-Languaging, as developed by Seshi (https://multilanguaging.org, 2021; https://youtu.be/SINDjAMp0pA, 2022), uses identical subject material across multiple languages to enable simultaneous learning sentence-by-sentence and word-by-word. This article presents a novel progressive model for 2–5-year-old-children to learn five different alphabets, with previously learned information serving as an anchor in each step. It is based on 444 images corresponding to two keywords for each letter in the English, Telugu, Hindi, Urdu, and Sanskrit alphabets (26, 51, 57, 39, and 49 letters, respectively). The images on which the process is based form the foundational "study set" for learning five different alphabets in four steps over a three-year period (ages 2–5 years). Step 1: At 2 years of age, children recite 444 words in their mother language after watching videos of monolingual rhymes or vignettes, without being encumbered by any script. Step 2: At 3 years, they progress to reading and writing the words they have learned in their mother language's script. Step 3: At 3½ years, children begin learning all the words (1,776) in the other four languages, transcribed into the script of their mother language, while watching and singing multilingual rhymes/vignettes, thus continuing to operate in the ambiance of their mother language. This model should present no major difficulty in accepting and learning the other (foreign) language words as their own, since they are dressed in the script of their mother language. Step 4: At 4½ years, children

learn the script of the language of the respective words, forming a clear association between words/sounds and the specific language. This method should be equally applicable to teaching/learning combinations of any other language alphabets.

Keywords

Multilingual, Multilanguage, Simultaneous Learning, Parallel Learning, Linguistic Diversity

1. Introduction

The thirteenth-century English philosopher and Franciscan friar Roger Bacon wrote, "*Notitia linguarum est prima porta sapientire*" ("Knowledge of languages is the first gate to wisdom"; Bacon (2012: p. 102)). India is home to 22 official state languages and over 19,500 mother tongues or dialects (Press Trust of India, 2018), and accordingly is the golden gate to wisdom. Dr. Maria Montessori, the founder of the Montessori Method, best expressed the learning capacity of child's mind, "the absorbent mind, that children from birth to age six possess limitless motivation to achieve competence within their environment and to perfect skills and understandings" (Plum Tree Montessori School, n.d.). According to Vazquez (2016), "The Sooner You Expose a Baby to a Second Language, the Smarter They'll Be." Recent studies further reveal that new language learning ability is highest until the age of 18, after which it declines, and to achieve fluency learning must begin before 10 years of age (Smith, 2018). All things considered, children from ages 2 to 5 years, as they have yet to be encumbered by any other school subject, are best positioned to learn languages, and hence are the target of this study.

This article describes a pedagogical innovation that involves simultaneously teaching the alphabets of five languages to 2–5-year-old children. This approach to learning languages has not been carried out before, to my knowledge, and it requires creativity, planning, and a sufficient budget. The subject has been proposed on a Multi-Languaging website and in an eBook without a solution being offered (Seshi, 2021a, 2021g), and, considering its complexity, this problem should be addressed in a programmatic, stepwise fashion. I envision a progressive model for preschoolers to learn five different alphabets, with the information learned in each stage/step serving as an anchor for the next stage/step, produced as an online educational resource for multilingual learning by any user anywhere free of charge. The languages and scripts used in this study are English (Latin), Telugu, Hindi/Sanskrit (Devanagari), and Urdu (Nastaleeq). The targeted students are 2–5-year-olds. The method is applicable to teaching combinations of any other language alphabets. The article describes a novel conceptual development and highlights unresolved questions and future directions.

2. Background

2.1. India's Language Problem and Seshi's Proposed Solution

India has 22 official state languages and more than 19,500 mother languages or dialects (Press Trust of India, 2018), but it has no national language. The languages are venerated with near-religious fervor, as they define peoples' customs, culture, and heritage and are matters of people's pride and core identities. This makes India both a goldmine and a minefield of languages: a minefield because of the tendency of some languages to dominate/overshadow others—like Hindi in Southern India, and English throughout India—causing periodic outbreaks of tensions among different linguistic communities. To be able to assess the proposed new pedagogical approach as both necessary and more efficacious, it is important at least to know the existing teaching methods in the Indian context and their shortcomings/weaknesses. I am unaware, however, of any published studies measuring the success (or the lack thereof) or outcomes of the existing methods.

Teaching three languages (English, Hindi, and one's mother language) is the norm in India's current school system. However, the different languages begin to be taught at different class levels, and they are taught using disparate content. In State-Board-affiliated English-medium schools, children are taught the English alphabet in kindergarten/pre-KG. The child begins to learn the script/alphabet of the mother tongue/regional language in Class I and Hindi in the Devanagari script (in states with three-language policy) in Class V. States that oppose Hindi learning, such as Tamil Nadu, teach only the mother tongue and English in government schools, but in schools that follow the Central Board of Secondary Education, the teaching of Hindi is required.

In Classes V–VII, the child learns three languages; the same is true in Classes VIII–X, where the mother tongue/regional language and English are compulsory, with English remaining the second language, while Hindi may be optionally dropped and Sanskrit taken up, either as the first or third language. In the former case, the mother tongue/regional language becomes the third language (which is unfortunate). Immersive learning of other languages is almost unheard of in Indian schools, with all the languages taught/explained through the medium of the mother tongue/regional language. There is no relation or coordination in content between the three, with the content in the mother tongue/regional language/Hindi being more anchored in Indian culture and the English language content derived more from and biased toward the West. Essentially the languages learned are compartmentalized, presented, and learned as being totally unrelated, to the detriment of students learning all three.

There is also the vexing issue of learning outcomes. While most students may become fluent in their mother tongue or regional language, the same cannot be said for either English or Hindi/Sanskrit, the latter especially in the South. Some students can read and write with some fluency; however, speaking in English/Hindi/Sanskrit poses problems for a large percentage of the children unless

they have been tutored privately.

It is instructive in this context to examine the recent war of words in India's Parliament in which the Union Minister of Finance heaped scorn on a Member of Parliament for his weak Hindi (Nageshwar, 2022). This incident is emblematic of the linguistic quagmire that exists, and which is sometimes even deepened by caste supremacy, as in this instance, and which permeates the "psyche" of not only everyday citizens but also the esteemed members of this august body of the Government. Such a pervasive atmosphere over the years has only fostered the apathy or active animosity of its citizens toward other Indian languages, imparted a cover of normalcy to such patronizing behavior, and made India's language problem "thorny" and irresolvable for 75 years (counting since Independence; Chaudhuri (2019); Daniyal (2020); Deka (2019); Dr. K Kasturirangan Committee (2018); Nandini (2019)).

As this account indicates, the problem of India's linguistic minefield cannot be overstated. To address this simmering issue, Seshi (Seshi, 2021a, 2021g) has sought a method to teach and learn multiple languages in parallel. This matter assumes extra significance now when other Southern states like Karnataka, in addition to Tamil Nadu, have decided to shift from the three-language policy (Kannada/Hindi/English) to a two-language policy (Kannada/English), dropping Hindi from the curriculum.

To see how Multi-Languaging might address these difficulties, let us consider the new language-learning method as developed by Seshi (Seshi, 2021a, 2021g, 2022a, 2022b).

2.1.1. Where Did the Multi-Languaging Idea Arise?

As a physician and biomedical scientist in the fields of genomics and proteomics, Seshi was trained and gained experience in studying thousands of genes and proteins simultaneously. This being the case, he considered, why can one not learn 5 or 10 or more languages simultaneously? He designated such an approach "Multi-Languaging," a term that captures its goal (i.e., simultaneous multilanguage learning).

Multi-Languaging advocates and seeks to enable students to learn, for example, a combination of five Indian languages (English; the mother language; and three pan-Indian languages, Hindi, Urdu, and Sanskrit) and seven European languages (English, German, French, Italian, Spanish, Modern Greek, and Latin). Five-language learning is only a jumping-off point. The method can be extended to any number of languages.

2.1.2. Is Multi-Languaging Even Possible?

Multi-Languaging is possible if the same subject material is used across any number of languages by studying it sentence by sentence and word by word across the chosen group of languages and listening to voiceovers by native speakers by visiting the website (Seshi, 2021b) or accessing the YouTube model lesson video series (Seshi, 2022b). Multi-Languaging is a new model for learning

languages. It aims to achieve multilingual competency in an efficient manner. This new paradigm offers word-by-word comparative learning between 5 and 7 languages simultaneously, and this framework could be applied to learning 23 languages at once.

We learn by association, accelerating recall and use. Learning languages in parallel using the same content offers a concrete framework for relational and associative learning through learning the structure-function relationship of the chosen combination of languages, which in turn will allow children to surmount their fear of or prejudice against one or another language.

2.1.3. Still, So What?

It is Seshi's proposition that relational learning teaches learners a new thinking skillset and affords them a new source of enjoyment—children and adults alike. This approach should allow students to see the similarities and differences of grammar and word origins among multiple languages. Such a visual comparative system of teaching/learning should help students to manage the language differences and the language-associated cultural differences with simplicity and satisfaction. Textbook lessons can be designed sentence by sentence and word by word in 25–30 languages of India as a national resource if desired, allowing one to pick a combination of any three, four, or five languages from the Master Sentence Book and Master Wordbook and use them for lessons.

2.1.4. Have There Even Been Any Efforts by Others to Tackle India's Language Problem—With It Being as Complex as It Is?

There have been few previous comprehensive attempts at solving India's language problem. The Ministry of Education of the Government of India released the Bhasha Sangam App, which is intended to simultaneously teach combinations of two languages (Hindi and English) or three languages (a vernacular language plus Hindi and English) sentence by sentence. This initiative, however, is limited in scope. While resources have been prepared for 100 sentences in 22 vernacular languages of India, one would still have to learn each of those languages separately (Government of India, 2022). Conceptually, it is not markedly different from the National Integration Language Series of works by Balaji Publications, such as *Learn Telugu in* 30 *Days Through Hindi* (Srinivasachari, 2017), *Learn Sanskrit in* 30 *Days Through English* (Srinivasachari, 1989), and the other companion volumes that have existed for 50 years.

2.1.5. What Is Novel about Multi-Languaging?

The benefits of multilingual learning (even if only bilingual) are well documented (Modern Language Association, n.d.). The concept of learning two to three languages together sentence by sentence has existed since antiquity. While previous efforts have been admirable, they would not be adequate to meet the gargantuan challenge of India's language problem, necessitating the invention of a novel and comprehensive method—Multi-Languaging—that allows languages to be learned in a relational and integrated way as in systems biology, and with

the scale of learning the number of languages reminiscent of that of proteomic and genomic sciences. Simultaneous learning of multiple alphabets may be referred to as "multi-alphabetics," which is analogous to the nomenclatures of *proteomics* and *genomics*. Seshi would not have conceived of the idea of Multi-Languaging without his decade-long immersion in these fields as a biomedical investigator. To highlight the differences: Previous attempts did not go beyond learning two (rarely three) languages together sentence by sentence, whereas the Multi-Languaging method has built-in features enabling students to learn any number of languages together without limit, sentence by sentence. Moreover, previous efforts did not involve learning several languages word by word. On the other hand, learning multiple languages together in a relational way word by word is an integral feature of the Multi-Languaging method. Such learning is facilitated by video progression horizontally column by column (i.e., meaning by meaning), followed vertically language by language (i.e., word by word in different languages). It is a novel way of learning five languages in parallel, and it requires a fraction of the time needed to learn five languages separately. It produces the effect of a natural feeling while learning (as in the YouTube model lesson video series; Seshi (2022b)). The novelty of the design of the videos used in this method is such that it reduces apprehension from the exercise of learning multiple languages simultaneously and indicates that such learning can be a joyous and rewarding experience. It allows the words of a given meaning to be learned simultaneously in five languages with minimal effort. As one multilingual observer commented, "This exceptional parallel method will, in part, encourage people to learn several languages, since it would take a fraction of the time needed to learn them separately" (Seshi, 2021c). This model lesson is also available in interactive form as part of the Seshi's Multi-Languaging website (Seshi, 2021b).

The Multi-Languaging concept upholds the much-asserted value of learning one's mother tongue and English, and additionally includes three pan-Indian languages, Hindi, Urdu, and Sanskrit. To cite one prevailing practice in the Telugu-speaking states of Telangana and Andhra Pradesh, an English medium student is given the option to study either Telugu, Hindi, or Sanskrit; consequently, some Telugu students would never learn their mother language (Raj et al., 2023). Many of these students cannot speak English well, as Seshi understands, and the rising percentage of English-medium students exacerbates the problem (Seshi, 2021c). This "ground reality" is likely due to the lack of an alternative. Multi-Languaging provides this alternative. Seshi proposes the simultaneous learning of multiple languages starting from preschool. As the adage goes, "The proof of the pudding is in the eating." He therefore advocates creating and testing the required materials.

2.2. The Inherent Immensity of Children's Learning Capacity

It has been said that "Young children are 'scientists, philosophers, and linguists in the crib'." Substantial literature attests to this (Bochner, 2006; Hardach, 2018,

2021; Okrent, 2010; Smith, 2018; Vazquez, 2016). Further, it has been quipped that children's minds act like a sponge. This is because children's minds are uncluttered, unencumbered by the daily barrage of thoughts originating from the hustle and bustle of adult life; with abundant information storing capacity, the learning power of their minds is at its peak; thus, whatever is learned should remain etched/imprinted on their minds. Put simply, children's minds are "unadulterated." Whatever they happen to sense first is their total focus and a wonder of their world. The Multi-Language learning foundation is therefore best laid out before they learn other school subjects. It is my thesis that a language skill set acquired early can serve them as an "autopilot" that helps them steer their learning in other subjects more easily and enjoyably as they enter school. Thus, there is no lack in the children's ability to learn; the only lack is in the methods to impart learning. This paper presents and describes a novel approach and method to teach the alphabet scripts of five languages to preschoolers (2–5-year-old children).

Not to lose sight of the issues, and to put matters in perspective, the language learning capacity of adults is not blunted either, contrary to the prevailing belief. As one report says, "When it comes to learning a foreign language, we tend to think that children are the most adept. But that may not be the case—and there are added benefits to starting as an adult" (Hardach, 2018: p. 1). According to another report, "Despite the conventional wisdom, a new study shows picking up the subtleties of grammar in a second language does not fade until well into the teens" (Smith, 2018: p. 1).

The instructional film "Multi ∞ Languaging—An Accelerated Path to Understanding among Cultures," which made full use of songs, music, and 2D animations, was shown from July 8 to 14, 2022, at the Long Beach Art Theatre, California, and was publicly released on YouTube on September 20, 2022 (Seshi, 2022a). It demonstrated a pedagogical approach and a model example of alphabet teaching/learning.

3. Description of the Model

3.1. Definition of the Project Phases

The work on Multi-Languaging took shape progressively. The first step was establishing a nonprofit organization, followed by developing a Multi-Languaging website (Seshi, 2021a), publishing a comprehensive eBook (Seshi, 2021g), producing a documentary film (Seshi, 2022a), and creating 20 model lesson video series (Seshi, 2022b). Both the website and the eBook feature a series of 31 FAQs that address concerns that have arisen and detail the language problem in India and the necessity and benefits of Multi-Languaging in the context of India (Seshi, 2021d). All these works together made up Phase I of the Multi-Languaging project.

Phase II of the project has begun. On the one hand, Multi-Languaging textbooks should be provided for use by school children in Classes (Grades) I–X. On

the other hand, new conceptual frameworks and materials should be developed to facilitate the teaching of the scripts of five languages to 2–5-year-olds. The preparation of class textbooks is an application of the concept that Seshi elaborated and exemplified during Phase I. However, the teaching of scripts for five languages to young children is no straightforward matter. This paper presents a new concept and proposal to meet this challenge. This ambitious effort naturally relies on the inherent capacity of children for learning (as outlined above).

3.2. Definition of Stages/Steps

"Stages" or "Steps" refers to the successive parts of the alphabet teaching/learning model; there are seven parts from the procedural and developmental point of view. The first two sequential parts are relevant to adult learners and designated as Stages 1 to 2. The next five sequential parts are relevant to children and designated as Steps 1 to 5. The foundational Stage 1 was completed as part of Phase I. In Stage 2, the illustrative images and respective transliterations should be added. Steps 1 to 4 embody the alphabet learning by children. Step 5 will not start soon, as its development is predicated on the completion of the earlier stages and steps.

3.3. *Stages* as Relevant to Adult Learners

3.3.1. Stage 1: Creating Alphabet Charts with Word-Level Mappings

As implemented in Phase I of the project (Seshi, 2021f), to allow for comparative/correlative thinking and learning by the children's "absorbent minds," this section simultaneously introduces familiarity with the corresponding example words (keywords) by translating them from each language into the remaining four languages. The keywords selected to illustrate each script are exclusive to that language without overlap. As the English, Telugu, Hindi, Urdu, and Sanskrit alphabets have 26, 51, 57, 39, and 49 characters, respectively, this affords young children the cultural value of a mosaic of 222 images/words/meanings in five different languages. By learning two keywords instead of one for each character/letter, this number will be doubled (444). In this way, the program introduces additional new meanings, concepts, and ideas that convey some of the rich cultural contexts associated with these languages. This approach will engage and benefit formative minds more than the standard lists of words that have been in vogue for decades. To make the description clear, consider the sample pairs of words for each alphabet letter in each language as shown in the example alphabet charts (**Table 1**).

The language alphabet charts thus previously created contain 444 meanings altogether; with words from five languages, accordingly, children learn 2,220 words (Seshi, 2021f). These alphabet charts are the foundation of the method, and it is upon this foundation that the current alphabet teaching model is built. The Stage 1 subject matter appropriately forms the foundational basis for the multi-alphabetic model, presented in **Infographic 1**.

Table 1. Sample alphabet tables showing word-level mapping across five languages with two keywords for each alphabet letter (Charts 1–5).

Chart 1—ENGLISH Alphabet Sample

English letter—Upper case/lower case	A pictorial example	**English** word for the item to be pictured	**Telugu** translation of the word with romanization	**Hindi** translation of the word with romanization	**Urdu** translation of the word with romanization	**Sanskrit** translation of the word with romanization
A/a		Apple	ఆపిల్ పండు-Āpil paṇḍu	सेब-seb	سیب – saib	आताफलम्-ātāphalam
		Astronaut	వ్యోమగామి-vyōmagāmi	अंतरिक्षयात्री-antarikshyātrī	خلانورد – k̲h̲alānūrad	गगनयात्रिकः-gaganayātrikaḥ

For complete English alphabet mapping, see Seshi (2021e).

Chart 2—TELUGU Alphabet Sample

Telugu letter with romanization	A pictorial example	**Telugu** word for the item to be pictured with romanization	**English** translation of the word	**Hindi** translation of the word with romanization	**Urdu** translation of the word with romanization	**Sanskrit** translation of the word with romanization
అ - a		అమ్మ-am'ma	Mother	माता-mātā	والدہ – vāldah	अम्बा-ambā; जननी-jananī
		అద్దము-addamu	Mirror	दर्पण-darpaṇ	آئینہ – ā'īnah	आदर्शः-ādarśaḥ; दर्पणः-darpaṇaḥ

For complete Telugu alphabet mapping, see Seshi (2021e).

Chart 3—HINDI Alphabet Sample

Hindi letter with romanization	A pictorial example	**Hindi** word for the item to be pictured with romanization	**English** translation of the word	**Telugu** translation of the word with romanization	**Urdu** translation of the word with romanization	**Sanskrit** translation of the word with romanization
अ-a		अक्षमाला-akshamālā	Prayer beads	ప్రార్థనపూసలు-prārthanapūsalu	تسبیح – tasbīḥ	अक्षमाला-akṣamālā; जपमाला-japamālā
		अगरबत्ती-agarabattī	Incense stick	అగరువత్తి-agaruvatti	اگربتی – agarbattī	गन्धवर्तिका-gandhavartikā

For complete Hindi alphabet mapping, see Seshi (2021e).

Chart 4—URDU Alphabet Sample

Urdu letter with romanization	A pictorial example	**Urdu** word for the item to be pictured with romanization	**English** translation of the word	**Telugu** translation of the word with romanization	**Hindi** translation of the word with romanization	**Sanskrit** translation of the word with romanization
ا a		آستین – āstīn	Sleeve (of a garment)	చొక్కా చేయి (దుస్తుల ఒక భాగం)- cokkā cēyi (dustula oka bhāgaṁ)	आस्तीन (कपड़े की)- āstīn (kapaṛekī); बाह (कपड़े की)- bāh (kapaṛekī)	पिप्पलः- pippalaḥ (वसनस्य- vasanasya)
		آتش – ātish	Fire	నిప్పు- nippu	अग्नि- agni	अग्निः- agniḥ

For complete Urdu alphabet mapping, see Seshi (2021e).

Chart 5—SANSKRIT Alphabet Sample

Sanskrit letter with romanization	A pictorial example	**Sanskrit** word for the item to be pictured with romanization	**English** translation of the word	**Telugu** translation of the word with romanization	**Hindi** translation of the word with romanization	**Urdu** translation of the word with romanization
अ-a		अस्थिपञ्जरः- asthipañjaraḥ	Skeleton (as in osteo, bone)	అస్థిపంజరము (శరీరముయొక్క ఎముకలగూడు, ఎముక)- asthipañjaramu (śarīramuyokka emukalagūḍu, emuka)	अस्थिपंजर (अस्थि या हड्डी के अर्थ में); कंकाल - asthipanjar (asthi yā haḍḍī ke arth meṅ); kankāl	پنجر- panjar; ڈھانچہ (ہڈی سے متعلق)- ḍhaṅcah (haḍḍī se muta'alliq)
		अजः-ajaḥ	Ram (He-goat)/ Brahman	మేకపోతు (మగమేక)/అజుడు/ అనిమిషుడు- mēkapōtu (magamēka)/ ajuḍu/animiṣuḍu	भेड़ा/ब्रह्म (सम्पूर्ण विश्व का परम् सत्य) bheṛā/brāhma (sampūrṇa viśva kā param satya)	مینڈھا (دُنبہ) - mīṇḍhā (dumbah); برہم- baraham; ہر قُوت کی ابتدا اور انتہا) - (har quvvat kī ibtidā aur intihā)

For complete Sanskrit alphabet mapping, see Seshi (2021e).

3.3.2. Stage 2: Adding 444 Images and Respective Transliterations to the 2,220 Words

Stage 2 consists of creating or procuring a visual image for each of the 444

meanings and adding the transliterations of the 2,220 words in the respective language script. At the end of Stage 2, the 444 images will be assembled, and each of these images will possess five associated words, corresponding to five languages and written in the regular English, Telugu, Urdu, and Devanagari scripts. Thus, Stage 2 has two parts:

Part 1. Creating 444 images, by either using artwork as a part of a 2D/3D animation job or procuring real-life images from a separate source. The latter option requires image research to determine whether images are free or require a paid license.

Part 2. Adding transliterations in the script of the respective language.

During Phase 1 of the Multi-Languaging project, Telugu, Hindi, Urdu, and Sanskrit words were transliterated using the Library of Congress (LoC) system or International Alphabet of Sanskrit Transliteration (IAST), which are official phonetic Latin scripts with diacritical marks. These are retained as-is. In addition, we apply the following rules:

1) Retain the 444 English words in standard Latin spelling as they are, and write out the 1,776 non-English words in **regular English script** as well (i.e., in commonsense or plain phonetic Latin script without the complex diacritical marks), while retaining the existing LoC or IAST script,

2) Write out the 1,776 non-Telugu words in **Telugu script**, guided by the existing LoC Latin transliteration,

3) Write out the 1,776 non-Urdu words in **Urdu script**, guided by the existing LoC Latin transliteration, and

4) Write out the 1,332 non-Hindi/non-Sanskrit words in **Devanagari script**, guided by the existing LoC or IAST transliteration.

To make the above description clear, consider the images/concepts of "apple" and "boy" as presented in the example alphabet table (Table 2).

At the end of Stage 2, the website will be updated to contain the revised alphabet charts, including the images and each of the five language-specific transliterations. This should be sufficient for adult self-learners (whether interested youths, parents, or senior citizens), who would be expected to have learned at least one of these scripts and to be able to use the updated charts to learn the five-language words without the need for the 2D/3D video animations described, which are intended for preschoolers.

What then is needed for preschoolers, be they directed learners or self-learners? Stated more specifically, considering the needs of preschoolers, how should the method be designed to fit within the framework of the model of a progressive program of learning? To answer such questions, this paper presents a novel progressive model for 2–5-year-old-children to learn five different alphabets, where in each step the previously learned information serves as an anchor. Infographic 2 and Infographics 3–6 present the concept in increasing detail and complexity for ease of comprehension (providing an overview first, and then the sequential progression of the method step by step).

Table 2. Example alphabet table as excerpted from https://indian.multilanguaging.org/english/alphabet-charts-with-word-level-mapping-english/ with scripts added.

Chart 1—ENGLISH Alphabet

English letter: Upper case/lower case	A pictorial example	**English** word for the pictured item	**Telugu** translation of the word with romanization	**Hindi** translation of the word with romanization	**Urdu** translation of the word with romanization	**Sanskrit** translation of the word with romanization
A/a (As existing)		Apple	ఆపిల్ పండు-Āpil paṇḍu	सेब-seb	saib-سیب	आताफलम्-ātāphalam
Regular English script		apple	apple pandu	seb	seb	aathaaphalam
Telugu script		ఆపిల్	ఆపిల్ పండు	సేబ్	సేబ్	ఆతాఫలం
Urdu script		ایپل	ایپلپانڈو	سیب	سیب	اعتافلم
Devanagari script		आपिल	आपिलपण्डु	सेब	सेब	आताफलम्
B/b (existing)		Boy	బాలుడు-bāluḍu	लड़का-laṛakā	;laṛkā-لڑکا ṭifl-طفل	बालकः-bālakaḥ
Regular English script		Boy	baaludu	ladkaa	ladkaa	baalakaha
Telugu script		బోయ్	బాలుడు	లడ్కా	లడ్కా	బాలకః
Urdu script		بوائے	بالودو	لڑکا	لڑکا	بعلیکہہ
Devanagari script		बोय	बालुडु	लड़का	लड़का	बालकः

3.4. *Steps* as Relevant to Children

3.4.1. Step 1: Learning to Speak the Native Language Words for the Complete Set of 444 Meanings/Images/Concepts without Reference to Any Alphabet

This step involves learning a short story or nursery rhyme about each of the 444 images/meanings without mentioning the letters. For example, a short story or rhyme is created in English about each of the 444 images and translated into the other four languages. The story is told by the image itself in a playful manner in a 2D/3D animation. The child watches and learns these stories/rhymes in their mother language starting at age 2 and becomes fully familiar with them by age 3. The entire learning process in this step is alphabet-agnostic; there will be no mention of the alphabet or letters. The child will first become familiar with all 444 words and their meanings by simply watching and enjoying the stories and learning the names/meanings of the images in their mother language.

MULTI-ALPHABETICS
A Novel Model for the Simultaneous Learning of Alphabets The Process Whereby 2–5–Year–Old Children Learn Five Different Alphabets, Where in Each Step the Previously Learned Information Serves as an Anchor

SESHI ACADEMY FOR MULTI ∞ LANGUAGING

Foundational Basis

>> A foundational "study set" of 444 **images/meanings/concepts** corresponding to two keywords (instead of one, to allow for an expanded scope of learning) for each letter in the English, Telugu, Hindi, Urdu, and Sanskrit alphabets (26, 51, 57, 39, and 49 letters, respectively) formed the basis of the model. For example,

aఅअاअ

A/a	Apple; Astronaut (English)
అ – a	అమ్మ – am'ma; అద్దము – addamu (Telugu)
अ – a	अक्षमाला – akshamālā; अगरबत्ती – agarabattī (Hindi)
ا – a	آستین – āstīn; آتش – ātish (Urdu)
अ – a	अस्थिपञ्जरः – asthipañjaraḥ; अजः – ajaḥ (Sanskrit)

>> Observe that the first letter is the same across five seemingly disparate languages, accentuating the advantage of parallel learning.

Infographic 1. The foundational principle of the multi-alphabetics model.

AN OVERVIEW OF THE ANCHOR CONCEPT

For example, a child of Hindi background
First learns to speak 444 Hindi words corresponding to 444 images
Focus: Learning to speak Hindi words

↓

Next learns to write the 444 Hindi words in the Hindi script
Focus: Learning to read and write the Hindi alphabet

↓

Then learns to speak the 444 words in all five languages as written in the Hindi script
Focus: Learning to speak all five language-words as if they were all Hindi

↓

Finally learns to write the other four language scripts in succession
Focus: Learning to read and write the other four language alphabets/scripts using the words learned as an anchor

Infographic 2. The anchor concept.

STEP 1: LEARNING TO SPEAK 444 WORDS IN MOTHER LANGUAGE, I.E., HINDI

>> A short story or rhyme in English about each of the explored 444 images is created and translated into the other four languages.
>> The story is told by the image itself in a playful manner using 2D/3D animation.
>> The child watches and learns the stories/rhymes in his or her mother language (*monolingual* rhymes).
>> From 2 to 3 years old, a child of Hindi background learns to speak 444 Hindi words corresponding to 444 images/concepts with no reference to or knowledge of any script, not even the Hindi script, thus laying the conceptual foundation for further exploration. For example,

सेब – seb; अंतरिक्ष यात्री – antariksh yātrī (Meanings that arose from English alphabet words)
माता – mātā; दर्पण – darpaṇ (Similarly meanings from Telugu)
अक्षमाला – akshamālā; अगरबत्ती – agarabattī (Meanings from Hindi)
आस्तीन (कपड़े की) – āstīn (kapaṛe kī), बाह (कपड़े की) – bāh (kapaṛe kī); अग्नि – agni (Meanings from Urdu)
कंकाल – kankāl; भेड़ा / ब्रह्म – bheṛā / brāhma (Meanings from Sanskrit)

>> Children from different language backgrounds learn to **speak the same content**, but in their own language.

FOCUS	METHOD	TIME	SPEECH	READING	WRITING	OUTCOME
Speak mother tongue words	Listen to monolingual rhymes	1 Year	Mother tongue	NA	NA	444 words spoken in mother tongue

Infographic 3. Step 1 of multi-alphabetics: Learning to *speak* 444 words in the mother language.

STEP 2: LEARNING TO READ AND WRITE 444 WORDS IN MOTHER LANGUAGE, I.E., HINDI

>> During the six months from age 3 to 3½, the child learns to read and write in the Hindi script, with the 444 Hindi words learned to speak in Step 1 serving as an anchor.
>> The child learned the names/words of the related images and now learns the alphabet letters by correlating them with the names/words with which he or she is already familiar (114 alphabet words from Hindi) and uses the remainder of the 444 native language words (52 derived from English, 102 from Telugu, and likewise from Urdu and Sanskrit) for practicing writing the Hindi script. This process is much like the conventional path of learning.

FOCUS	METHOD	TIME	SPEECH	READING	WRITING	OUTCOME
Write mother tongue script	Write words learned in Step 1 in native script	1/2 year	Mother tongue	Mother tongue	Mother tongue	444 words spoken and written in mother tongue

Infographic 4. Step 2 of multi-alphabetics: Learning to *read* and *write* 444 words in the mother language.

STEP 3: LEARNING TO SPEAK AND READ 444 WORDS FROM THE OTHER FOUR LANGUAGES (TOGETHER 1,776 WORDS) WRITTEN IN MOTHER LANGUAGE SCRIPT, I.E., HINDI, AS IF THEY WERE ALL HINDI

>> Between 3 ½ and 4 ½ years old, the child learns to speak the 444 words from the five languages (together 2,220 words, the complete set) by writing in the Hindi script learned in Step 2 and by listening to *multilingual* rhymes/vignettes/conversations in the five languages, covering the full gamut of the image set. For example,

आपिल (apple; English)
आपिल पण्डु (apple pandu; Telugu)
सेब (seb; Hindi)
सेब (seb; Urdu)
आताफलम् (aathaaphalam; Sanskrit)

बोय (boy; English)
बालुडु (baaludu; Telugu)
लड़का (ladkaa; Hindi)
लड़का (ladkaa; Urdu)
बालकः (baalakaha; Sanskrit)

>> The child is still operating under the shelter of his or her mother language.

FOCUS	METHOD	TIME	SPEECH	READING	WRITING	OUTCOME
Speak 5 language words	Listening to multilingual rhymes	1 Year	5 languages	Mother tongue	Mother tongue	2,220 words spoken in 5 languages and written in mother tongue

Infographic 5. Step 3 of multi-alphabetics: Learning to *speak* and *read* 444 words from the other four languages written in the mother language script.

STEP 4: LEARNING TO READ AND WRITE THE SCRIPTS OF THE OTHER FOUR LANGUAGES

>> From 4½ to 5 years old, the child learns to write the scripts of the other four languages one after another.

English (Latin)
A B C D E F …; a b c d e f…

తెలుగు (Telugu)
అ ఆ ఇ ఈ ఉ ఊ a aa e ee u oo …; క ఖ గ ఘ ఙ ka kha ga gha ṅ …

हिंदी / संस्कृतं (Hindi/Sanskrit)
अ आ इ ई उ ऊ a aa e ee u oo …; क ख ग घ ङ ka kha ga gha nga/ṅ …

اردو (Urdu)
ا آ ا ی ا و a aa e ee u oo…; ن گھ گ کھ ک kaaf kaaf-hay gaaf gaaf-hay noon …(from left to right)

>> The child learns to firmly associate the specific words/sounds with the specific language.

FOCUS	METHOD	TIME	SPEECH	READING	WRITING	OUTCOME
Write other 4 language scripts	Write words learned in Step 3 in other scripts sequentially	1/2 year	5 languages	5 languages	5 languages	2,220 words spoken and written in 5 languages

Infographic 6. Step 4 of multi-alphabetics: Learning to *read and write* the scripts of the other four languages.

If the child can learn to speak one or two words a day, they can easily learn the names of 444 images within a year, before reaching the age of 3 years. The envisioned timeframes for the steps are listed in **Infographics 3–6**.

As an example of 2D/3D animated small vignette using one image, here is the vignette of an apple and a small child:

Figure 1(a), **Figure 1(b)**, and **Figure 1(c)** depict a scene showing the apple character initiating an encouraging conversation with a small child, Kapil, with the objective of introducing itself to him. The child begins sobbing out of stranger anxiety, but in the end laughs pleasantly in surprise that their names rhyme, and they can celebrate their new friendship by eating apple pie.

This is one example. Professional content writers should be more adept and creative at weaving a small story, dialog, or rhyme. It is crucial that the name of the image recur multiple times in several different ways within the story/dialog/rhyme, as in the example above. "Repetition is the mother of learning, the father of action, which makes it the architect of accomplishment," as Ziglar (1993: p. 205) noted. The writing of a story or rhyme in English about each of 444 images will be entrusted to English professional content writers following these guidelines, and they will be translated into the other four languages by professional translators. The animations will be created by professional animation services as well. Native speakers of each language will render the voiceover.

Test Case Scenario: As an initial test case to run through the production process to identify difficulties and determine the costs involved, the initial effort will focus on 5 of the 444 words, based on the first image from each of the five alphabet tables, that is, Apple, Mother, Prayer Beads, Sleeve (of Garment), and Skeleton.

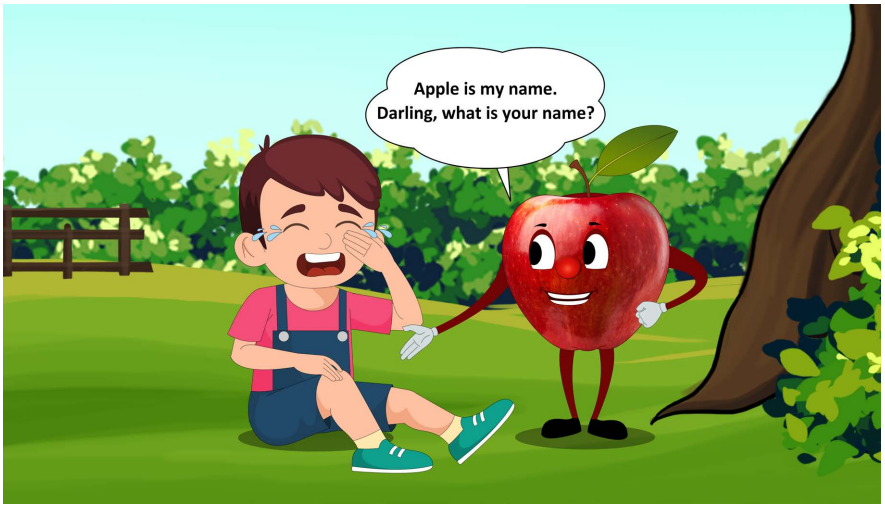
3.4.2. Step 2: Learning the Native Language Alphabet and Script

The child learned the words for the related images in Step 1 as above, and in Step 2 learns the letters of the alphabet by correlating them with the words with which they are already familiar (**Infographic 4**). Thus, for example, the child will learn the 26 English letters by using 52 words, the 51 Telugu letters by using 102 words, and so on. The remainder of the 444 native language words will be used to practice writing the native language script.

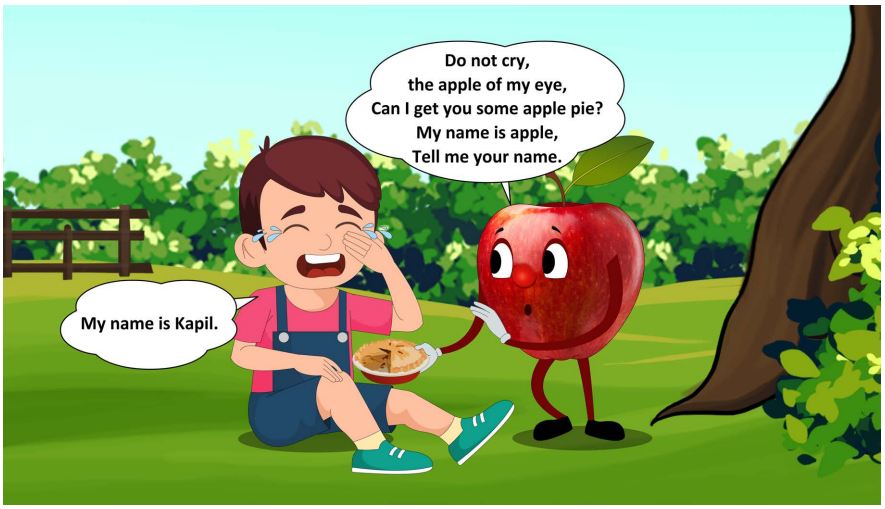
3.4.3. Step 3: Learning All Five Language Words Written in Native Language Script

Before delving into Step 3, let us briefly review the preceding stages and steps: Stage 1 involved building alphabet charts with word-level mappings; Stage 2 adds the transliteration in the respective language script to the 2,220 words and a visual image for each of the 444 meanings; Step 1 creates alphabet-agnostic stories/rhymes about the 444 images, so the child can learn to speak the words in their mother language; and in Step 2, the child learns the native language script.

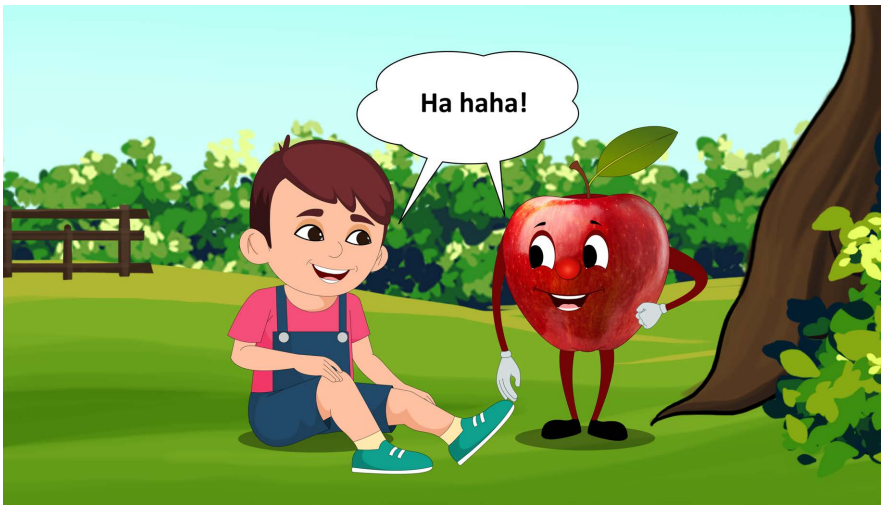
Proceeding to the next level, in Step 3, the child learns the words for each meaning/image in all five languages using their mother language script (**Infographic 5**), and in Step 4 learns the other language scripts using the vocabulary learned earlier (**Infographic 6**).



(a)



(b)



(c)

Figure 1. Scenes showing the Apple character initiating an encouraging conversation with a small child.

1) Differences from the Existing Paradigm

The present model realizes an important new concept introduced to facilitate the teaching/learning of five different language alphabets and the respective scripts by preschoolers. Basically, an alphabet captures the general connections between written characters and speech sounds, whereas a script is how we write a given language with these characters. For example, the alphabets of Telugu, Hindi, and Sanskrit are strikingly similar, but each language's alphabet has certain characters/sounds that are unique to it. On the other hand, while Hindi and Sanskrit use the same script, the Devanagari, Telugu uses an entirely different script.

Multi-Alphabetics, I believe, is the second breakthrough concept in Multi-Languaging, the first being the use of an identical curriculum across multiple languages. To discern the differences between the existing method and the new concept I describe: Using the existing method, the child learns the other language script first; then the words of the other language in that script; and then the meanings of the words in the mother tongue or English. In contrast, using the novel concept described here, the child learns the words of the other language first in the mother tongue script, with the meanings being associated with and mapped onto the mother tongue words that have already been learned for the same objects/images; and then learns the other language scripts one by one. In each step, the previously learned information serves as a natural stepping-stone to the next. To demonstrate in fact that the new method is better, studies are needed, for which educational resources and tools need to be prepared first.

Since the child had already learned the relevant words of the new language via the medium of their native script, it is expected that subsequently learning the new script will be efficient, as well as reinforcing the knowledge of the words learned earlier. Thus, learning and becoming familiar with the other or "foreign" language words/meanings is introduced first, and learning to write the "foreign" language script/sound is achieved next.

To further elaborate, the idea underlying the five-language scenario (designated Penta-Lingual, as detailed below) is that the four "other" language words are just like the words of the mother language and may simply seem like the other ways of saying the same thing because they are all dressed in the same way (script). This should facilitate accepting and learning the other (foreign) language words. Borrowing insights from the field of immunology (one of the author's fields of professional interest as a biomedical scientist), this is similar to our immune system developing tolerance to or acceptance of foreign substances/antigens as self-substances/antigens upon exposure early in life. Indeed, this concept extends to all childhood experiences.

As the child advances in learning, they may start recognizing the distinctive patterns and flavors of each language's sound and start organizing the words learned into language groups, as we know that each language has a characteristic pattern of music/rhythm and word endings. The child may also begin noticing cognates and other same or similar sounding words across subsets of these five languages (observe, for example, the words for "apple" and "boy" in Table 2; they

are same words in Hindi and Urdu but dressed differently in terms of script).

2) Use of Audio-Visuals

To achieve Step 3, a distinctive audio-visual vignette (scene/sketch) for each of the 444 images, consisting of 2D/3D video animations with dialogs (conversations/voiceovers), will be created (using 2D/3D animation software like Adobe Animate, or whatever is the best, by employing professional services) for teaching the five language words. Thus, 444 vignettes will be created, covering the entire gamut of the image set.

In each vignette, five children, Saroja, Vema, Prem, Mirza, and Kalidas (the animated child-characters being envisioned and named in honor of the much-celebrated Ms. Sarojini Naidu, Yogi Vemana, Munshi Premchand, Mirza Ghalib, and Kalidasa) will be playing among themselves and together learning the five words for each image.

Indian Sign Language will be added to the visuals in the background for each language production to accommodate the hearing impaired, so that the disadvantaged are not left out.

The vignettes will be created first in English. The audio-visual production will then be dubbed into each of the four other languages separately. To achieve that, the script of the words will be replaced with the respective new language script, and the vignettes (dialogs/conversations/voiceovers) replaced with the respective new language translations. Native speakers of each language will render the voiceover.

3) Penta-Lingual Scenario for Learning the Words in the Five Languages in Native Language Script

Consider the image for "apple." The opening scene shows the five children Saroja (English), Vema (Telugu), Prem (Hindi), Mirza (Urdu), and Kalidas (Sanskrit) gathered and excited to meet each other. The image of the apple appears in the scene as it falls from the tree (**Figure 2**). Each player will say the word for "apple" in the respective language (**Figure 3(a)**). The five children will then move to their respective language angles and stand beside the image names (**Figure 3(b)**). **Figure 3(c)** shows the Apple character singing for the children, "How interesting, How interesting, So interesting!" as featured as part of a documentary short film on Multi-Languaging (see Seshi (2022c)), and it serves as a model example.

The children will sing back in chorus,

Yes, we love Apple,
We love Apple Pandu,
We love Seb,
We love Aathaaphalam.

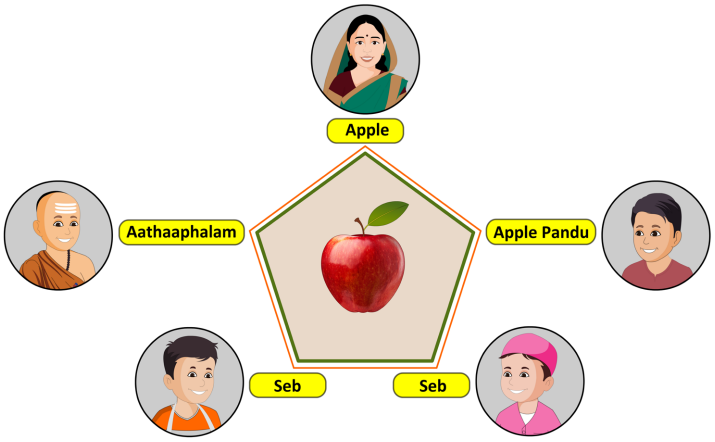
They further sing in chorus while taking a bite of it:

How interesting, How interesting, So interesting!
We call you by so many names,
Because we love you so much!
Ha haha!!!
You are so sweet and so great as ever,

By any name we call you!
Ha haha!!!

Figure 2. Scene showing a gathering of children from the five language backgrounds for a study session.

(a)



(b)

(c)

Figure 3. Scenes showing children reciting the word for "Apple" in each of their languages, then taking the five corners of a pentagon with Apple in the middle, and finally Apple coming out of the children's circle and singing for them.

4) Penta-Lingual Alphabet Games and Quizzes as a Means of Engaging Children's Minds

As an advice to the preschool teacher, the children in preschool are helped to sing/recite the song after Apple sings its version and Saroja and the others sing their version of "How Interesting" part. The child should be encouraged to imitate the Apple. To test learning, the preschool learner should be able to sing/recite the lines from memory.

The vignette above is so designed that the names of the image in five languages are purposefully repeated in many ways and many times, reinforcing learning, and facilitating the child spontaneously committing the lines to memory.

A similar vignette can be used to teach the scripts of the other languages, with the alphabet sounds of the mother tongue now dressed in different clothes (fancy dress/disguise) marked with the next script to be learned.

The figures would appear and say something like "I am you; you are me; we are the same underneath/inside; take my hand, play with me." Initially, the letter of the mother tongue would be afraid and move away, but the second figure could say that it is dressed differently/it has disguised itself and repeat its own alphabet sound as its name: "You are A/ಅ/அ/അ/अ, I am (the other script equivalent); I am you, you are me," etc., showing that both are the same sounds dressed in different shapes. This would be suitable in the Indian context, where there is a large overlap of alphabet sounds, and could also be used for other languages wherever there is an overlap/relation between alphabet sounds.

Since the child has learned the other language words in the script of their native language, it should be easy to substitute the other script for the native script. It could be shown in animation as an apple image, for instance, first donning a dress with the word in the mother tongue and then picking and putting on an

accessory, such as a cap, cloak, vest, or other item of clothing with the same word in the other script. This vignette can be extended as the child learns all the other scripts, ending with an image of the boy/girl getting ready to go to school, putting on their uniform and shoes, and carrying a schoolbag, lunchbox, and water bottle (any five items in other contexts could be chosen), with each of the items bearing the child's name, which will have to be input in the different scripts that have been learned.

One can also envisage interactive games where the child must choose 2/3/4/5 items from among many, which are shown labelled (either alphabet sounds or entire words) in 2/3/4/4/5 language scripts, such that all are in the same script, or all are in the 2/3/4/5 different scripts, or each one is in a different script. The creative possibilities are numerous.

The description of the method is detailed with the steps/stages of the materials/tools, facilitating development for the implementation of the proposal, as it will be added to the Multi-Languaging website interlocking with the learning steps or stages.

To further enhance learning, an interactive quiz game (using Interactive HTML) will be introduced in two parts.

Part 1: *The child can play by dragging the apple to each corner to hear a voiceover of its name in that language.*

Part 2: *The child can also play by dragging the apple to each corner, whereupon a multiple-choice menu of words appears; the child will hear the voiceover of its name in that language if the child clicks on the correct language word choice.*

This procedure can be extended so that the child not only has to click on the correct language word choice but also must pronounce the word in that language correctly.

To refine their knowledge and skills, after learning the script of either the mother tongue in Step 2 or after learning the other language scripts in Step 4, the interactive game could be modified to reinforce the correct reading of the script. For instance, the child could click on the word that is spelled correctly among multiple choices. This would facilitate the reading skills of the child. Spelling games could be designed, especially for Indian language scripts where consonant + vowel sounds are represented by single script letters, as for instance, क (क् + अ), का (क् + आ), progressing through to writing and recognizing and reading conjunct consonants.

3.4.4. Step 4: Learning the Other Language Scripts

In this step, the child learns the next language script using the vocabulary learned as the anchor (**Infographic 6**). More than half the battle of this step should have been won in the previous step because the child had already been primed to the words and sounds of this language by learning them in the comfort zone of their native language script. This should facilitate learning a new script. The same method that was used for learning the native language script

will be used for learning the new language script, with the child having prior knowledge of the words of the language. It is during this step that the child will learn to firmly associate the specific words from the previous step with this language. The child can use the other language words for practicing writing each new script learned.

Test Case Scenario. From the production point of view, it is important to visualize and be cognizant of the full scope and magnitude of this project. As described above (under Sections **3.4.1** and **3.4.3(2)**), and afterwards (under Section **4**), the production enterprise would necessarily be a professional undertaking requiring a varied skillset, and the educational resources should be made accessible to any user anywhere free of charge. First, **444 standalone *mono-lingual* vignettes** as under Step 1 must be created in English, then **444 *penta-lingual* vignettes** in Step 3, which are separate from the mono-lingual vignettes. The five vignettes for "apple," "mother," "prayer beads," "sleeve," "skeleton" and their corresponding interactive quizzes/games in English will be professionally translated by translation services into Telugu, Hindi, Urdu, and Sanskrit. Every effort will be made to employ real-life native voiceover artists. If not, AI services will be considered.

The 2D/3D (whichever is more cost/benefit-effective) video animations can first be created for the English version by employing corresponding animation professional services. Signature music for each language can be created by hiring the services of professional musicians. The production could then be dubbed into the other four languages, with each language version having its own signature music. Indian Sign Language can be added to it. *Thus, we will determine the cost of production per image from start to finish.*

This initial effort will be entitled "**A Model Lesson for Learning 5 Different Alphabets by 2–5-Year-Old Children**" and be published on the Multi-Languaging website and YouTube for public comment/feedback before undertaking the comprehensive production of the remaining 439 images.

The image count of 444 covers only the basic alphabet letters, and it does not account for the presence of compound letters (consonant + vowel and consonant + consonant + vowel) represented by single script letters, which are common in Indian languages, unlike in the Latin script. However, it is neither practical nor crucial to include them in the proposed alphabet syllabus. As it is, the task is enormous, entailing the production of 888 rhymes/vignettes in five languages. The alphabet letters, even if the list is not comprehensive, will serve as anchor points, and the child will learn considerably more than the targeted letter and the word from a given rhyme. Moreover, it is reasonable to expect that a 5-year-old child who has watched and listened to 888 video vignettes and learned 444 words in five languages, as well as the five basic alphabets, should be mature and motivated enough to have independently observed the existence of compound letters in some of these languages and learned them. In line with this, Table 2 shows that the child would naturally learn the compound letters in Hin-

di or Sanskrit (the Devanagari script), as highlighted here for "Apple" (when they learn the other alphabet scripts)—**आपिल**, आपिलप**ण्डु**, **सेब**, सेब, **आताफलम्**, and "Boy"—**बोय**, **बालुडु**, लड़**का**, लड़का, **बालकः**. The child would also become familiar with the compound letters of the Telugu script from these words. To a large extent, the same would hold true for the Urdu (Nastaleeq) script as well (Ranjan, n.d.). This is teaching to learn. As indicated in the preceding section, spelling games could also be designed to aid children in learning the conjunct consonants/compound letters.

3.4.5. Step 5: Integration of Learning the Alphabets with Traditional Cultural Norms and Art Forms

This step will proceed based on the experiences of Steps 1 and 3 and the determined production costs and feedback, so it cannot begin any time soon. During Step 5, the child should consolidate and integrate their learning of all four scripts/five languages by singing songs, playing games, and solving puzzles/quizzes to be constructed around the 444 meanings and made available in each of five languages, with Indian Sign Language added on top. The final goal is to have alphabet songs embodying the 444 words/meanings written using the medium of traditional and modern art forms, such as poems for English (Naidu, 2022), *Burra Katha* (a story-telling method) for Telugu (Nageshwarrao, 2017), *Yakshagana* (literally, celestial singing) for Sanskrit (Joshy, 2015), Bollywood/Hindi cinema songs for Hindi (Courtney, n.d.), and *Qawwali* (a form of Sufi Islamic devotional singing) for Urdu (Real World Records, 2006), and enacted as such. This process is expected to be a "fun and games" phase because the child has already learned most of the syllabus and will simply be consolidating their knowledge. The goal is to attract everybody, children, parents, and other adults alike, wishing to enjoy learning the alphabets, while simultaneously preserving the letters and the arts.

The child is expected to master four scripts and five language words of 444 meanings in three years, from ages 2 to 5, using the materials described (**Infographics from 3 to 6**).

The foregoing curriculum/program is also practical and usable for adult learners (be they youngsters who may have missed schooling, parents, or senior citizens). It will be free of charge for all interested learners. It is intended to benefit all those without the means to access private tutoring (which is costly). As the Multi-Languaging documentary film concluded, "No equality among a country's citizens is conceivable without first achieving linguistic equality. Multi-Languaging is expected to serve as the Great Equalizer for a vastly diverse country like India with 1.4 billion people" (Seshi, 2022a). Considering its potentially breakthrough impact on and benefit to the various sections of the society, the predictably high cost may be justified.

A system of online tests will be developed through which children and adults alike can assess their multilingual knowledge and proficiency and receive certificates of accomplishment from Seshi Academy for Multi ∞ Languaging. Evi-

dence for the success of the project will be forthcoming once the project is implemented. It would be unrealistic to expect the acceptance of the method by an entity as large and diverse as the Indian school system without first putting the system into practice so that its benefits are clear. Therefore, the focus will be on putting a full-fledged self-learning online system in place, supported by external funding and public donations. Governmental funding will be sought and welcomed, but the project will not depend on it. I am operating with the expectation that this approach will progress unimpeded and result in durable success if the effort is free of political interference and/or dependence.

4. The Necessity of Skilled Professional Services for the Full Implementation of this Novel Pedagogical System

I have laid out in the foregoing sections what I consider a clear vision and presented ample practicable model illustrations, examples, and scenarios; however, the full implementation of the vision requires the use of skilled professional services. A team of professional content writers can develop other visualizations and interactive games.

Unique theme music can be written that should hold the attention of the child and make the activity an enjoyable one for each of five languages; the music will be uniquely Indian and unique to each of five languages.

Such a penta-lingual vignette will be created separately for each of the 444 images, first in English, and then dubbed into the other four languages.

Content writing services in English would write 400+ such vignettes by replicating and adapting the Apple example developed above, and then the vignettes would be professionally translated into Telugu, Hindi, Urdu, and Sanskrit. This undertaking will be expensive. The original vignettes in English should be simple, succinct, and easy to sing and of educational value to the preschool child to reduce the costs of translations as well as to be the most effective. The sample vignette above should reflect these features so it will serve as a useful guide/model for the writing services. Moreover, because this project will be expensive, a full-functioning English version will be launched first; Telugu and then the other three languages will follow.

5. Concluding Observations

It should be evident from the foregoing description of my proposed new approach to teaching languages, viz., the Multi-Alphabetics/Multi-Languaging method, that the underlying concept is based on the notion that learning languages best begins with the learning of the mother language. Others in the field appear to support this idea. According to educationist Maya Menon, "Children need to gain proficiency in their home language/mother tongue, especially with regard to the language skills of reading and writing before they can be ready to formally study another language" (Deka, 2019). Furthermore, as excerpted from Daniyal (2020): "…there is a rock-solid scientific consensus that teaching a child

in her own language is the best pedagogical method." "So powerful is schooling that uses the mother tongue at the initial level that it even helps in better second-language acquisition." "Carole Benson sums up the research in this area: 'The more highly developed the first language skills, the better the results in the second language, because language and cognition in the second build on the first'." That is precisely what lies at a foundational level in the new approach of the Multi-Alphabetics and Multi-Languaging method.

This teaching model is delineated in the Alphabetics section of the website (Seshi, 2021f): "Envision a child with a mastery of the alphabets as outlined above, going to school feeling empowered, like a juggernaut (Sanskrit, 'Jagannath' meaning 'lord of the world') or colossus, with full confidence." Multi-Languaging is expected to produce not only empowered but also tempered and well-rounded citizens. One may have to await decades before experimental testing is performed and the overarching predictions verified. Meanwhile, the conception of the program, I believe, is compelling enough to advance it to the next level.

To reflect, it is a common observation across the world that the benefits of Anglification are accompanied by cultural impoverishment, as a side-effect of continuing globalization. The all-embracing social and practical benefit of Multi-Languaging is that it can act as an antidote to and reverse this trend. It may help toward achieving "*language reforestation*." As one documentary film poignantly bemoans, "The world is a mosaic of visions, and each vision is encapsulated by a language. Yet every two weeks, one of the world's approximately 6,500 languages dies out. There are only 6,000 visions out there, and 3,000 of these visions are likely to disappear in the current 100 years" (Crystal et al., 2005). Yet, notwithstanding the lamentations, to my knowledge no one has offered a concrete solution to preventing this ongoing catastrophe from happening. Multi-Languaging and Multi-Alphabetics collectively offer an innovative and comprehensive approach to simultaneously learning multiple languages with ease and joy and thus open an avenue to stop this calamity—the death of the world's languages—from continuing to happen.

In summary, this article specifically addresses the enormous complexity of India's language problem, introduces a novel teaching concept, and provides a detailed description of the proposed method and model with examples. Thus, it explains the novelty of the concept's idea and demonstrates its contribution to pedagogy. Meanwhile, this paper highlights overarching social and practical implications, unresolved concerns, potential hurdles, and future directions.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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Appendix: Infographic Summary

https://multilanguaging.org/pdf/multi-alphabetics-infographic-summary.pdf