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Bridging English Education Gaps for India's Tribal Gen Z Learners

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Abstract

Taking into account the constructive coalition between lexical dexterity and integration into the wider world, this study intends to inculcate English vocabulary in tribal learners through Cognitive Linguistics (CL) and Stimulus-Response Theory (SRT). The present study identifies the factors that inhibit the target audience's English vocabulary learning and also juxtaposes the effectiveness of incorporated theories in enhancing better memory retention. The convenience sampling method was used to choose the sample for this study. The sample consisted of 120 students, among whom 60 participants received English survival vocabulary instruction using Cognitive Linguistics, while the other 60 participants were taught through Stimulus-Response Theory. An activity-based approach was incorporated into the vocabulary learning environment. The Common European Framework Reference (CEFR) rubric is employed to assess vocabulary abilities. The findings revealed that the participants in CL improved more significantly than those in SRT. The delayed post-test results reveal that CL enhanced better memory retention than SRT. The study results indicate that the participants were inhibited by various factors that affect their vocabulary acquisition. The findings accentuate the significance of teaching vocabulary through CL, which focuses on learning vocabulary through understanding rather than mere memorisation.

Keywords: First generational learners, Globalisation, Tier one vocabulary, English as a second language, Malayali tribal community.

Introduction

The purpose of this study is to teach English survival vocabulary to tribal learners by employing Cognitive Linguistics (CL) and Stimulus-Response Theory (SRT). CL uses concepts such as prototypes, levels of categorisation, and semantic mapping while SRT incorporates Thorndike's theory of learning and Skinner's operant conditioning in learning vocabulary. English functions as a language for learning activities to increase children's awareness of the world. However, existing ELT materials do not cater to all language learners. Indian learners rely on English teachers to gain the skills necessary for better education and life opportunities. Most rural schools either follow conventional English teaching methods or lack any teaching methods at all. Teaching English is challenging, as the target audience has limited English knowledge, exposure to learning English, or access to the internet or self-learning systems.

The Indian curriculum prioritises English as a subject rather than a language in use, necessitating tribal students to pass the English exam to progress to the next grade. Indian tribal schools encourage learners to memorise answers without proper understanding and reproduce them in exams. The lack of motivation among the tribal students to learn English, makes the teaching system ineffective in instilling English language skills. Both teachers and students rarely attempt to communicate in English. Tribal students face issues due to their conservative mindset and failure to recognise the importance of learning English, even amidst globalisation. India is a diverse nation with 700 tribal groups and 270 languages, residing in various districts and states across mountains, hills, and remote areas (1). India's largest tribal population, known as 'Adivasi', faces social and economic disadvantages, with 90% residing in rural areas and 20% in urban areas, according to the 2011 census. Ojha stated that tribal populations, which comprise 8.6% of the population, vary in their attitudes towards nature, technology, and education. Tribal students, often marginalised by mainstream society, face poverty and illiteracy

due to modernity and globalisation yet remain unaware of the importance of education and English learning. Education, a vital requirement for employment, tribal people in India often face gender-biased education due to superstition, allowing male learners and limiting female opportunities, primarily due to ignorance, illiteracy, and aliteracy (2).

The participants in this study are upper-primary students who are educated in their mother tongue (Tamil). Although English is part of their curriculum from elementary education, students do not feel confident in reading, speaking, or writing simple words in English. Tribal learners encounter challenges in learning English due to two distinct setting: (a) school and (b) home setting. At school, they lack appropriate materials and resources for learning English, as government schools often have insufficient provisions and qualified teachers. Even though students learn English words at school, they have limited opportunities to practise the acquired vocabulary at home, as many are first-generation learners. In the context of globalisation, it is significant for tribal learners to acquire survival vocabulary to pursue their further education. Tribal learners are forced to migrate to cities for higher studies due to the limited availability of educational institutions in their areas. The primary reasons for tribal learners' poor English proficiency are the absence of suitable English language teachers, facilities, and learning materials. Taking into account the critical challenges faced by tribal learners while learning English vocabulary the below mentioned research questions will be discussed in detail:

1. What factors inhibit tribal students from learning English survival vocabulary effectively?
2. Is CL more efficient than SRT in teaching survival vocabulary to tribal learners?
3. Do CL or SRT contribute to better memory retention of English survival vocabulary?

Significance of this study
Though there are different strategies for the learners to be engaged, textbooks are an essential educational instrument for teaching English as a second language in tribal schools (3). English is not merely a subject or language; it serves as a pathway to social and economic improvement. So, the Indian government has established Government Residential Schools for tribal students in remote areas, but these efforts have not significantly improved their English language learning outcomes. In India, educational attainment disparities are evident (4). Existing research on Adivasis reveals poor educational achievements, with inequalities in English language teaching between tribal and non-tribal communities due to financial constraints. Tribal schools also lack resources like audio and video aids, language laboratories, slide projectors, pictures, and models used by urban and rural schools. Consequently, tribal learners often migrate to cities for higher education, where they face difficulties adapting to city culture and academic demands without a strong command of English. Traditional teaching methods have not effectively improved the English language proficiency of students throughout their schooling. The English education gap among Malayali tribal learners is addressed, thus, this study aims to bridge the English educational gap by enhancing the English language proficiency of middle school tribal learners by incorporating CL and SRT to impart English survival vocabulary.

Literature Background
English language teaching to the tribal learners
The acquisition of the English language is crucial for tribal students to maintain pace with globalisation and technological advancements in the workplace. The teaching and learning of the English language vary depending on the students' educational background and skill level. Government schools in the tribal mountains primarily teach in regional languages, making it challenging to teach English to learners. There is a disparity in the medium of instruction and quality of English language education between the English language-rich and English language-poor students. According to Meganathan, this condition is described in various Indian contexts (5). They are,

1. ↑↑ TP ↑↑ EE: English medium private or government-aided elite schools feature skilled educators, differing in proficiency levels, and English is the first language or spoken at home.
2. ↑ TP ↑ EE: English is increasingly used in private institutions, with many adopting a bilingual approach. Educators with restricted

language skills; youngsters possessing minimal English language experience; guardians striving for social and economic advancement via English proficiency.

3. ↓ TP ↓ EE: Government-aided local medium schools are educational institutions providing English and regional language education, typically established by educational societies, catering to a diverse student population.

4. ↓↓ TP ↓↓ EE: The majority of elementary school students in India's rural districts go to government schools. In addition, they represent the exclusive alternative for individuals residing in urban areas with limited financial resources, although it is worth noting that these individuals may have some opportunities to acquire English language proficiency through their surroundings. Among these four categories of schools, it is possible that the instructor possesses the lowest level of English proficiency. TP = Teachers' English language proficiency; EE = English language environment

Tribal students frequently enrol in schools with low English proficiency and face challenges in finding qualified teachers due to a shortage of qualified candidates. When other subject teachers instruct English, the lessons are often geared towards exam preparation, often mispronouncing words, and teaching English in their mother tongue. 80% of the tribal learners are first generation English learners. The only place to learn English is in school, but the school has a cumbersome curriculum and teachers are often inexperienced, hindering students' achievement. The foremost problems faced by tribal students are teacher absenteeism and many teachers' refusal to work in tribal schools because of the lack of commuting facilities (6). Tribal students do not have access to self-learning systems. Students will be better prepared for an advanced future if they learn English in school from qualified teachers. The existing literature determines that the tribal learners' English education gap can be bridged if the learners are taught with an appropriate teaching technique and providing self-improving facilities.

Need for Learning Vocabulary

Without vocabulary, no language skills can be acquired or improved. Vocabulary enables individuals to develop Listening, Speaking, Reading, and Writing (LSRW) skills and its importance is well-established in schools (7). English proficiency is crucial for higher education, employment, and social advancement, while students with poor English skills face disadvantages in higher education. Tribal students may struggle in expressing basic ideas if they lack fundamental vocabulary skills. Tribal students are advised to relocate to urban areas for higher education and employment, and proficiency in English is crucial for survival in these environments.

Theoretical Framework

The tribal students' education has not provided them a chance to adequately master the English language. Thus, CL and SRT are employed to inculcate survival vocabulary.

Teaching English vocabulary through CL Concepts

Language and the mind are considered sides of a coin in the field of CL. Lakoff and Johnson established CL in the 1970s. It is an interdisciplinary field encompassing cognitive sciences, languages, the mind, and sociocultural experiences. CL posits that form and meaning are inseparable and language is a primary aspect of the human mind. Language research incorporates mental processes (8), with language proficiency being a component of fundamental cognition and discernment. Cognitive abilities include thinking, memory, attention, problem-solving, and learning are directly interconnected to linguistic behaviour (9).

Prototype

A prototype is mental concept that comes to mind upon hearing a term (10). Prototypes are categories that help learners understand vocabulary concepts. They are specific mental images that arise when thinking about a word or symbol. In the 1970s, Eleanor Rosch experimented with the category BIRD, identifying general characteristics like hatching eggs, having a beak, wings, legs, etc. (11). Prototypes can be used to identify similarities among things, behaviours, and concepts. The vocabulary items were categorised into groups such as vessels, mirror, and kitchen, and subsequently subsumed under the overarching category of 'At home'. The

students demonstrated a higher level of retention when these items were presented in a prototype format.

Levels of Categorisation

Categorisation aids in understanding and organising concepts based on commonalities and specific purposes, playing a crucial role in language learning and environmental interactions. It is a central issue in CL, considered as the primary principles of conceptual and linguistic organisation. According to Zhao, categorisation is a mental process that arranges concepts into classes or categories (12). The various levels of categorisation are:

1. Superordinate level - The top category within a taxonomy, e.g., VEHICLE, with subcategories like BUS, CAR, PLANE, TANK, etc.
2. Basic or generic level - A category that elicits a vivid mental image representing a basic gestalt (holistic principle). In CL, the human mind identifies objects from the middle level, i.e., the basic category level.
3. Subordinate level - Further classifications of the primary category, e.g., MINIBUS, SPORTS CAR, etc. In CL, the human mind identifies objects from the middle level, i.e., the basic category level.

Semantic Mapping

Semantic maps or graphic organisers, are visual representations of vocabulary, displaying word meanings and their connections to related terms, a cognitive strategy for organising words (13). It helps students remember, identify, understand, and recall the meaning of words. Barcroft defines graphic organisers as "the increased evaluation of an item concerning its meaning (14)." Three components of semantic mapping, mentioned by Denton *et al.* (2007), are:

* Fundamental inquiry or notion: the primary lexicon or expression serves as the focal point of the map.
* Strands: Subsidiary concepts are employed to elucidate the principal notion, and may be elicited from the learners.
* Supporting information: details, inferences, and generalisations connected to strands that clarify the strands.

Semantic maps can be beneficial for tribal learners who have previously been exposed to English. The visual approach can effectively aid learners in comprehending the connections between words and concepts in a non-intimidating manner. For example, in teaching the concept of 'family' a semantic map can visually depict how 'mother,' 'father,' 'sister,' 'brother,' etc., relate to one another within this concept.

Teaching Vocabulary through SRT Concepts

The SRT is rooted in early conditioning concepts developed by researchers Pavlov, Thorndike, and Skinner, providing unique insights into behavioural processes. Pavlov's classical conditioning experiments were renowned, while Skinner applied SRT principles to language learning in 1957, focusing on reinforcement. Thorndike's theory of learning emphasises association creation, while Skinner and Thorndike focus on observable behaviour and language acquisition through drilling and repetition, largely overlooking the role of cognition and internal mental process.

Thorndike's Theory of Learning

Thorndike's theory of learning suggests that associations form between stimuli (S) and responses (R), triggered by changes in external environments. This theory includes three major concepts: the Law of Readiness, the Law of Exercise, and the Law of Effect.

The Law of Readiness asserts that learning happens effectively when learners are ready and motivated to learn (15). For instance, in language learning, student's engagement and preparation are crucial for efficient vocabulary acquisition, as instructors cannot change an unprepared learner's mindset (16). The Law of Effect asserts that an individual's strength and weakness are influenced by their satisfaction and dissatisfaction with the stimulus and response. Thorndike revised the theory in the 1930s, emphasising that rewards enhance responses, while punishment weakens them. The Law of Exercise concentrates on drilling and practice, resulting in enhanced productivity and durability of learning. Two further divisions of the law: Law of Use and Law of Disuse

The Law of Use states that learning effectiveness relies on frequent occurrence, while the Law of Disuse suggests that without a connection between stimulus and response, it weakens over time. The main components of the Law of Effect

are 'drilling' and 'repetition'. Drilling is as easy as listening to a teacher or another student as a model and then repeating what was heard. This is used by teachers to teach their children new language skills. Repetition is when a language user is asked to say the same thing over and over again.

Skinner's Reinforcement and Reinforcer

Skinner's reinforcement theory suggests that behaviour is influenced by its consequences, with reinforcement being a reward that either increases or decreases the recurrence of behaviour. Reinforcers can be positive or negative. Positive reinforcement reinforces behaviour by rewarding it, whereas negative reinforcement undermines behaviour. Negative reinforcement aids in avoiding undesirable consequences. Rewards play a crucial role in Skinner's reinforcement theory. Whereas consistent application of punishments effectively eradicates undesirable behaviour, but its effectiveness is enhanced when combined with reinforcement that reinforces desirable behaviour.

Methodology

Participants and Sampling Technique

The Malayali tribal participants are from Aranoothumalai, Tamil Nadu, India. The population size is 186, with a sample size of 120 for this study, is split into two groups. The convenience sampling technique is utilised in this study as it is a non-probability sampling method. It was chosen due to the proximity and accessibility of the participants. This sampling method was suitable because it allowed for rapid data collection from a single tribal community among the 36 in Tamil Nadu. The two government schools located in Aranoothumalai are set in a rural mountainous region. These schools follow the national curriculum with English language instruction introduced at the elementary level. However, given the geographical and socio-cultural context, the English language learning outcomes of the students in tribal schools are not on par with urban standards. The researcher split the participants into two groups: one with CL employed (N = 60), and the other with SRT (N = 60). Questionnaires and Microsoft Excel were used as tools for data collection and analysis.

Research Framework

To determine the participants' initial level of vocabulary proficiency in accordance with CEFR, a diagnostic test was administered. A post-test was conducted immediately after the instructional period to measure the immediate vocabulary gain. Then, a delayed post-test was administered after a period of no instruction to evaluate the retention of vocabulary learned. These tests were chosen to measure both the immediate impact and long-term effectiveness of the instructional methods. The participants were split into two groups to conduct a comparative analysis of two teaching methods: CL and SRT.

Procedure

The study focuses on teaching English to the Malayali tribal community, the largest tribal community in Tamil Nadu. 'Malayali' originates from the Tamil words 'Malai' means hill and 'Yali' indicating residence. Due to this community's limited exposure to English and predominate use of Dravidian, the study found that English education was essential for this population. The CL group utilised visual aids like diagrams, illustrations, and realia to enhance their understanding of English vocabulary, focusing on learning vocabulary through collocations. In contrast, The SRT group was taught conventionally, focusing on rote learning and recitation, which resulted in random order of vocabulary instruction.

CL and SRT teaching interventions were carried out over forty-five hours using an activity-based approach, following Prabhu's terms for activities, including clear aim, varied input mediums, dynamic instruction, detailed procedures, and expected outcomes The CL group focused on comprehending the meaning and associations of words, while the SRT group emphasized mechanical memorisation of these words (17). The lessons began with a thorough explanation of activities in the learner's native language, Tamil (L1), emphasising 'learning' and 'practise', as per Decarrico (18). Teaching materials were developed to provide clear instruction, feedback, and interaction, while gradually increasing the complexity of activities to challenge their knowledge.

The study objects to enhance the target learner's vocabulary level from beginner (A1) to waystage

level (A2), following the CEFR hierarchy's six levels, starting from A1 and ending with C2 (19). The CEFR servers as a yardstick to authenticate learning objectives, evaluate curricula and plan teaching materials. It is used by public and private educational sectors to teach English. The researcher focused on teaching basic routine words that aid the pupils to tackle simple sentences on accustomed topics. The data was procured through a questionnaire, class observation, pre-test, post-test, and a delayed post-test that was conducted after two weeks to check the effectiveness of students' memory retention.

Teaching Vocabulary Through Cl

The implementation of Cognitive Linguistics (CL) concepts requires considerable preparation. The researcher identified and planned the material for the CL group, acknowledging the unique needs of the Malayali tribal community in Tamil Nadu, which holds the largest population. CL offers an alternative to conventional English classes that place more emphasis on memorisation of words than it does on understanding the meaning and context of words. Through interesting activities, collocations, and actions, the students learned the vocabulary, resulting in a stress-free environment and improved retention. Each student maintained a notebook to jot down target words taught in the classroom, which further solidified their understanding of these words. A 45-minute structured class included a 5-minute motivational story, 30-minute vocabulary teaching, and a 10-minute activity and recapitulation session. Here, questions were posed and students were awarded for correct answers, fostering an interactive and engaging atmosphere.

CL Activities
Graphics Interchange Format (GIF)

GIFs have become popular educational tools due to their engaging repetitive motion. This activity was designed to teach action words such as swimming and running. The objective of this activity was to prompt students to identify the vocabulary represented by the GIFs. Care was taken to ensure the GIFs were culturally appropriate and relevant to the learners.

Objective
To encourage the students to look at the GIF and tell the vocabulary.
Procedure
Download or convert videos into GIFs, display GIFs, ask students to find the correct vocabulary for the GIF.
Expected Outcome
The students gained interest and learnt the words through GIFs. This facilitated students' long-term memory.

Picture Bingo

Picture Bingo promotes focus and involvement in the language class. Students' cognitive connections between the vocabulary and their visual representations are stimulated when the teacher says a vocabulary word and they mark the image on their bingo sheet that corresponds.
Objective
To make students attentive in language class
Procedure
Create unique bingo sheets with 4x4 girds and add pictures. Distribute the sheets, tell the vocabulary. The student who finishes the game first yells 'Bingo'.
Expected outcome
The students wished to play it repeatedly, and they were physically and mentally present in the class.

Teams

Designed to motivate students and assist them in finding correct answers, this activity involves dividing the class into two groups and initiating an interactive vocabulary exchange. The activity facilitated a stress-free learning environment, bolstering the learners' confidence.
Objective
To motivate the students and to assist the students to find out the correct answers
Procedure
Divide two groups randomly, one group explains the vocabulary, the other group explains its meaning, and repeat this process.
Expected outcome
This activity created a stress-free learning atmosphere. The learners overcame fear and gained confidence.

Vocabulary picture album

Vocabulary picture album helped learners to graphically realte the learnt words and they use it as a reference whenever necessary.

Objective

To make the students look at the picture album and learn the vocabulary when they have doubts.

Procedure

Students create a picture album, write vocabulary, and have it corrected by the instructor. They refer to it when they have doubts.

Expected outcome

The learners categorised the learnt vocabulary prototypically.

Flashcard

Intended to enhance understanding and long-term memory, flashcards were used to create a fun-filled and interactive learning experience. A game revolving around a bottle spin was devised, reinforcing the connection between vocabulary and pictures.

Objective

To enhance understanding and long-term memory

Procedure

Prepare vocabulary flashcards, students sit and spin a bottle. When the swirl stops, a flashcard is shown and asked to identify it.

Expected outcome

The students encouraged each other and tried to answer correctly to spin the bottle. The students remembered the pictures and gained better memory retention.

These activities were implemented with the intention to upgrade the target learners' English proficiency from beginner (A1) to waystage (A2) as per the CEFR. The aim was to establish a sustainable method for vocabulary acquisition that would enable learners to articulate short sentences on familiar topics. Student responses to these methods were overwhelmingly positive, pointing to an increased engagement and improved vocabulary retention.

Data for this study was procured through a questionnaire, class observations, pre-test, post-test. The efficacy of the theories on students' memory retention is evaluated by a delayed post-test conducted two weeks after the intervention. Despite some challenges, such as varying student engagement and differing learning speeds, the proposed methodology successfully facilitated vocabulary learning in this unique cultural and linguistic context. Future iterations of this methodology will incorporate adaptations to further cater to individual learning styles and capabilities.

Teaching Vocabulary Through SRT

SRT is a complementary approach to CL, focusing on conditioning and reinforcement to enhance the learning process. Here, learning occurs through the process of habitual repetition. SRT, despite lacking creative engagement, tries to enhance memory retention, particularly in teaching vocabulary to learners with limited English exposure, like tribal learners in this study. Lesson preparation for SRT methods began with the careful selection and planning of vocabulary and corresponding activities. A 45-minute structured class included a motivational story for 5 minutes, a focused vocabulary lesson for 30 minutes, and a 10-minute repetition and drilling period. Classroom activities were designed to promote interaction and learner engagement with positive reinforcement, like rewards for correct answers fostering a supportive learning environment.

SRT Activities

Translate

This activity aims to enhance the bilingual vocabulary skills of the students by allowing them to learn words in both Tamil (L1) and English (L2). Translating words between their native language and English helps the learners make connections and remember vocabulary more effectively. The activity also has the added benefit of engaging various learning styles, catering to both auditory and visual learners.

Objective

To help the learners understand what they learn.

Procedure

Teach the vocabulary in L1 and L2, divide two groups. One group tells a vocabulary in L1, opposite group translates the vocabulary in L2, and the correct answer is rewarded.

Expected outcome

Questioning acted as a stimulus to the participants, and their response is the outcome. Positive reinforcement was a reward to the participants who gave the correct answer.

Find me a correct match

The students are asked to match English words with their synonyms. This form of active learning links the word to its meaning, supporting longer-term memory retention. It encourages cognitive processing as students must think critically to find the correct match.

Objectives

To help the students to recognise the words and their synonyms.

Procedure

Divide groups, randomly arrange words and synonyms, and ask students to pick the correct word and synonym, correct answer is rewarded.

Expected Outcome

Drilling, the main component of SRT, evoked the student's memory; they had a chance to listen the word repeatedly.

Spell it to tell it

This interactive activity is designed to strengthen spelling and pronunciation skills. Filling in the missing letters to form the correct word not only tests memory recall but also ensures the students learn the correct spelling and pronunciation.

Objectives

To grab the children's attention in the language classroom and help them learn the word through positive reinforcement.

Procedure

Tell the students to be attentive, teach vocabulary, randomly call students, ask them to fill in missing letters, and reward correct answers.

Expected Outcome

The students who answered wrongly received negative reinforcement, and correct answers were rewarded. This motivated the students to give correct answers every time. This activity draws on Thorndike's Law of Effect by allowing students to learn through trial and error. Students are given a vocabulary word and multiple meanings, from which they must choose the correct one. By learning to differentiate between correct and incorrect meanings, students can strengthen their comprehension skills.

Cuing

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between correct and incorrect meanings, students can strengthen their comprehension skills.

Objectives

According to Thorndike, students can only learn through error and trial. It allows students to learn right from wrong.

Procedure

Randomly assign a word with various meanings, ask students to choose the correct card, and reward winners.

Expected outcome

The students learnt right from wrong and learnt from their own mistakes. Thorndike's trial and error theory was implemented.

Imitate me

Based on Pavlov's classical conditioning theory, this activity involves repeating vocabulary words to reinforce memory. The repetition, in this case, acts as a form of conditioning, helping students remember vocabulary long-term.

Objectives

To enable the students to memorise all the vocabulary.

Procedure

The task involves selecting a student to say a word with meaning and having them repeat it five times.

Expected outcome

The students remembered the words for an extended period as they were exposed to frequent repetition.

By incorporating activities that address different learning styles, SRT aimed to provide a comprehensive, engaging and effective method of teaching vocabulary to tribal learners. To ensure the effectiveness of this approach, regular review and recap sessions were carried out, and opportunities for students to reflect on their learning were provided. The progress of the students was also closely monitored and evaluated to facilitate continuous improvement of the teaching methodology.

Results and Discussion

The survival vocabulary taught to the students aids them in determining what to talk about in various contexts (20). The vocabulary topics that were taught included, at school, at home, at shop, friend's birthday, hobbies, daily routine, arts and media, weather, and seasons. To enrich the

learners' English vocabulary dexterity, activities were incorporated. At the beginning of English class, the learners were nervous and shy to volunteer in the activities. Gradually they gained motivation and progressed in learning the target words and used them in their conversations. The procured data has been evaluated and performed through an apposite statistical technique using SPSS. It is widely used by scholars to analyse the qualitative and quantitative data (21). The hypotheses of this study have been tested by statistical tests such as the independent sample 't' test, Welch t-test, and ANOVA. The efficacy of CL and the SRT group were juxtaposed, and the outcome revealed that imparting vocabulary through CL is more efficient than SRT.

What factors inhibit tribal students from learning English survival vocabulary effectively?

A questionnaire was used to collect data for the first research question, translated into Tamil (L1) for learners. The collected data analysed through Microsoft Excel proved that the learners are impeded by serval factors in learning English such as (a) constrains at home, (b) illiteracy, (c) lack of motivation (d) fear of English language, (e) Absence of basic facilities (f) inadequate educational institutions and their systems, (g)

lack of qualified teachers, and (h) alien language. The results in Table 1. reveal the magnitude of challenges the tribal learners face in learning English vocabulary. The table data indicates that home environment, quality of teaching, and lack of motivation are among the key obstacles to the learners' language acquisition. Based on these findings, there's a clear need for policy interventions such as increasing the quality and number of teachers, implementing motivational strategies, and improving the learning environment by providing modern facilities. Also, parental education programs might be beneficial to enhance their understanding of the importance of English language learning. In conclusion, a multitude of factors impact tribal learners' ability to acquire English vocabulary, as shown in Table 1. Addressing these challenges is crucial for improving their English language proficiency and overall educational outcomes.

ANOVA Two-Factor with Replication is used to analyse the factors. A Two-Factor analysis of variance (ANOVA) with replication is conducted in situations where there are two modalities with multiple levels of the independent variable. The results presented in Table 1. prove that lack of motivation has the highest mean score in CL group (M = 22.677) and SRT group (M = 22.830). English is seen as a foreign language among tribal

Table 1: ANOVA analysis of Factors affecting English language learning

Variables	N	Factors	Mean	F crtic.	F value	P value
CL	60	Constraints at home	7.305			
		Illiteracy	18.355			
		Lack of motivation	22.677			
		Lack of qualified teachers	20.355			
		Absence of basic facilities	17.576			
		Alien language	7.457			
		Fear of foreign language	11.576			
		Inadequate educational institutions and system	11.457	2.019	15.905	0.000
SRT	60	Constraints at home	8.016			<0.001
		Illiteracy	18.457			<0.05
		Lack of motivation	22.830			
		Lack of qualified teachers	22.644			
		Absence of basic facilities	18.101			
		Alien language	6.033			
		Fear of English language	9.423			
		Inadequate educational institutions and system	11.508			

learners, despite being the second language in India. The second highest mean score of factors is fear of English language CL group (M = 20.355) and SRT group (M = 22.644). Thirdly, the tribal students are affected by illiteracy, with the mean score in CL group (M = 18.355) and SRT group (M = 18.457). Alien language factor has the fourth highest mean score, in CL (M = 11.576) in SRT (M = 9.423). Inadequate educational institutions and their systems have the fifth highest mean score, in CL group (M = 11.457) and SRT group (M = 11.508). The least impactful factors are home learning constraints the mean score of CL is (M = 7.305) and SRT is (M = 8.016) and the lack of proper amenities and facilities, the mean score in CL group is (M = 7.457) and SRT group (M = 6.033). The p-value is 0.000 which is <0.001 <0.05, hence this shows that tribal learners have an impact on the factors. The f value is (15.905) greater than the f critical value is (2.019), hence there is a statistical significance. The existing research confirmed that most of the tribal students' English language learning is impeded by various internal and external factors.

Is Cognitive linguistics more effective than Stimulus-response Theory in inculcating English survival vocabulary to tribal learners?

Another objective of this research was to identify whether CL is more effective than SRT in imparting vocabulary. CL is a usage-based approach in language acquisition, teaching vocabulary through mind-based collocations, focusing on basic cognitive abilities for effective communication with the world (22). One student described the vocabulary learning process through CL 'I have never learnt so many vocabulary in a short period. Generally, we memorise the words without understanding their meaning.' Comments such as this reveal the mandatory way of learning vocabulary is mugging them up without associating them with other words. A common thread in CL teaching and learning is making memorable learning through associations (23). All the meaning of the words is made memorable through performing or through pictures and drawings (24). The learners not only enjoyed the learning process, but also were motivated to use the words in their conversations. As the proverb says 'Well begun is half done' so were the students willing to upgrade their vocabulary level. The teaching of vocabulary through SRT primarily involves conditioning, drilling, and repetition. SRT language learning depends on positive and negative reinforcement (25). It believes that behaviour can be witnessed, controlled, evaluated, and does not believe in mental ability. The teaching process did not significantly engage students' learning, as pictures and actions were not integrated into SRT teaching. The gradual loss of the effect of negative and positive reinforcement led to learners returning to square one, while drilling, conditioning, and repetition had a short-term influence.

The independent sample 't' test is used to analyse the means of two groups. Table 2. shows that the pre-test value of CL group has a higher mean score (3.63) than the pre-test value of SRT group mean score (2.64). Though there is a slight difference in the mean score, it does not have any significance as the average of the CL group is 0.99 points higher than the STR group and the mean difference is not statistically significant.

Table 2: Pre-test mean differences of CL group and SRT group

Pre-test	N	Mean	Std. deviation
CL group	60	3.63	2.37
SRT group	60	2.64	2.01

Table 3: Pre-test and the post-test mean differences of the CL group

CL group	N	Mean	Std. deviation	t stat	p value
CL group pre-test	60	5.45	3.557	-24.78443534	0.000
CL group post-test	60	25.083	4.999		

The analysis in Table 3. vividly shows the progress of the pre-test and the post-test. The mean score of CL group pre-test vocabulary level is (M = 5.45, SD = 3.557), the mean score of the CL group post-test vocabulary level is (M = 25.083, SD = 4.999). The mean difference between the pre-test and post-test is (M = 19.633). On the average the post-test is (19.633) points greater than the pre-test. There is a substantial improvement in the pre-test and post-test of the CL group. The p value is (< 0.001 < 0.05), statistically highly significant.

The analysis in Table 4. shows an improvement of the pre-test and the post-test. The mean value of the SRT pre-test is (M = 3.966, SD = 3.0227) and the mean value of SRT group post-test is (M = 13.389, SD = 7.540). On average the mean value of SRT post-test is 9.423 points greater than the A2 pre-test. When the p value is 0.05 the result is significant, but if the p value is lesser than 0.05 then the result is highly significant. The significance is proved as the p value is (< 0.001 < 0.05), the result is highly significant.

Welch t-test is used to analyse the post-tests and delayed post-tests of two groups as they were treated with different theories though the sample size was equal. Table 5. shows the Welch t-test analysis of CL group post-test and SRT group post-test. In comparing the means of both the post-test CL group has the greater mean value (M = 25.083, SD = 4.999) and the mean value of SRT is (M = 13.389, SD = 7.540) lower than the CL post-test. The mean difference of CL group post-test and SRT group post-test is (M = 11.694). The p value is (< 0.001 < 0.05), thus the CL group post-test is highly significant than the SRT group post-test.

The progress of CL and SRT groups are presented in Tables 2, 3, 4, and 5. Though there is gradual improvement in CL and SRT groups. The CL group's performance outmatched the SRT group. The post-test results of CL are more effective and statistically significant than SRT.

Table 6. shows the comparison of delayed post-test and post-test of SRT group. The mean score of SRT post-test is (M = 13.389, SD = 7.540) and the mean score of SRT delayed post-test is (M = 10.033, SD = 7.211). The mean difference of SRT post-test is (3.356) points greater than the SRT delayed post-test. Thus, the analysed result shows that p value is lesser than the significance value (< 0.001 < 0.05). Therefore, SRT group's performance improved in the post-test than the delayed post-test.

Table 4: Pre-test and the post-test mean differences of the SRT group

SRT Group	N	Mean	Std. deviation	t stat	p value
SRT group pre-test	60	3.966	3.022	-8.910021273	0.000
SRT group post-test	60	13.389	7.540		

Table 5: Post-test mean differences of CL group and SRT group

Post-test	N	Mean	Std. deviation	t stat	p value
CL post-test	60	25.083	4.999	9.953	0.000
SRT post-test	60	13.389	7.540		

Table 6: Post-test and delayed post-test mean differences of the SRT group

SRT group	N	Mean	Std. deviation	t stat	p value
SRT post-test	60	13.389	7.540	2.470	0.000
SRT Delayed post-test	60	10.033	7.211		

Table 7: Delayed post-test mean differences of CL group and SRT group

Group	N	Mean	Std. deviation	t stat	p value
CL Delayed Post Test	60	24.45	6.718	11.279	0.000
SRT Delayed Post Test	60	10.033	7.211		

Do CL group or SRT group pave the way for better memory retention?

A delayed post-test was conducted to measure the effectiveness of CL or SRT in improving memory retention. The CL and SRT group did not receive any intervention between the post-test and delayed post-test for fifteen days. CL proclaims that there is a connection between cognition and long-term memory. Bao Gang argues that there are three phases of the memory process: recognition, storing, and information processing. Long-term memory gives a better understanding of the topic (26). All the cognitive linguistic concepts incorporated to teach vocabulary to CL group students activated learners' interpreting process, perceiving, and storing. The mean score of the CL post-test is (M = 25.083, SD = 4.999), and the mean score of the CL delayed post-test is (M = 24.45, SD = 6.718). It is marked that CL post-test and CL delayed post-test mean scores do not have a higher mean difference. This proves that the CL group obtained better memory retention.

Drilling and repetition do not strengthen long-term memory. Because, human short-term memory is auditory, an internal monologue but long-term memory is more of a graphic semantic. The mind creates visual collocations of what is learnt and taught, and drilling is in no way visual. Drilling and repetition enable a person to remember, but they have become a part and parcel of every conventional language-learning classroom. Drilling becomes a routine due to our brain's ability to effortlessly remember significant, intense, and relevant information. The study reveals that drilling and repetition are ineffective in improving English vocabulary learning, while the SRT group's progress is not as impressive as the CL group. Therefore, CL concepts are effective in teaching vocabulary.

Table 7. displays the comparison of CL group delayed post-test and SRT group delayed post-test. The mean score of the CL delayed post-test is (M = 24.45, SD = 6.718) and the mean score of the SRT group delayed post-test is (M = 10.03, SD =

7.211). On average CL group delayed post-test is (14.417) points greater than the SRT delayed post-test, 24.45 > 10.03. The p-value is lesser than the significance value (<0.001 < 0.05). Thus, the result analysed displays a significant difference between the CL and SRT groups. Therefore, the result proves that the CL group gained better memory power.

The researcher collected feedback from the learners to understand the usefulness of theories implemented in the classroom. Feedback is obligatory in language classrooms as it facilitates a teacher to instruct better (27).

In response to the feedback, a majority of the learners in the SRT and CL groups expressed a strong preference for the English class. Specifically, 90% of the respondents reported a positive attitude towards the English class. All the participants indicated their agreement with the fact that they had acquired knowledge of the vocabulary within a brief period. A significant majority of 84% of the participants expressed a desire to improve their proficiency in the English language. All of the surveyed students reported being highly motivated and expressing eagerness to expand their knowledge. A majority of 66% participants reported utilising the acquired vocabulary when necessary. 94% of students mentioned that the learning process was not burdensome. According to the feedback provided by the students, it can be inferred that they exhibit a high level of motivation and possess a vivid understanding of the significance of the English language. The implementation of a suitable teaching method in the tribal classroom can potentially enable them to develop English language proficiency.

Conclusion and Recommendation

This study has successfully identified the language learning difficulties experienced by tribal learners. It is evident that with appropriate methods and support, these learners can make significant progress in learning English.

Nevertheless, an alarming discrepancy between the resources allocated to urban schools and tribal schools persists. As reported by Express News Service on 16 December 2019, tribal schools are not set to receive additional funds or teaching personnel, with existing staff burdened with further duties. Graddol stated, "When English becomes universal, anyone without it suffers. We are fast moving into a world in which not to have English is to be marginalised and excluded (28)." The teachers and tribal youths have understood the absence of English education among the largest tribal population in India could potentially harm their socio-economic growth and their capacity to integrate into wider society. One notable obstacle among tribal students is their conservative mindset. Despite the far-reaching impact of globalisation, they often fail to understand the importance of learning English. This mindset needs to be addressed by both educators and policy-makers to cultivate an environment where communication in English is not just encouraged but becomes a norm.

In comparing the effectiveness of Cognitive Linguistics (CL) and Stimulus Response Theory (SRT) in language teaching, this study finds that CL has been notably effective. As identified by Touplikioti, CL-based teaching enhanced the students' understanding of survival words, a fundamental aspect of language learning (29). These learners improved their vocabulary level from A1 to A2, a testament to the potential impact of effective English teaching strategies. Despite the challenges of this study, the findings affirm the urgency of English language instruction among socially disadvantaged students. This should serve as a reminder and motivation to other stakeholders such as educators, parents and tribal community leaders to take effective steps in bridging the gap in tribal learners' English education.

Abbreviations

CL - Cognitive Linguistics
SRT - Stimulus Response Theory
CEFR - Common European Framework References
TP - Teachers' English language proficiency
EE - English language environment
M - Mean
SD - Standard Deviation
S - Stimulus
R - Response

Authors' contribution

The authors contribution to the research article are as follows: study experimental investigation, conception, methodology, data collection, draft manuscript preparation: Ida Grace A. Data interpretation, editing, reviewing and supervising Dr. Sneha Mishra. Both the authors reviewed the results and approved the final version of the manuscript.

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Conflict of interests

The authors declare that they have no conflict of interest.

Ethics approval

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