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Pragmatic Skills in Gujarati Speaking Autistic Children

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Introduction

Language development arises from the necessity to communicate with other people. Language is generally the child's first socialization experience, enabled by the parents during every-day activities. A pragmatic disorder may be observed when a child's language is not adequate and affects social adaptation. Pragmatic skills disorder may result in different communication indicators. In children with autism, inadequate communication goes beyond social communication and marks the capabilities to maintain relations and to show interest in various topics. A child should be evaluated to see whether they have a developmental language disorder if they exhibit significant difficulties with spoken receptive and expressive language but no intellectual deficiency.

Speech and language disorders that cause issues with communication and related domains might be classified as communication disorders. From basic sound replacement to the incapacity to comprehend or utilize one's innate language, the delays might take many forms. The consistent deficit in interaction in social communication, including social mutuality and verbal communication behavior used in social interactions, tends toward inability to develop and maintain social relations.

A key example of a childhood communication disorder is autism in children. The term autism typically raises up images of children who engage in a wide range of abnormal and

socially unacceptable behavior, or children whose language is severely inadequate (Hulit and Howard, 2006). According to DSM-5, an autism diagnosis requires the demonstration of restricted and repetitive behavioral patterns. Verbal and non-verbal social communication features vary depending on age, cognitive and linguistic developmental level. Several symptoms can be noticed, from total absence of speech, to a mild language delay; as well as deficits in receptive language and echolalia. Even when formal language abilities are intact, the use of language in social mutual communication is often inadequate in children with autism.

Literature Review

Deficits in non-verbal communication skills protuberant in autism include absence of eye contact and those in conversational skills like forms, initiation, frequent empty turns, inability to follow topic or control of conversation and associated non contextual or socially inappropriate comments. These traits provide evidence for the presence of pragmatic language disorder associated with autism (Bishop and Norbury, 2002).

Pragmatic skills are essential in identifying children who need extra intercession in the area of pragmatics. It is a socially motivated behavior and involves assessing a child in interaction with a peer or an adult and these observations are difficult to make in a clinical setting (Toe et al., 2020). Children with inadequate pragmatics perform better in a designed environment, like a formal test as compared to a naturalistic situation (Bishop & Adams, 1989).

Senju, Yaguchi, Tojo, and Hasegawa (2003) investigated gaze behavior in a study involving 13 Japanese children with high-functioning autism and 15 typically developing peers, finding that while the typically developing children better understood direct gaze, both groups performed similarly in identifying averted gaze. So, it was noted that children with autism have a problem with processing direct gaze which in turn connects to the failure in establishing normal course of eye contact, which may restrict subsequent development of social and communicative skills.

Dawson et al., (2004) studied social attention impairments in autism and their relations to language ability. The outcomes showed that there was a significant impairment in the domains of social orienting, joint attention, and attention to distress in preschool-age children with autism in connection to mental-age-matched children with developmental delay (DD) and typical development children (TD). The study was carried out with reference to the nonverbal

communication abilities in young children with autism. The nonverbal communicative skills, socio-cognitive abilities, MA and IQ of the children were measured. The early social communication scale (ESCS) (Munday, Hogan, and Doebling, 1996) was used to measure the nonverbal communicative skills. Findings showed that the duration of the ESCS testing did not differ across the four groups. There was a significant difference in the average number of nonverbal communicative acts in four groups and children with autism had pointedly fewer nonverbal communications than the children in the other three groups. The results of the study highlight the need for both early diagnosis and early intervention (Chiang, Soong, Lin, and Rogers (2008).

Chakravarthy (2002) made a diagnostic scale that could help us qualify the nature of ASD and to make an allowance for the profiling of symptoms. Neurodevelopmental disorders may result in pragmatic deficits, but autism spectrum disorder (ASD) and Developmental Language Disorder (DLD) are significant illustrations of communication disorders that affect social communicative and pragmatic language. It is important to consider these different characteristics of children with one of these diagnoses, as there is evidence of a number of children that receive the DLD diagnosis but later develop ASD symptoms during their young years.

Biji (2003) stated that pragmatic skills in children with pervasive developmental disorders (PDD's) include challenges with greeting, labelling, requesting, negation, affirmation, repair, stylistic variation, referential communication, turn taking, closing conversation, eye gaze and proximity. The post-study results showed that children with PDD that struggled with the pragmatic skills and the performances on pragmatic skills including greeting, eye gaze, affirmation, negation, proximity, closing conversation, labelling improved when compared to other skills due to the intervention program during which these aspects established more attention.

Shilpashri (2010) studied pragmatic skills in children with ASD. The study result showed that among the 14 pragmatic skills that were initiated by the caregiver, the response for tagging was mastered only in few children with ASD. The result showed that percentage of response from the children with ASD to a caregiver's initiation of pragmatic skills and on self-initiation was not linear for all pragmatic skills with respect to age, as compared to typically developing performance.

Neurodevelopmental disorders may result in pragmatic deficits, but autism spectrum disorder (ASD) and Developmental Language Disorder (DLD) are significant illustrations of communication disorders that affect social communicative and pragmatic language. It is important to consider these different characteristics of children with one of these diagnoses, as there is evidence of a number of children that receive the DLD diagnosis but later develop ASD symptoms during their young years.

Need For the Study

Pragmatics is the study of the relationship between languages which affects the whole communication. Children with language disorders deviate in pragmatic skills when compared to typical developing children. There is very limited research on pragmatics of the Gujarati language in children with autism.

Aims of This Study

The aim of the present study was to assess the pragmatic skills in Gujarati speaking children with verbal autism by comparing with MA matched TD children in the age range of 4-5 years. We will describe the pragmatic skills provided by 4-5-year-old typically developing children based on caregiver –child interaction, the performance on pragmatic skills by 4-5-year-old mental age children with Autism along with the comparison of the performance of the above two groups

Inclusion Criteria

1. Gujarati as a mother tongue
2. Children who were attending special school for at least 1-2 years and with a MA 4-5 years.
3. No history of any delay in speech, language, cognition and neurological abnormality in normal population.

Methodology

The data was collected by using interaction with toys, pictures, picture description and general conversation. Sample collection was done with reference to the study done by Shilpasree, 2010. In the present study all the subjects were engaged in play/ interactive sessions. The 20-30 minutes of interaction was recorded and later transcribed. Transcribed sample was subjected to analysis for pragmatics in different areas.

Participants

The participant group included 30 children with verbal autism, who express their needs

minimally and occasionally with phrases and simple sentences. 10 neurotypical subjects for the reference group with age group range of 4-5 years were also part of this study. The subjects were attending Gujarati medium schools in and around Ahmedabad. The latter group included 5 males and 5 female subjects with a mean age of 4.5 years.

Parameters of pragmatics skills namely response for eye contact, smiling, response for gaze exchange, response for joint attention, response for request of object and/or action, response for labelling, answering questions, response for negation, response for turn - taking response for conversational repair, response for topic initiation, response for topic maintenance, response for comment/ feedback, response for adding information were assessed with reference to Shilpasree, 2010.

Results and Discussion

Table A shows the presence of 14 pragmatic skills recommended in a recent study on autistic subjects (Shilpashri, 2010). The neurotypical reference group provided a healthy presence of a majority of pragmatic skills. For example, all the subjects responded to eye contact, contributed in gaze exchange, used smiling, responded to requests, labelling and demonstrating attentiveness in the conversation process. The typically expected joint attention skills, turn taking skills were also shown by all the neurotypical participants. In this study fifty percent (50%) or less responses were detected for repairs in conversation and topic initiation and topic maintenance. The pragmatic skills like commenting on feedback and adding information were absent. These results are on track with data reported by Shilpashri (2010) regarding the development of pragmatic skills in Kannada speaking neurotypical children.

The subjects with verbal autism showed a different pattern compared to the neurotypical reference group. For instance, responses to labelling and requests for objects were merely 83% present and were comparable to the reference group. Though, less than 50% of the subjects participated in skills requiring responses to adult stimulus utterances. The score of smiling, gaze exchange and eye contact were also low.

Pragmatic particulars	Group-I	N=10	Group-I	N=30
	(4-5 yrs)	% age	(MA 4-5 yrs)	% age

Eye Contact	9	90	13	43
Smiling	10	100	08	26
Gaze exchange	10	100	15	50
Joint attention	10	100	18	60
Request	10	100	20	66
Labelling	10	100	25	83
Answering Questions	10	100	16	53
Negation	10	100	18	60
Turn taking	10	100	22	73
Conversational repair	06	60	12	40
Topic Initiation	05	50	10	33
Topic maintenance	06	60	12	40
Comment /Feedback	00	00	00	00
Adding Information	00	00	00	00

Table A: Showing percentage score of comparing of pragmatic skills between TD children and autistic children.

In this study subjects with autism showed 83% responses for labelling and 60% responses for joint attention. This is slightly higher than the data presented by Shilpashri 2010. The reason could be due to the nature of the training provided in schools where each of the pragmatic skills were repeatedly focused. Therefore, the nature of training in speech and language therapy and special education sessions may influence the development of pragmatic skills along with parent's behavior and their support towards child development in all areas.

Summary and Conclusion

Language is a pillar to means of communication and communication almost always takes place within some sort of social framework. Pragmatics is a branch of linguistics that explores the ways language is tied to the context in which it is used. Children with language disorders having deviations in pragmatic skills compared to TD children. It is also probable that the pragmatic skill variations will affect the development of other components of language also. The current study indicates that focus should be given to improve pragmatic skills in children with autism during therapeutic management.

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An Investigative Study of the Afflictions of Immigrant Women in Jhumpa Lahiri's *Interpreter of Maladies*

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Abstract

This research article focuses on the portrayal of the state of mind of immigrant women in Jhumpa Lahiri's first literary work *Interpreter of Maladies*. *Interpreter of Maladies* is a collection of short stories which show the talent of Lahiri. She has beautifully handled her characters to express her ideas in an attractive manner. Lahiri's focus is mostly on the role of women in society and their mental and physical sufferings for their betterment. Her stories are mainly around women, and she has given much importance to women characters. Her selections of such a woman character are remarkable.

Keywords: immigrant, culture, women, delineation, estrangement

Introduction

One of India's most prominent story tellers is Jhumpa Lahiri. Her contributions to English literature are appreciated by all. Lahiri's first literary work is *Interpreter of Maladies*, a collection of short stories which show the talent of Lahiri. Her stories are mainly around women and her characters add much beauty to her stories that makes them eccentric. The women characters in her stories are both ordinary and extraordinary, very simple and complex and strong and weak – they

represent every aspect of life. Lahiri writes primarily about Indian immigrant women and their sufferings in assimilating themselves into the American culture. Few of her stories show that no matter in which country they live, the sufferings and struggles of all women are same. These sufferings and struggles are illustrated by Lahiri in her stories.

Lahiri's Characters

She wrote about three categories of women in her stories. They are, Indian immigrant women in the United States of America, women struggling for a better life in India and women struggling within themselves. As the United States of America is a medley of all the cultures, all the immigrants are forced to adopt themselves into these cultures as soon as possible. But people from various countries find it very difficult to assimilate themselves with an alien culture. They cannot get rid of their natural way of life. This is really a very big problem for immigrant women. They are struggling between their own culture and the culture one is expected to fit into. Jhumpa Lahiri has portrayed all these sufferings and struggles very clearly in her collection of stories.

Lahiri's story *A Temporary Matter* is about the Indian immigrant husband and wife Shukumar and Shoba. The entire story revolves around the loss of their child. Shoba is psychologically affected by her child's death. Shoba's mental instability is very clearly represented by Lahiri. Shoba's problem is her inability to control her anger and frustration of losing her child. So, she leaves her husband and decides to live a lonely life. Thus, she as she loses both control over herself and her surroundings, she also gains a different kind of control in deciding how she will live her life.

One of Lahiri's most important women characters is Mrs. Das. Mrs. Das embodies stereotypically American flaws, such as disrespect for other countries and cultures and badly behaved children. This is a great example of how Lahiri represents conflict so well. The author is able to vividly describe the agony and the pain of namelessness of the character Mrs. Das.

In her story *A Real Durwan* the main character is Boornima. She is sixty-four years old immigrant woman from a Bengali family. She lost her entire wealth and now works as a sweeper. Boornima is destitute and lives at the mercy of others. She belongs to the category of women struggling for betterment in India. She used to sleep on wet newspapers in someone's portico. The woman does not need our sympathy but wants to be treated as an equal. Here, Lahiri paints a realistic picture of a struggling middleclass woman perfectly.

Bibi Halder is another woman character. Bibi suffers from an unknown disease and so

everyone leaves her alone in a room. Doctors try to cure her but no one can restore health. She is kept in a dark room for nearly three decades. Society treats her as a sexual object, but also as a decrepit non person. Not even her own relatives care for her, and Bibi feels lonely. Through this character Lahiri depicts that people can be isolated in their own land if the people indifferent to them.

Key Themes

The women characters in *The Interpreter of Maladies* have some similarities and contradiction with each other. The struggles of being an outcaste and being poor is communicated through the characters in a variety of ways. Each character in the stories is unique and they deal with each of their problems in different ways. Her stories offer a wonderful variety of experience. Lahiri deals with dislocation, a sense of loneliness and the pangs of estrangement suffered by exiled Indians.

Most of Lahiri's writings hang between two identities. She wants to convey the canvas of Indian as well as immigrant life. Jhumpa Lahiri's literary works offer an impressive exploration of the human conditions. Lahiri's writings celebrate womanhood and femininity not as a universal experience, but as a differing and layered way of experiencing life.

In Lahiri's works, there are two types of characters in nature. They are both fantastic and appealing. Many of her characters described in the diaspora hold onto role definitions that American readers find as stereotypes of Indian culture. These generalized roles and sometimes their reversal act as literary tools that add to her most sympathetic characters and her most poignant story lines.

Lahiri's married characters are often in confusion regarding their marriage roles and conduct within and outside the home. After giving birth to a child, Indian women are completely domesticated. Many of Lahiri's characters in diaspora, cope with new and sometimes shockingly different stereotypes in their new homelands. Sexuality plays an important part in her fiction. She provides insight into diasporic experiences through stories of Indians in America and the profound nature of the immigrant experience.

Conclusion

Lahiri's women characters deviate from traditional misconceptions of Indian culture and take a firm hold of their individuality and freedom. They are not bound by any limitation. Through these characters, Lahiri illustrates that women cannot be categorized into one group. Their roles

are ever changing with the time and environment they live in, giving them the voice needed in today's society. *Interpreter of Maladies* thus pays a great deal of attention to Indian women and the different roles they undertake in their respective societies. Thus, Lahiri's approach to delineation of women characters is done through a unique perspective.

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The Structure of Nouns and Noun Phrases

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Abstract

A noun is the name of a person, place, animal or things. A noun can be preposed for the categories gender, number and case whereas a noun phrase consists of a head noun, which may be followed by one or more modifiers. Trask (1997) “A noun phrase is an important syntactic category. The most obvious characteristic of a noun phrase is that it can perform certain functions in a sentence, such as acting as a subject, direct object or the object of a preposition” (p 154). This article is a humble attempt to describe the structure of the noun phrase in the Rongmei Naga language spoken in Assam, Manipur and Nagaland.

Keywords: Noun Phrase, Rongmei, Modifiers, Head

1.0. Introduction

A noun phrase generally consists of a head noun and modifiers. Givón (2001) has mentioned that numerals, adjectives, demonstratives, genitives, articles and relative clauses are noun modifiers and reveal hierarchical orderings” (p 2). Such noun modifiers may appear either after or before the head noun. The noun phrase which is composed of two or more head nouns linked by a co-ordinating connective is called co-ordinate noun phrase. A noun phrase formed by apposition or juxtaposition, called the appositive noun phrase may coordinate or attributive. This article articulates the structure of noun phrases in Rongmei language.

1.1. Who are the Rongmei Naga Tribe?

Among the inhabitants of Northeast India, the colorful Rongmei tribe of Naga captures a very special place in the part of the total population. They constitute a small linguistic community in this region (K.S.Singh, 1994). Rongmei Naga was formerly known as Kabui Naga. The British call them ‘Kacha Naga’ and Lushai called them ‘Milong’.” (p 173). They were considered as the one of the aborigines of the Northeast. The total population of Rongmei is given in the census of

India in the name of Kabui at about 94,758 (census 2001).

1.2. Fieldwork

The present paper is the outcome of the author's field visit in the month of December, 2018 in the different villages of Northeast India. However, most of the data was collected from Cachar District of Assam where a large number of Rongmei population was noticed. The secondary data on Rongmei is too scanty and taxonomic. The primary data on noun phrases were collected during fieldwork from both the sexes, i.e., male and female. The author has also concentrated on people from different age groups, i.e., younger, elder and aged people.

2.0. Noun and Noun Phrase

2.1. Noun

Semantically, noun can be defined as a name of place, a person, an idea or name of a thing. Nouns include terms referring to flora and fauna, to parts of the bodies of humans and of other animals; parts of trees, to age and sex groups, kinship terms and so on. A noun in Rongmei may be defined as a class of words that can be followed for the categories of gender, number and case while the pronouns inflect only for cases. Morphologically, the structure of nouns can be categorized into three types: (i) Basic Nouns (ii) Compound Nouns (iii) Derived Nouns.

2.1.1. Basic Noun

Nouns, which are not derived from any other word classes, are called basic nouns. Most of the basic nouns in Rongmei are monomorphemic. The following are some of the basic nouns found in Rongmei Naga spoken in Northeast India:

<i>či</i>	'lip'
<i>num</i>	'forest'
<i>bi</i>	'clay'
<i>zau</i>	'wine'

2.1.2. Compound nouns

Compound nouns in Rongmei Naga are formed by the juxtaposition of two independent morphemes. Most of the compound nouns in the language consist of Noun+ Noun and Noun+ Adjectives as shown in following examples:

Noun + Noun

<i>kai-k^həm</i>	'door'
----------------------------	--------

[kai ‘house’ + k^həm ‘block’]

tai-su

‘Chili’

[tai ‘saliva’ + su ‘pain’]

Noun + Verb Compound

pi-run

‘Cap’

[pi ‘head’ + run ‘wear’]

mik-run

‘Spectacle’

[mik ‘eye’ + run ‘wear’]

2.1.3. Derived nouns

Derived nouns are mainly derived from the verb by suffixing nominalizer *-mai* followed by male suffix *-pu* either female indicator suffix *-pui* to the verb root. Some of the derived nouns in Rongmei Naga are shown below:

ləm ‘dance’

ləm- *mei-pu* ‘ male dancer’

ləm ‘dance’

ləm- *mei-pui* ‘ female dancer’

tali ‘play’

tali -*mei* -pu ‘male player’

tali ‘play’

tali -*mei* -pui ‘female player’

2.2. Noun Phrase

In Rongmei noun phrase consist of the head noun, which may be followed by one or more modifiers. Generally modifier may be an adjectival, a demonstrative, a possessive, a numeral or a quantifier. Consider the following examples

2.2.1. Noun plus Adjectival

The adjectivals are the stative verbs followed by a nominalizer *-mai*. The adjectival in Rongmei Naga follows the noun generally.

tuna haugaimai

[[*tuna*] N [*haugai-mai*] ADVJ] NP

girl be beauty-NMLZ

“beautiful girl”

si duimai

[[*si*] N [*dui-mai*] ADVJ] NP

dog be small-NMLZ

small dog'

2.2.2. Noun plus Demonstrative

In Rongmei noun phrase may consist of head noun plus demonstrative in which demonstrative root always precedes the head noun as seen in the following:

mihai si

[[*mhai*]DEM [*si*] N] NP

this dog

'This dog'

mitai mansai

[[*mitai*]DEM [*mansai*] N]NP

that man

'That man'

2.2.3. Noun phrase with quantifier

In Rongmei, the noun phrase may consist of head noun and quantifier in which the quantifier usually follows the head noun, and the structure of such construction is [NOUN + QUANTIFIER] as illustrated below:

kai paina

[[*kai*]N [*paina*]QUANT]NP

dog many

'Many dogs'

kai paina

[[*inruai*]N [*katina*]QUANT]NP

bird few

‘Few birds’

2.2.4. Noun phrase with numerals

The noun phrase in Rongmei may also consist of head noun plus numerals in which the numeral always follows the head noun and the structure of such construction is [NOUN+ NUMERAL].

guak ək^hat

[[*guak*]N [*ək^hat*]NUM]NP

pig one

‘One pig’

kai kənai

[[*kai*]N [*kənai*]NUM]NP

house two

‘Two houses’

When the numeral is present in the noun phrase then the plural marker cannot be used. Consider the following examples.

luŋsimeɪ-guai

[[*luŋsimeɪ*]N [*guai*]PL]NP

poor man PL

‘Poor men’

luŋsimeɪ kat^hum

[[*luŋsimeɪ*]N [*kat^hum*]NUM]NP

poor man three

‘Three poor men’

2.2.5. Noun phrase with adjectival and specifier

In Rongmei, in a noun phrase consisting of head noun plus adjectival and specifier where both adjectival and specifier precede the head noun. The structure of such noun phrase construction is [SPECIFIER+ ADJECTIVAL+ NOUN].

paina daimai k^ha

[[*paina*]SPEC [*dai-mai*]ADJV [*k^ha*]N]NP

very be.big-NMLZ fish

‘Very big fish’

paina duimai duiriaŋ

[[*paina*]SPEC [*dai-mai*]ADJV [*duiriaŋ*]N]NP

very be.small-NMLZ river

‘Very small river’

2.2.6. Noun phrase with postpositions

Noun phrase with postpositions are very common in Rongmei and many other Tibeto-Burman languages of South Asia. The structure of such construction is: [NOUN-POSTPOSITION-LOCATIVE] as illustrated in the following examples:

kait^hiən deŋk^hau

[[*kaithiən*]N [*deŋ*] POST-[*k^hau*]LOC]NP

market near-LOC

‘Near the market’

gari luŋk^hau

[[*gari*]N [*luŋ*]POST-[*k^hau*]LOC]NP

car inside-LOC

‘Inside the car’

2.3. Co-ordinate Noun phrase

Co-ordinate noun phrase are formed by joining two or more noun phrase. These head nouns are linked by a co-coordinator, which may be either a connective or a disjunctive. *le* functions as a connective and *ni* as a disjunctive. When the phrase is composed of more than two nouns the co-ordinators are added after the penultimate noun.

gan le tuna

[[*gan*] NP [*le*] CONJ [*tuna*] NP] NP

boy and girl

‘Boy and girl’

naŋ le ai

[[<i>naŋ</i>] NP	[<i>le</i>] CONJ	[<i>ai</i>] NP] NP
you	and	I
‘You and I’		

In the last example, the co-ordinate noun phrase is in attributive relationship with the head noun.

naŋ ni ai

[[<i>naŋ</i>] NP	[<i>ni</i>] DISJ	[<i>ai</i>] NP] NP
you	or	I
‘You or I’		

rui ni k^ha

[[<i>rui</i>] NP	[<i>ni</i>] DISJ	[<i>k^ha</i>] NP] NP
snake	or	fish
‘Snake or fish’		

3.0. Conclusion

The noun phrase may consist of a head noun and the optional elements that modify the head noun. When the numerals adjective and another modifier are present, the modifier follows the head noun followed by the numeral adjective. If the case marker is present it occurs at the end of the noun phrase. But the word order is not rigid in a noun phrase; the modifier can precede the head, though it is not common. The first element in a noun phrase gets more emphasis than the other elements. The noun phrase is potent in Rongmei because the noun phrase is a quintessential part of every sentence and it can include any number of other phrases within its structure.

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Abbreviations

ADVJ	Adjectival
CONJ	Conjunctive
DEM	Demonstrative

DISJ	Disjunctive
LOC	Locative marker
N	Noun
NMLZ	Nominalizer
NP	Noun Phrase
NUM	Numeral
QUANT	Quantifier
PL	Plural
POST	Postposition

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Phonological Process in Typical Children Speaking Tulu

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Abstract

The present study aimed to analyse the occurrence and developmental progression of phonological processes in typically developing Tulu-speaking children aged 3.0 to 6.0 years. A total of 45 children were selected from preschools and primary schools in Coastal Karnataka. Speech samples were recorded during natural conversations and analysed for phonological simplification patterns. The results showed that younger children (3.0–3.11 years) frequently exhibited processes such as reduplication, stopping, fronting, cluster reduction, and final consonant deletion. These processes gradually declined with age and were largely absent by 5.0–5.11 years, except for cluster reduction which persisted in some cases. The findings were statistically significant and aligned with previous studies in Indian languages, emphasizing the importance of age-related phonological milestones. This study underlines the need for developing normative data in Tulu to support accurate clinical evaluation of speech development.

Keywords: Phonological processes, Tulu language, speech development, age-related trends, cluster reduction, Indian children, speech-language assessment.

Introduction

Phonology is a branch of linguistics that focuses on how speech sounds are structured and function

within different languages (Norquist, 2019). Spoken language may seem like a continuous stream of sound; the human brain naturally separates it into distinct units called phonemes. Each language follows its own rules for combining and using these sounds. As children grow, they gradually learn to understand and use these sounds accurately through a natural process of speech development.

Speech development in children frequently exhibits phonological processes and predictable patterns of sound simplification that facilitate word production. For example, a child may say “pane” for “plane” (cluster reduction) or “tat” for “cat” (fronting). These patterns are viewed as a normal part of speech acquisition and reflect strategies children use to manage the articulatory and cognitive demands of spoken language (Ingram, 1989; Dodd, Hua, Crosbie, Holm & Ozanne, 2003).

Phonological processes usually follow predictable patterns and tend to disappear as the child matures and gains better control over speech. However, if they continue beyond the expected age, they may indicate a phonological disorder, which is a type of speech sound disorder (SSD). Children with such difficulties may be hard to understand, and their speech may affect their ability to communicate clearly (Shriberg, Tomblin & McSweeny, 1994; Dodd, Hua, Crosbie, Holm & Ozanne, 2003).

Speech sound disorders are common in childhood and can have an impact on communication, learning and social interaction (Harrison, 2009). Children with phonological disorders may have challenges in hearing, processing or organizing sounds in the correct way. Unlike articulation disorders, which usually involve a few isolated sound errors, phonological disorders affect broader patterns across speech (International Expert Panel on Multilingual Children’s Speech, 2012).

Phonological processes are observed in many languages, their types and the age by which they are eliminated can vary widely. This is due to differences in each language’s sound system, syllable structures and phonological rules (Bernhardt & Stemberger, 1998). Therefore, it is essential to study phonological development in the context of the specific language a child speaks.

Tulu, a South Dravidian language spoken by over two million people in the coastal regions of Karnataka and northern Kerala, has a rich oral tradition and a distinct phonological system including sounds such as retroflexes and aspirated consonants. Despite its large number of

speakers, very little scientific research has explored how phonological development unfolds in Tulu-speaking children.

A substantial body of research has described as Phonological process pattern in children across various linguistic backgrounds as in Kannada (Bhat,1983), Marathi (Desai, 1986) and Malayalam-English bilinguals (Razak,2015) but little is known about how these patterns manifest in the Tulu language. The present study offers insight into how these processes occur within the linguistic context and helps to distinguish typical developmental patterns shaped by language specific influences.

Review of Literature

Phonological processes are systematic, rule-governed simplifications that young children apply to adult speech forms as they develop their speech sound systems. These processes are not random errors but reflect natural strategies that children use to manage the complex phonological demands of adult language while their motor planning, articulatory precision, and auditory discrimination skills are still maturing (Ingram, 1989).

Phonological processes do not indicate a disorder; instead, their presence during early childhood is a hallmark of typical speech development. As children grow, their use of these processes typically diminishes, giving way to more accurate, adult-like speech patterns (Shriberg & Kent, 2003).

The study of phonological processes provides important insights into a child's underlying phonological system and the typical developmental trajectory of speech acquisition. It also serves as a critical diagnostic tool in distinguishing between normal developmental variations and speech sound disorders

Phonological processes can be broadly categorized into the following types:

1. Substitution Processes

These involve replacing one class of sounds with another that is easier to articulate. Examples include:

- a) **Fronting:** Substituting a sound produced at the back of the mouth with one produced at the front.

Example: “tat” for “cat”

Example: “tori” for “kori”

- b) **Stopping:** Replacing a fricative or affricate with a stop consonant.

Example: “tun” for “sun”, “do” for “zoo”

Example: “tale” for “shale”

- c) **Gliding:** Replacing liquids (/l/, /r/) with glides (/w/, /j/).

Example: “wabbit” for “rabbit”

Example: “maypu” for “malpu”

- d) **Deaffrication:** Replacing an affricate (/tʃ/, /dʒ/) with a fricative or stop.

Example: “ship” for “chip”

Example: “shikamma” for “chickamma”

2. Omission or Deletion Processes

These involve omitting one or more sounds, often to simplify syllable structure:

- a) **Final Consonant Deletion:** Omission of the final consonant in a word.

Example: “ca” for “cat”

Example: “bapi” for “barpini”

- b) **Initial Consonant Deletion** (less typical): Omission of the initial consonant.

Example: “at” for “cat”

Example: “an” for “yan ”

- c) **Syllable Deletion (Weak Syllable Deletion):** Omission of an unstressed syllable.

Example: “nana” for “banana”

Example: “mapuṇṇu” for “malpuṇṇu ”

3. Assimilation Processes

In these processes, one sound becomes similar to another sound in the word due to the influence of surrounding sounds:

- a) **Velar Assimilation:** “gog” for “dog”, “tura” for “dura”
- b) **Labial Assimilation:** “bub” for “bus”, “babe” for “bale”
- c) **Nasal Assimilation:** “mom” for “mop”, “mobe” for “mode”

Assimilation may be progressive, regressive, or reciprocal, depending on the position and direction of influence.

4. Syllable Structure Processes

These affect the overall shape or structure of the syllable:

- a) **Cluster Reduction:** Simplifying a consonant cluster into a single consonant.
Example: “pane” for “plane”

Example: “kula” for “kudla”

- b) **Reduplication:** Repeating a syllable in the word.
Example: “wawa” for “water”

Example: “nene” for “neer”

- c) **Epenthesis:** Inserting an extra sound, typically a vowel, within a word.
Example: “puhlay” for “play”

Example: “diriishti” for “dirishti”

5. Other Processes

- a) Metathesis: Reversing the order of sounds.

Example: “pasghetti” for “spaghetti”

Example: “loko” for “kole”

- b) Coalescence: Two sounds merge to form one.

Example: “foon” for “spoon” (fusion of /s/ and /p/ into /f/)

Example: “male” for “bale”

Children undergo a critical period in phonological development between the ages of 3 and 6 where they gradually suppress simplification patterns known as phonological processes. These processes are a natural part of early speech, helping children simplify complex adult sounds until their articulatory precision improves.

For instance, fronting the replacement of sounds made at the back of the mouth (like /k/ and /g/) with front sounds (such as /t/ and /d/) usually fades by about 3.5 years of age. Final consonant deletion, which involves omitting the last consonant in words (e.g., “ca” for “cat”), is typically resolved between ages 3 and 4.

More complex processes like cluster reduction, where one consonant is omitted from a group of consonants (e.g., “pane” for “plane”), tend to last longer but are generally suppressed by ages 5 to 6. These predictable stages of phonological process suppression provide important developmental milestones, aiding clinicians and researchers in distinguishing typical speech development from possible speech delays or disorders.

Western Studies

Hodson and Paden (1981) explored the phonological processes most commonly associated with unintelligible speech in children, such as cluster reduction, syllable deletion, and stopping. Their study highlighted how these patterns significantly impact a child's ability to be understood and stressed the importance of prioritizing them in intervention. This research played a key role in shaping the Cycles Approach, a widely adopted method in speech-language therapy aimed at gradually improving speech intelligibility.

Stoel-Gammon and Dunn (1985) did a foundational study that detailed typical and disordered phonological development in young children. Their work identified common phonological processes such as stopping, fronting, and cluster reduction, and established typical ages at which these processes are usually suppressed. This study remains influential in providing benchmarks for normal speech sound development and aiding clinicians in distinguishing between typical variation and speech disorders.

Grunwell (1987) provided a comprehensive clinical framework for assessing and classifying phonological processes and speech sound disorders in children. His work systematically categorized common error patterns such as substitution, assimilation, and syllable structure processes, offering clear criteria for identifying phonological impairments. Grunwell emphasized the importance of understanding both the nature and function of these processes within a child's speech system, which has greatly influenced diagnostic and intervention approaches in speech pathology. His frameworks remain widely used by clinicians to guide assessment, track progress, and tailor treatment plans for children with phonological difficulties.

Roberts, Burchinal and Footo (1990) conducted a longitudinal study examining the decline of phonological processes in typically developing children aged 2½ to 8 years. Their findings showed that most common processes such as final consonant deletion, stopping, and fronting significantly declined by age 4, while others like gliding and cluster reduction persisted slightly longer. The study provided valuable normative data, highlighting typical developmental timelines and helping to differentiate between normal and disordered phonological development.

Dodd, Holm, Hua and Crosbie (2003) conducted a comprehensive normative study analysing speech samples from 684 British English-speaking children aged 3 to 6 years. The study provided extensive data on the typical ages at which individual speech sounds are acquired and the corresponding suppression of common phonological error patterns such as final consonant deletion, cluster reduction, and stopping. Their findings offer valuable benchmarks for understanding typical phonological development and serve as critical reference points for clinicians assessing speech sound disorders. This large-scale study has contributed significantly to the establishment of age-related norms that inform both diagnosis and intervention strategies in paediatric speech pathology.

Gildersleeve-Neumann, Kester, Davis and Peña (2008) investigated the speech sound development of preschool-aged children growing up in bilingual English-Spanish environments. Their study revealed that bilingual children exhibited distinct patterns of phonological development compared to their monolingual peers. Specifically, these children showed variations in the acquisition of consonant clusters and phoneme accuracy, reflecting the influence of exposure to two languages on their phonological systems. The findings underscore the need for clinicians to consider bilingual language backgrounds when assessing phonological development and tailoring intervention strategies, as bilingualism can affect typical developmental timelines and error patterns.

Leenke van Haaften, Sanne Diepeveen, Lenie van den Engel-Hoek, Bert de Swart and Ben Maassen (2020) cross-sectional study involving Dutch-speaking children aged 2 to 7 years to establish normative data on the suppression of phonological processes and milestones in speech sound development. The study identified typical ages at which common phonological error patterns, such as cluster reduction and final consonant deletion, naturally decline in this population. Their findings contribute important cross-linguistic insights into phonological development, emphasizing both universal and language-specific patterns. This research aids clinicians in differentiating between typical phonological development and speech sound disorders by providing culturally relevant benchmarks.

Fernández-Otoya, Raposo-Rivas, and Halabi-Echeverry (2022) systematically reviewed the use of technology-based interventions to enhance phonological awareness in preschool children. Their analysis highlighted innovative approaches, including interactive software and digital games, that effectively support the development of phonological skills such as sound discrimination, blending, and segmentation. The review emphasized that technology can provide engaging and personalized learning experiences, making it a promising tool for early intervention aimed at reducing phonological errors and promoting speech sound development. This study underscores the growing role of digital resources in advancing phonological therapy and early childhood education.

Tambyraja, Farquharson, and Justice (2023) investigated phonological processing skills, including phonological awareness and rapid automatized naming, in young children to establish benchmarks for typical development and identify markers of speech and language disorders. Their study demonstrated that strong phonological processing abilities are closely linked to successful speech

sound acquisition and early literacy skills. The findings provide valuable normative data that can help clinicians distinguish between typical phonological development and children at risk for phonological disorders, informing timely and targeted intervention strategies.

Indian Studies

Bhat (1983) in her earliest studies on phonological development in Kannada-speaking children. The research detailed common phonological simplifications, such as cluster reduction and final consonant deletion, and documented the typical ages at which these processes are suppressed. This pioneering work provided foundational normative data for phonological development in a South Indian language, serving as a key reference for clinicians and researchers working with Kannada-speaking populations.

Desai (1986) investigated phonological process patterns in Marathi-speaking children, identifying common simplifications such as stopping and cluster reduction. The study highlighted the importance of developing language-specific normative data to accurately assess and treat phonological disorders. Desai's work underscored that phonological development varies across languages, reinforcing the need for culturally and linguistically appropriate clinical assessment tools.

Gupta and Sharma (1990) studied phonological development in Hindi-speaking preschool children, documenting common processes such as final consonant deletion and fronting. Their research provided early normative benchmarks for typical speech sound acquisition in North Indian languages, contributing valuable data to support accurate diagnosis and intervention for phonological disorders in Hindi-speaking children.

Kulkarni (1992) examined speech sound acquisition and phonological error patterns in Gujarati-speaking children. The study provided detailed timelines for the suppression of common phonological processes, such as cluster reduction and stopping, and discussed their clinical implications for speech therapy. This work contributed valuable language-specific data essential for assessing and treating phonological disorders in Gujarati-speaking populations.

Iyer and Rao (1995) analysed phonological processes in Tamil-speaking children, focusing on

syllable structure processes and sound substitutions. Their study contributed important normative data on the typical ages of suppression for various phonological processes in Tamil, providing a valuable resource for clinicians assessing speech development and disorders in this linguistic group.

Reddy and Nair (2014) examined phonological processes in Malayalam-speaking children aged 3 to 6 years. Their study identified final consonant deletion and fronting as the most common phonological processes and documented the typical ages at which these processes are suppressed. The findings provide essential normative data that aid clinicians in diagnosing and planning intervention for speech sound disorders in Malayalam-speaking children.

Bailoor, Rai, and Krishnan (2015) investigated the development of phonological processes in typically developing 3- to 4-year-old bilingual children in India. The study focused on Kannada-English bilinguals and identified 14 phonological processes, including fronting, cluster reduction, and final consonant deletion. The researchers found that bilingual children exhibited fewer phonological processes compared to monolingual peers, suggesting that bilingualism may influence the suppression of these processes. This study provides valuable insights into the phonological development of bilingual children in the Indian context, highlighting the need for language-specific norms in speech-language assessment and intervention.

Patil and Kulkarni (2016) studied phonological development of Marathi-speaking children aged 2 to 5 years. The study identified common phonological processes including gliding, stopping, and cluster reduction, with most processes typically suppressed by age 5. This research contributed valuable normative data crucial for clinical assessment and intervention in Marathi-speaking populations.

Sundaresan (2017) investigated phonological process patterns in typically developing Tamil-speaking preschool children aged 3 to 5 years. The study identified common processes such as syllable reduction and stopping, noting that these are generally suppressed by age 5. This research provided important normative data to support clinical assessment and intervention for Tamil-speaking children with speech sound disorders.

Kumar and Verma (2019) focused on phonological acquisition in Hindi-English bilingual children

aged 3 to 6 years. Their study revealed that bilingual children exhibited phonological process patterns influenced by both languages, which sometimes led to delays in the suppression of certain processes compared to monolingual peers. These findings highlight the complexity of bilingual phonological development and underscore the importance of considering both languages when assessing speech sound development in bilingual children.

Bailoor, Rai, and Krishnan (2020) conducted a study on Kannada–English bilingual children aged 3 to 4 years, documenting 14 phonological processes, including fronting, cluster reduction, and final consonant deletion. The study found that while these processes were common in early bilingual speech, many were less frequent than in monolingual peers, indicating that bilingualism may accelerate phonological development among typically developing children. This research aligns well with the patterns observed in the present study and highlights the influence of bilingual exposure on phonological process suppression.

Chaudhari and Deshpande (2020) assessed phonological processes in Gujarati-speaking children aged 3 to 7 years. Their study detailed the prevalence and suppression timelines of common phonological errors such as syllable deletion and stopping. The research provided important normative developmental data to support accurate clinical assessment and intervention for speech sound disorders in Gujarati-speaking populations.

Dhinakaran and Karthikeyan (2021) analysed phonological processes in Tamil-speaking children with cochlear implants, identifying 26 different processes. Depalatalization emerged as the most frequent phonological error. The study highlighted the importance of specialized, targeted speech therapy to address the unique phonological development challenges faced by children with hearing impairments using cochlear implants.

Investigating phonological processes in typical Tulu-speaking children is vital both theoretically and clinically. Since language acquisition is influenced by the phonetic and phonological characteristics of a child’s native language, developmental patterns in Tulu-speaking children may differ substantially from those observed in languages with different sound inventories and phonological rules (Kale, 2007).

Given India’s linguistic diversity and the scarcity of research on minority languages like Tulu, this

study aims to address a significant gap by providing detailed documentation of phonological development in Tulu children. The findings will support the creation of culturally sensitive assessment tools and intervention strategies, thereby improve clinical practice and contribute to the preservation and vitality of the Tulu language and its cultural heritage.

Currently, there is a notable scarcity of research on phonological development in Tulu-speaking children. Most studies on phonological processes have focused on widely spoken languages such as English, Hindi, Kannada, and Tamil, leaving minority languages like Tulu largely unexplored (Bhat, 2010; Kale, 2007).

Clinicians will be equipped with normative data specific to Tulu, enabling more accurate differentiation between typical developmental variations and speech sound disorders, which reduces the risk of misdiagnosis and promotes timely, appropriate interventions (Bernstein & Ratner, 2013). Educators involved in early childhood and language development programs can use these findings to better support language acquisition in Tulu-speaking children through tailored instructional strategies that align with natural developmental patterns (McLeod & Baker, 2017).

For researchers, this study fills a critical gap in literature on underrepresented languages, providing a foundation for comparative studies and advancing knowledge of linguistic diversity in phonological development (Gierut, 1998). Ultimately, the insights gained will facilitate culturally and linguistically informed assessment and intervention approaches, fostering effective communication outcomes and supporting the linguistic heritage of the Tulu community.

By systematically examining phonological processes in Tulu-speaking children, this study not only addresses a critical gap in developmental speech research but also contributes to the advancement of culturally responsive clinical practices. The insights gained will lay the groundwork for developing language-specific assessment tools and interventions, ultimately supporting accurate diagnosis, effective therapy, and the linguistic and cultural preservation of the Tulu-speaking community

Need of the Study

The study focuses on identifying the phonological processes used by typical children speaking

Tulu language aged 3 to 6 years, a period for speech and language development. Tulu, a Dravidian language spoken by over a million people in coastal Karnataka and parts of Kerala, remains critically underrepresented in linguistic and clinical research. Despite its rich oral tradition and distinct phonological system, there is a lack of empirical data on how speech develops in Tulu-speaking children. As a result, speech-language pathologists working with this population are often forced to rely on developmental norms from other languages, which may not reflect the specific phonological patterns of Tulu.

The present study was undertaken to bridge that gap. By documenting the types and patterns of phonological processes in young Tulu speakers, the research provides essential language-specific information that can aid in the accurate identification of speech sound disorders.

It also contributes to the broader goal of promoting linguistic diversity in clinical practice by bringing attention to underrepresented languages like Tulu, ensuring they are not only acknowledged, but also accurately understood, valued and supported in both research and clinical decision making.

Methodology

Aim

The aim of the present study was to analyse the phonological processes for spontaneous speech among typical children speaking Tulu

Participants

The study involved 45 typical children aged 3 to 6 years who are native speakers of Tulu. Participants were recruited from [Coastal Karnataka region], where Tulu is widely spoken

For the purpose of developmental comparison, the participants were divided into three age groups with 15 children in each group as follows:

- Group 1: 3.0 to 3.11 years
- Group 2: 4.0 to 4.11 years

- Group 3: 5.0 to 5.11 years

Inclusion Criteria

- Children aged between 3 and 6 years.
- Native Tulu speakers with Tulu as the primary language at home and in daily communication.
- Typical children with no history or diagnosis of speech, language, hearing, cognitive, or neurological impairments.
- Written informed consent obtained from parents or guardians.

Exclusion Criteria

- Non-native or non-primary Tulu speakers.
- Children diagnosed with or suspected of have speech, language, hearing, cognitive, or neurological disorders.
- Children currently undergoing speech or language therapy.

Test Environment

Data collection took place in naturalistic, familiar environments such as the child's home or preschool settings to encourage authentic and comfortable communication. The recording sessions were conducted in quiet rooms with minimal background noise to ensure clarity of the speech samples. A familiar adult (parent, caregiver, or trusted facilitator) engaged the child in casual conversation to elicit spontaneous speech without using any structured tasks, pictures or prompts.

Procedure:

After obtaining written informed consent from parents or guardians, spontaneous speech samples were collected from each child in a familiar and comfortable setting, such as their home or preschool. This environment helped ensure that the children felt at ease during the recording sessions.

Each child participated in a 5-to-10-minute session, engaging in natural, informal conversations with a familiar adult. All interactions were conducted entirely in Tulu to capture authentic language use.

No structured tasks, prompts or visual aids were used during the sessions. This approach ensured that the speech produced was spontaneous and representative of the children's everyday language.

The conversations were audio recorded using a high-quality digital recorder to capture clear and natural speech. These recordings were then carefully listened to and analysed to identify and document the phonological processes present in the speech of children across the three age groups.

Statistical Analysis

The collected data analysed using IBM SPSS Statistics for Windows, Version 23.0. Quantitative variables were described using mean, standard deviation (SD), and 95% confidence intervals (CI) to summarize central tendency and variability. Group comparisons for quantitative data were performed using Analysis of Variance (ANOVA), followed by the Bonferroni post hoc test to assess pairwise differences where applicable. For categorical variables, the Chi-square test was employed to evaluate associations between variables.

Result and Discussion

The present study aimed to analyze the phonological process in typical children speaking Tulu language. The results obtained are discussed below.

Table 4.1:

Showing Phonological Processes in typical Children Aged 3.0 to 3.11 Years

PHONOLOGICAL PROCESS	3.0 to 3.11 years	
	Count	Row N %

Fronting	15	100.0%
Stopping:	15	100.0%
Gliding:	5	33.3%
Deaffrication	14	93.3%
Final Consonant Deletion	10	66.7%
Initial Consonant Deletion	1	6.7%
Syllable Deletion (Weak Syllable Deletion):	12	80.0%
Velar Assimilation	4	26.7%
Labial Assimilation	3	20.0%
Nasal Assimilation	15	100.0%
Cluster Reduction	15	100.0%
Reduplication:	10	66.7%

From the above table it's clear that fronting, stopping, nasal assimilation and cluster reduction was 100% seen in children. Deaffrication (93.3%) and syllable deletion (80%) were also highly prevalent with Final consonant deletion and reduplication of 66.7%, while gliding was 33.3%. Less frequent processes included velar assimilation (26.7%) and labial assimilation (20%). Initial consonant deletion was rare and occurring in 6.7% children. These findings reflect typical phonological development, where most children still rely on simplification rules to produce words more easily.

Table 4.2:

Showing Phonological Processes in typical Children Aged 4.0 to 4.11 Years

PHONOLOGICAL PROCESS	4.0 to 4.11 years	
	Count	Row N %
Fronting	2	13.3%
Stopping:	15	100.0%
Gliding:	15	100.0%
Deaffrication	2	13.3%
Final Consonant Deletion	0	0.0%
Initial Consonant Deletion	0	0.0%
Syllable Deletion (Weak Syllable Deletion):	3	20.0%
Velar Assimilation	0	0.0%
Labial Assimilation	0	0.0%
Nasal Assimilation	0	0.0%
Cluster Reduction	15	100.0%
Reduplication:	0	0.0%

Table 4.2 shows that, it is clear that stopping, gliding, and cluster reduction was seen in 100% of children. Fronting and deaffrication was seen in 13.3%, and syllable deletion in 20%. Final consonant deletion, initial consonant deletion, velar assimilation, labial assimilation, nasal assimilation and reduplication were not seen (0%). This shows that only a few processes were active at this age.

Table 4.3:

Showing Phonological Processes in typical Children Aged 5 to 5.11 Years

PHONOLOGICAL PROCESS	5.0 to 6.0 years	
	Count	Row N %
Fronting	0	0.0%
Stopping:	2	13.3%
Gliding:	1	6.7%
Deaffrication	2	13.3%
Final Consonant Deletion	0	0.0%
Initial Consonant Deletion	0	0.0%
Syllable Deletion (Weak Syllable Deletion):	1	6.7%
Velar Assimilation	0	0.0%
Labial Assimilation	0	0.0%
Nasal Assimilation	0	0.0%
Cluster Reduction	13	86.7%
Reduplication:	0	0.0%

As per the data in table 4.3, it is clear that most phonological processes had reduced in children showing more mature speech. Cluster reduction was the most common seen in 86.7% of children. Stopping and deaffrication was seen in 13.3% while gliding and syllable deletion was seen in 6.7%. Other processes like fronting, final and initial consonant deletion, assimilation processes and reduplication were not seen (0%).

Table 4.4:*Showing Overall Phonological Processes Observed*

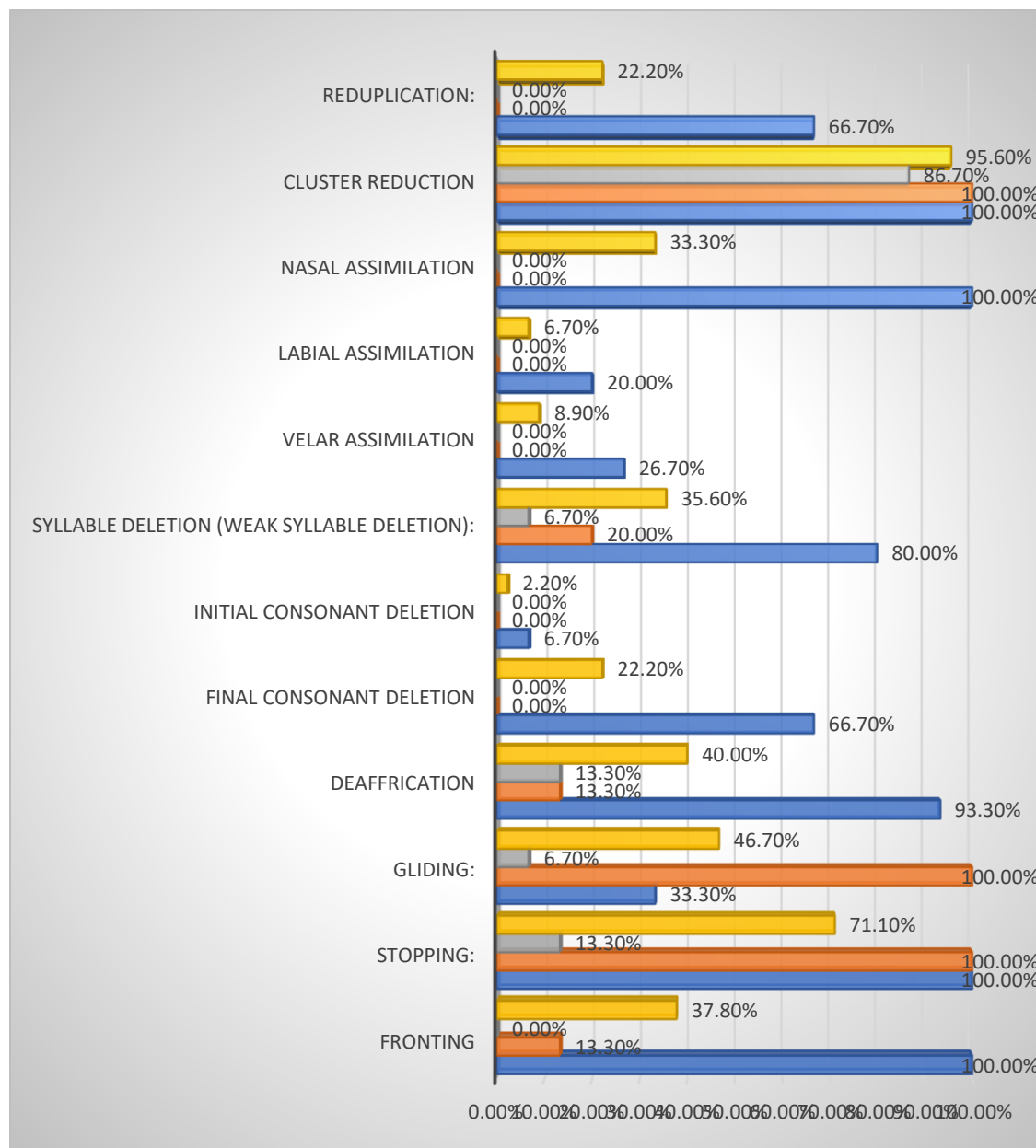
PHONOLOGICAL PROCESS	Total	
	Count	Row N %
Fronting	17	37.8%
Stopping:	32	71.1%
Gliding:	21	46.7%
Deaffrication	18	40.0%
Final Consonant Deletion	10	22.2%
Initial Consonant Deletion	1	2.2%
Syllable Deletion (Weak Syllable Deletion):	16	35.6%
Velar Assimilation	4	8.9%
Labial Assimilation	3	6.7%
Nasal Assimilation	15	33.3%
Cluster Reduction	43	95.6%
Reduplication:	10	22.2%

From table 4.4, it is evident that cluster reduction was the most common phonological process, seen in 95.6% of the children. Stopping was also frequent, found in 71.1%, followed by gliding (46.7%), deaffrication (40.0%), and fronting (37.8%). Syllable deletion (35.6%) and nasal

assimilation (33.3%) was also present in many children. Final consonant deletion and reduplication was seen in 22.2%, while velar assimilation (8.9%) and labial assimilation (6.7%) were less used. Initial consonant deletion (2.2%) was not used by many children

Graph 4.1:

Showing Phonological Processes in children Across Age Groups



Graph 4.1, shows phonological processes used by children across age groups :

- 3.0 to 3.11 years (blue)
- 4.0 to 4.11 years (orange)
- 5.0 to 5.11 years (grey)

It also includes the overall total percentage (yellow) for all 45 children.

The graph clearly shows that usage of phonological processes reduces with age. Younger children use more simplification patterns, while older children 5.0-6.0 years show fewer errors and attain more adult-like speech. This visual supports the developmental nature of phonological process suppression.

Table 4.5:

Showing Comparison of Phonological Processes in children Across Age Groups

PHONOLOGICAL PROCESS	3.0 to 3.11 vs 4.0 to 4.11		3.0 to 3.11 vs 5.0 to 6.0		4.0 to 4.11 vs 5.0 to 6.0	
	p		p		p	
Group with Following parameters						
Fronting	0.000	HS	0.000	HS	0.143	NS
Stopping:		NS	0.000	HS	0.000	HS
Gliding:	0.000	HS	0.068	NS	0.000	HS
Deaffrication	0.000	HS	0.000	HS	1.000	NS
Final Consonant Deletion	0.000	HS	0.000	HS		HS
Initial Consonant Deletion	0.309	NS	0.309	NS		HS
Syllable Deletion (Weak Syllable Deletion):	0.001	HS	0.000	HS	0.283	NS

Velar Assimilation	0.032	Sig	0.032	Sig	0.000	HS
Labial Assimilation	0.068	NS	0.068	NS		HS
Nasal Assimilation	0.000	HS	0.000	HS		HS
Cluster Reduction		NS	0.143	NS	0.143	NS
Reduplication:	0.000	HS	0.000	HS		HS

Table 4.5 shows that some phonological processes changed clearly between age groups. Fronting, gliding, stopping, deaffrication, final consonant deletion, syllable deletion, nasal assimilation, reduplication and velar assimilation was used more by younger children and reduced as they got older. Velar assimilation showed a small but clear change. Some processes like cluster reduction, initial consonant deletion, labial assimilation and gliding (in one comparison) did not change much, and was used by all age groups. Overall, most processes became less as age increased, showing normal speech development.

Table 4.6:

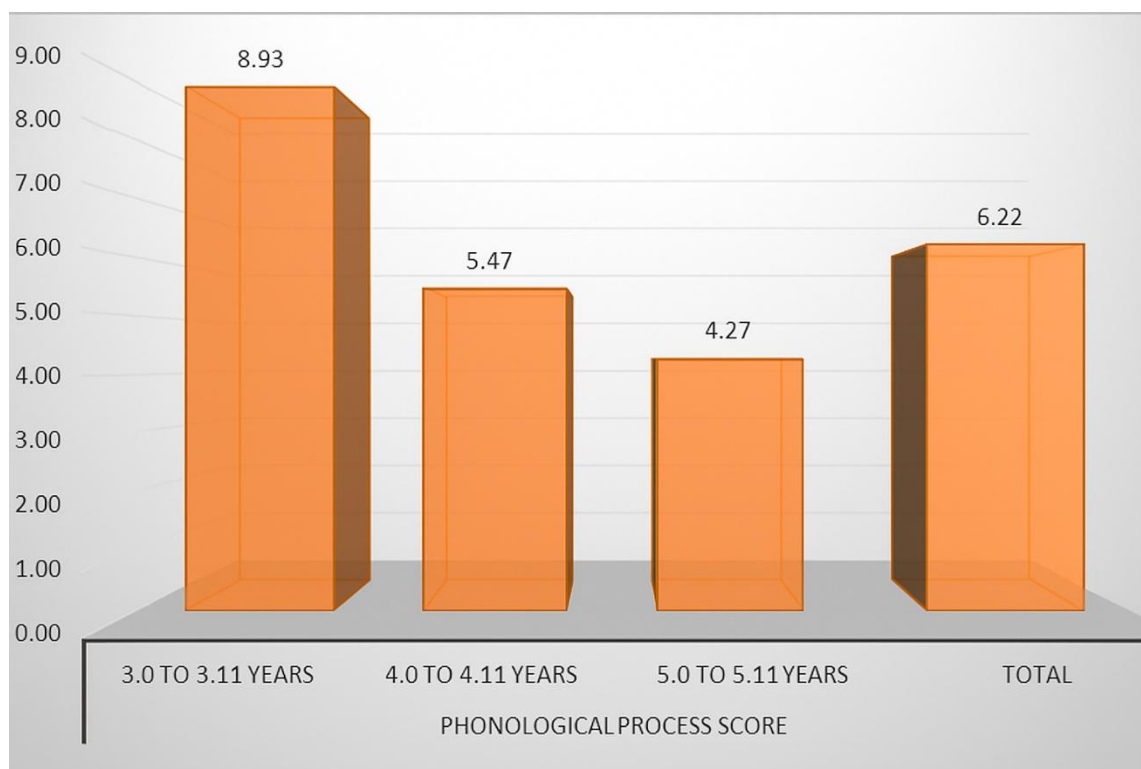
Showing Phonological process across age groups

PHONOLOGICAL PROCESS SCORE					
	N	Mean	Std. Deviation	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
3.0 to 3.11 years	15	8.93	1.280	8.22	9.64
4.0 to 4.11 years	15	5.47	0.640	5.11	5.82

5.0 to 6.0 years	15	4.27	0.594	3.94	4.60
Total	45	6.22	2.184	5.57	6.88

Figure 4.2:

Showing Phonological process across age groups



From Table 4.6 and Figure 4.2, it is clear that phonological process scores decreased as age increased. Younger children showed higher scores, which became lower in the middle age group and were the lowest in the oldest group. This shows that as children grow, they use fewer phonological processes, indicating normal speech development.

Table 4.7:

Showing comparison of Phonological process patterns across age groups

PHONOLOGICAL PROCESS				
ANOVA Test		Bonferroni Posthoc analysis		
F value	p value	3.0 to 3.11 vs 4.0 to 4.11	3.0 to 3.11 vs 5.0 to 5.11	4.0 to 4.11 vs 5.0 to 5.11
110.111	0.0001, HS	0.0001, HS	0.0001, HS	0.002, HS

It is clear from the table 4.7 that the use of the phonological process reduced as age increased. Younger children used it the most, and it became less common in the middle and older age groups. The difference between all age groups was found to be highly significant, showing that this process reduces clearly as children grow older.

Discussion

The performance of children on phonological processes showed a clear age-related pattern with younger children (3.0–3.11 years) demonstrating the highest usage of processes such as fronting, stopping, nasal assimilation and cluster reduction. These simplification patterns notably decreased in the 4.0–4.11 years group and were predominantly absent by 5.0–5.11 years with cluster reduction persisting most consistently. The decline in phonological process scores across age groups was statistically significant reinforcing the maturity of speech with age.

These findings align with typical developmental expectations and resonate with the work of Bailoor, Rai and Krishnan (2020) who studied Kannada–English bilingual children aged 3–4 years. They found frequent use of processes such as fronting, cluster reduction, and final consonant deletion which began to resolve by age four Together, these studies highlight the importance of age-related phonological milestones and inform clinical benchmarks for speech development and intervention.

Summary and Conclusion

Phonological processes are patterns used by typical children to simplify adult speech as their speech and language skills are still developing. These processes are common in early childhood and tend to reduce with age as the child's phonological system matures.

The present study was carried out with the aim of analysing phonological processes in typical children speaking Tulu language. 45 children in the age range of 3.0 to 6.0 years participated in the study and were randomly selected from various preschools and primary schools in the Coastal Karnataka regions. Speech samples were recorded using a mobile phone while the children engaged in natural conversation in a quiet and well-lit setting.

The recorded speech samples were then carefully analysed to identify the presence of any phonological processes. The analysis revealed that younger children (3.0–3.11 years) exhibited more frequent and varied phonological processes, such as reduplication, stopping, fronting, cluster reduction, and final consonant deletion. As the children grew older, a noticeable decline in the occurrence of these processes was observed, suggesting a clear developmental trend. These findings are consistent with Indian studies such as Reddy and Nair (2014) in Malayalam-speaking children, Patil and Kulkarni (2016) in Marathi-speaking children, and Sundaresan (2017) in Tamil-speaking children, all of whom reported a reduction in phonological processes with increasing age. Further, the results align with findings from Bailoor, Rai and Krishnan (2020), who documented similar trends in Kannada-English bilingual children and emphasized the influence of linguistic exposure and age on phonological process suppression.

Thus, the results of the present study emphasize the age-related nature of phonological process occurrence in typical children speaking Tulu language. The study also highlights the importance of developing language specific normative data in Indian languages to aid in accurate clinical assessment of speech development.

Clinical implications

The present study provides important clinical insights into the typical phonological processes observed in Tulu-speaking children. By identifying the common and age-appropriate patterns of sound simplification, the findings can help speech-language pathologists distinguish between normal developmental variations and speech sound disorders. This is especially useful in a multilingual country like India, where language specific norms are often lacking. The results of

this study can guide clinicians in planning culturally and linguistically appropriate assessments and interventions for Tulu-speaking children. It also highlights the importance of developing standardized tools and resources in regional languages. Additionally, the findings can support early identification and intervention efforts in schools and clinical settings, while also raising awareness among parents and educators about normal speech development in the Tulu-speaking population.

Limitations of the Study

- The sample size was small and may not represent all Tulu-speaking children.
- The study included only a limited age range of children.
- Regional dialect differences in Tulu were not fully considered.
- There were no standardized assessment tools available in the Tulu language.
- Data was collected only through natural conversation, which may have missed some patterns.
- Many children were exposed to other languages, which may have influenced their speech.

Future Directions

- Future research can include a larger and more diverse sample to improve the generalization of results.
- Studies can cover a broader age range to understand phonological development across different stages.
- Regional dialect variations within Tulu can be explored to see their impact on phonological processes.
- Additional speech tasks such as picture naming, repetition or storytelling can be used for more detailed analysis.

- The influence of exposure to multiple languages (like Kannada, Malayalam or English) on Tulu phonology can be studied further.

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Pragmatic Profiling in Children with Verbal Autism

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Abstract

Pragmatic language involves the appropriate use of language in social contexts, encompassing skills such as eye contact, turn-taking, gesture use, topic management, joint attention, and conversational repair. This study aimed to assess and compare pragmatic skills in Malayalam-speaking children with verbal autism and typically children. Fifty children aged 5 to 13 years. 30 with verbal autism and 20 typical children were assessed using structured tasks including conversation, picture description, and question-answering. Findings revealed that children with verbal autism exhibited significant deficits across most pragmatic domains, despite adequate vocabulary and grammar. These results align with existing literature and underscore the heterogeneity of pragmatic impairments in autism. The study highlights the need for individualized, context-based interventions that go beyond language structure to enhance functional social communication.

Keywords: Pragmatic language, Verbal autism, autism spectrum disorder (ASD), Malayalam-

speaking children, social communication

CHAPTER 1

Introduction

Language is the ability to produce and comprehend both spoken and written words. Complex language is one of the defining factors that make us human. The five main component of language are phonology, morphology, syntax, semantics, and pragmatics. “Language is a complex system of arbitrary symbols which is used for human communication. (American Speech and Hearing Association, ASHA, 1982).

“Communication- the human connection is the key to personal and career success”. The Latin word "communis" means "common" or "shared." It conveys the idea of something that is held in common among people, which aligns with the concept of communication as a means of sharing information, ideas and feelings between individuals. The root emphasizes the collaborative and interconnected nature of human interaction. All living organism communicate in one way or the other. However, it is the humans who have the privilege of using arbitrary symbols. Communication is defined as the process of transmitting information and common understanding from one person to another. The means of communication in humans is language.

Pragmatics is "**the study of the relations between language and context that are basic to an account of language understanding**" (Levinson, 1983). The term pragmatics has been introduced into the field of speech-language by Bates (1992) a psychologist at the university of California. Bates (1976) defined pragmatics as the rule governing the use of language in context. Autism is a neurodevelopmental disorder affecting physical, social and language skills, with an onset of signs and symptoms typically before age three. The term autism from the Greek “autos” meaning “self” was coined by Swiss psychiatrist Bleuler (1911).

Autism Spectrum Disorder (ASD) is marked by persistent challenges in social communication and interaction, as well as restricted, repetitive patterns of behavior, interests, or activities. According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (American Psychiatric Association, 2013), these symptoms manifest in early developmental stages and significantly impair social, academic, and occupational functioning. Core deficits include limitations in social-emotional reciprocity, nonverbal communicative behaviors and difficulties in developing and maintaining relationships. The American Autism Association (2021) similarly describes autism as a developmental condition that affects how individuals communicate, interact socially and process

sensory information. Autism is considered a spectrum disorder reflecting the wide variability in symptom presentation and severity among individuals.

Children with ASD, particularly those who are verbally communicative, commonly exhibit marked deficits in pragmatic language abilities. These deficits may persist across the lifespan and varies in severity depending on individuals cognitive and linguistic profiles. While existing literature has consistently demonstrated impaired pragmatic functioning in children with ASD, there is a paucity of research specifically addressing these skills in children with verbal autism within the Malayalam-speaking population.

The present study aims to investigate the pragmatic language abilities of children with verbal autism and to compare these with those of typical children. By doing so, the present study fill the significant gap in the literature and contribute to a more nuanced understanding of pragmatic language development in children with verbal autism in the Malayalam linguistic and cultural context.

CHAPTER 2

Review of Literature

Human being communicate to share ideas, feelings, desires, emotions and for sheer pleasure. Communication is mainly an active and intentional two way process of exchange of message which is essential for every living being. (Rao, 1992). But the code that is most used by human being to convey this information is called language.

Language is a symbolic, rule-governed system used by individuals to communicate ideas, emotions and intentions. Language is understood as having three major components: **form**, **content** and **use** (Owens, 2020).

Form refers to the structural aspects of language including phonology, morphology and syntax which governs the sound system, word structure and sentence construction.

Content is concerned with **semantics** or the meaning of words and sentences and involves vocabulary acquisition and the ability to express and comprehend concepts.

Use or **pragmatics** is focused on the social aspects of language such as understanding

conversational rules, taking turns, adjusting language based on context and interpreting non-verbal cues. (Owens, 2020).

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by impairments in social interaction and communication, alongside restricted and repetitive behaviors (American Psychiatric Association [APA], 2013). Even among children with intact structural language (i.e., those who are verbal), pragmatic impairments remain a core diagnostic feature and significantly affect daily functioning (Paul, Orlovski, Marcinko, & Volkmar, 2009).

Pragmatics refers to the social use of language—the rules that govern how individuals use language in context, including turn-taking, topic maintenance, conversational repair, and understanding implied meanings such as sarcasm or figurative speech (Levinson, 1983). Unlike syntax or phonology, which involves the structure of language, pragmatics relies heavily on social cognition, including Theory of Mind (ToM), joint attention, and the ability to infer others' intentions (Matthews, Biney, & Abbot-Smith, 2018)

Primary cognitive explanations for these pragmatic deficits are the ToM hypothesis, which refers to the ability to understand and attribute mental states to one and others. (Baron-Cohen, Leslie, & Frith, 1985) found that children with autism often fail ToM tasks, suggesting a limited ability to appreciate others' perspectives. Happe (1995) supported this connection, finding a strong relationship between ToM deficits and impaired pragmatic elements such as narrative coherence and conversational appropriateness in verbal children with autism.

Particularly significant area of impairment in individuals with ASD involves **pragmatic language skills** the social use of language. Pragmatics includes the ability to use language for different communicative purposes (e.g., requesting, greeting), follow conversational rules (e.g., turn-taking, topic maintenance), and interpret nonliteral language (e.g., idioms, metaphors, sarcasm). Research has consistently shown that children with verbal autism exhibit notable deficits in these areas (Tager-Flusberg, 2000; Adams, Baxendale, Lloyd, & Aldred, 2005). These pragmatic difficulties often hinder their ability to initiate and sustain conversations, interpret social cues, and engage effectively in peer interactions. As a result, pragmatic impairments are considered a core component of the social-communication challenges observed in autism. Understanding these difficulties is essential for developing targeted assessment and intervention strategies that support communicative competence and social inclusion in children with ASD.

Pragmatic language, which encompasses the appropriate use of language in social contexts, is a critical domain often impaired in children with verbal autism. Despite having functional verbal

abilities, these children frequently exhibit challenges in using language for social interaction, such as taking turns in conversation, maintaining topics, and understanding nonliteral language. Tager-Flusberg (2000) highlighted that while many children with verbal autism develop vocabulary and syntax within age-appropriate norms, they continue to struggle significantly with conversational skills. Volden and Lord (1991) further demonstrated that children with high-functioning autism have marked difficulties in turn-taking and topic maintenance compared to their typical children.

Naturalistic studies have provided further insight into the real-world implications of these pragmatic difficulties. (Paul, Orlovski, Marcinko, & Volkmar, 2009) conducted a longitudinal study that documented persistent deficits in topic initiation, contingent responses, and responsiveness to listener cues in children with ASD, even as their structural language improved. Similarly, (Adams, Green, Gilchrist & Cox, 2002) compared children with ASD, specific language impairment (SLI), and typically developing controls, finding that children with autism demonstrated unique pragmatic errors, particularly in initiating and sustaining interaction, which were not accounted for by general language delays.

- **Volden, Dowding and Painter (2009)** found that children with high-functioning autism showed significant deficits in conversational reciprocity and the use of context-appropriate language compared to typically developing peers.
- **Adams, Biney and Abbot-Smith (2012)** highlighted that even when grammatical skills are intact, children with ASD demonstrate reduced success in tasks involving inference, emotion interpretation, and narrative coherence.
- **Lam and Yeung (2012)** reported that children with verbal autism exhibit atypical use of communicative gestures, poor understanding of indirect requests, and limited ability to repair communication breakdowns.

Quantitative research using standardized measures such as the Children's Communication Checklist – 2 (CCC-2) has reinforced these findings. Bishop and Norbury (2002) observed that children with verbal autism scored significantly lower on pragmatic subscales related to inappropriate initiation, nonverbal communication, and the use of context, compared to children with typical development and those with language impairments. Geurts and Embrechts (2008), using a Dutch adaptation of the CCC-2, confirmed the tool's sensitivity in distinguishing pragmatic

impairments in ASD from other developmental conditions such as ADHD and SLI.

Intervention studies have shown that although pragmatic deficits are prominent, they can be responsive to targeted strategies. (Kasari, Freeman & Paparella, 2006) reported that peer-mediated interventions improved joint attention and social initiations in children with autism, indicating that socially embedded practices can enhance pragmatic functioning. (Fujiki, Brinton & Clarke, 2002) also demonstrated gains in pragmatic flexibility and narrative organization following interventions focused on emotional understanding and perspective-taking.

Western Studies

Lindsay (2012) studied pragmatics intervention for individuals with Intellectual disabilities transitioning to employment. The result of the study concluded that for individuals with intellectual disabilities who present with pragmatic deficits, obtaining and sustaining employment can be challenging and pragmatic intervention is warranted. As speech-language pathology continues to grow as a profession and adapt as a discipline, it is hoped that speech-language pathologists become more involved in this type of assessment, intervention and support. The role of the speech pathologist working with these individuals is to help them communicate effectively and, ultimately, improve their quality of life. For individuals with intellectual disabilities, that often means getting and keeping a job.

Diken (2014) studied on pragmatic language skills of children with developmental disabilities in Turkey language. The result of the correlation analysis revealed a significant negative correlation between Autism Index scores and pragmatic language skills Index scores. The result also revealed significant differences in Turkish version of the pragmatic language skills inventory (TV-PLSI) scores between children Autism Spectrum disorder and children with intellectual disability (ID).children with ID had a higher pragmatic language skills compared to children with autism.

Rodas and Blacher (2017) studied structural and pragmatic language in children autism spectrum disorder (ASD). Participants were 159 young children (4-7 years old) with ASD and their mothers. Result suggested that pragmatic language was inversely related to child anxiety and co-occurring externalizing behaviors. These findings suggest that children with ASD may be heightened risk for anxiety and externalizing disorders due to their pragmatic language deficits

Loukusa, Makinen, Gauffin, Ebeling and Leinonen (2018) investigated on assessed social-pragmatic inferencing skills in children with autism spectrum disorder and the finding

demonstrates that social-pragmatic inferencing challenges in ASD are variable and worsen as mind-reading expectations rise.

Roqueta and Katsos (2020) studied distinction between linguistic and social pragmatics helps the precise characterization of pragmatic challenges in children with autism spectrum disorders and developmental language disorder. The study's conclusion was that social pragmatics tasks are exceptionally difficult for children with autism spectrum disorder.

Hage, Sawasaki, Hyter and Fenandes (2022) identified social communication and pragmatic skills of children with autism spectrum disorder and developmental language disorder. According to the study, social and pragmatic deficits in autistic spectrum disorder children were more severe than those in children with developmental language problem.

Hernandez, Quinto, Martin and Adam (2024) conducted a systematic review to examine tools used to assess pragmatic language skills in individuals with intellectual disabilities. Pragmatic skills, essential for effective communication and social interaction, are often impaired in this population. Out of 172 studies, 20 met inclusion criteria. Findings revealed inconsistencies among assessment tools and a lack of adaptation to the unique needs of this group. The authors stress the need for standardized, tailored tools to accurately evaluate pragmatic abilities and support individualized intervention planning.

Indian Studies

Anjana (1999) studied the pragmatic abilities of children with autism spectrum disorder (ASD's) in comparison with typical developing matched for age range between 3-6 years. Pragmatic skills of all the participants were assessed on parameters adapted from the test by Roth and Spekman (1984). The results indicated quantitative and difference between two groups. The group of children with ASD used language predominately for non-social or quasi-social purpose, exhibited higher turn taking behaviour during the parent child interaction and used more of off topic utterances.

Shilpashri (2010) examined pragmatic skills in children with ASD. The study showed that among the 14 pragmatic skills that were initiated by the caregiver, the response for labeling was mastered only in few children with ASD. The results revealed that the percentage of response from the children with ASD to a caregiver's initiation of pragmatic skills and on self-initiation was not linear or constant for all the pragmatic with respect to age, as compared to the performance of

typical children.

Shetty and Rao (2014) studied language and communication analysis in children with verbal autism. The result revealed that overall delay in language development, there are difference among the Mental age matched normal and verbal autistic children. These differences are noticeable in syntactic and pragmatic aspects as compared to the phonological of semantic aspects.

Xavier, Santhana, Sunny, Kumaraswamy and Rao (2015) assessed pragmatic skills in 10 Malayalam-speaking children with Down syndrome aged 4–12 years, grouped by mental age (4–7.11 and 8–11.11 years). Result shows that significant age-related differences were found in both clinician-initiated and self-initiated skills. Older children showed improvements in skills like eye contact, joint attention, turn-taking, and topic management. Skills like smiling, requesting objects, and feedback remained unchanged, while negation declined with age. Self-initiated skills such as refusal, narration, and repair improved, but communicative intent and questioning remained consistent across ages.

Shilpashri and Chengappa (2016) compared five pragmatic skills in six Kannada-speaking children with autism (language age 1–2 years) and six typical children. One-hour mother–child interactions were recorded and analyzed for communicative intent, refusal, negation, requests, and responses to requests. Findings highlight differences in the frequency of pragmatic skill use between the two groups.

Abraham and Kumaraswamy (2019) analyzed pragmatic abilities in children with intellectual disability and to compare the findings with typical children. 30 subjects with intellectual disability within the age range of 8-13 years (mental age: 4-5 & 5-6) and 20 typical children of age range (4-5yrs & 5-6 yrs). The result indicated that children with intellectual disability have poor pragmatic skills when compared to typical children and also, 5-6 years old group showed better performance than 4-5 years old group.

Shetty and Rao (2019) examine pragmatic skills in verbal autistic children compared to typical children 4–5-year-olds. Using play-based interactions, 14 pragmatic behaviors were analyzed in 10 typical children and 30 autistic children with a comparable mental age. While typical children showed strong performance across most skills, autistic children showed strengths in labeling and requesting but had difficulties with topic initiation, conversational repair, and commenting. Results suggest that targeted training may improve certain pragmatic skills in children with autism.

Shilpashri and Chengappa (2020) examined pragmatic skills questioning, answering, and adding

information in Kannada speaking children with Autism Spectrum Disorders (ASD) and typical children, both with a language age of 2–4 years. Two groups were studied: Group A typical children and Group B children with ASD. Using a one-hour semi-structured mother-child play session, interactions were audio-video recorded and analyzed for the frequency of pragmatic skill use. Results showed significantly lower use of these skills in children with ASD compared to their typical children.

Dudwadkar, Venkatachalam, Chheda, Shinde, Kale and Priyadarshi (2022) assessed pragmatic abilities in children with autism spectrum disorders and the study emphasizes the necessity to improve pragmatic abilities in kids with autism spectrum disorder as a part of communication, in addition to language form and content.

Bansal, Shetty and Kumaraswamy (2023) assessed pragmatic abilities of typical Hindi-speaking children aged 6–8 years using a qualitative approach. Fifty children with no language or developmental disorders were observed in naturalistic settings, supported by audio and video recordings to capture real-life communication. Results showed that topic initiation and narration were not fully acquired by the age of 7.11 years however; all other child-initiated pragmatic skills were acquired by this age. The comparative values of pragmatic skills across age groups and genders showed no significant difference.

Need of the Study

Pragmatic language difficulties in children with verbal autism can significantly impact their social interactions and communication effectiveness. However, there is limited research specifically profiling these challenges in Malayalam-speaking children. Malayalam, being a linguistically rich and morphologically complex Dravidian language, presents unique features in terms of discourse structure, politeness markers and context-dependent language use. These linguistic characteristics may influence how pragmatic skills are acquired and manifested. Therefore, understanding the pragmatic abilities of children with verbal autism in Malayalam, in comparison to their typical children, is crucial. Such insights will aid in developing targeted assessment tools and effective therapeutic interventions that are culturally and linguistically appropriate.

CHAPTER 3

Methodology

Aim

The aim of the study was to profile pragmatic skills in children with verbal autism and compare the findings with typical children.

Participants

The study included 30 children diagnosed with verbal autism referred to as the clinical group. The participants were selected from private clinics and rehabilitation Centres and 20 typical children formed the reference group. According to clinical records all participants used phrases and simple sentences. The chronological age of the participants ranged from 5 to 13 years. The reference group consisted of 20 typical, school-going children within the same age range. They were enrolled in Malayalam-medium schools in the Kannur district of Kerala and included an equal number of boys and girls (ten boys and ten girls).

Inclusion criteria

1. Malayalam as a native language.
2. Children with autism with mild to moderate severity.

Exclusion criteria

1. Children with severe autism disability.
2. Children with any physical handicap.

Procedure

An interactive session between the clinician and child was video recorded for 20 minutes in a comparatively quiet and well illuminated room. The initial 10 minutes for spontaneous speech, spontaneous replies were received in following 10 minutes. The video samples were recorded by using smart phone. To aid the interaction between the clinician and child, the materials like toys and picture card were used. Sample collection was based on the study done by (Shilpashri, 2010).

Material used for sample collection

Pictures description (Animals, Birds, Zoo, Park, Object)

General conversation (Name, School name, Family members)

Answering questions were asked on the topic (Glass, Pen, Book)

Different parameters used for pragmatics are;

- I. Response for eye contact.
- II. Smiling.
- III. Response for gaze exchange.
- IV. Response for joint attention.
- V. Response for request of object and/or action.
- VI. Response for labeling.
- VII. Answering questions.
- VIII. Response for negation.
- IX. Response for turn taking.
- X. Response for conversational repair.
- XI. Response for topic initiation.
- XII. Response for topic maintenance.
- XIII. Response for comment/ feedback.
- XIV. Response for adding information.

Analysis

The collected sample was analysed. Every correct response for pragmatic skills listed above were given a score of '1' and No response for any of the pragmatic skills were scored '0'. The obtained score were analyzed statistically and the results are discussed in the next chapter.

CHAPTER 4

Result and Discussion

The present study was aimed to assess the pragmatic profiling in children with verbal autism and to compare them with those of typical children speaking Malayalam aged 5 to 13 years. **For this**

purpose, specific tasks were used to evaluate pragmatic performance. The results obtained are discussed below.

Table 4.1:

Showing the comparison of pragmatic skills between the group of typical children and children with verbal autism using a task general conversation within the range of 5 to 13 years.

		Group				Testing proportions - Z test	
		VERBAL AUTISM		TYPICALLY DEVELOPING CHILDREN			
		Yes		Yes			
		Count	Row N %	Count	Row N %		
TASK 1: GENERAL CONVERSATION	Response for eye contact	20	66.7%	20	100.0%	0.006	HS
	smiling	13	43.3%	20	100.0%	0.000	HS
	Response for gaze exchange	16	53.3%	19	95.0%	0.003	HS
	Response for joint attention	4	13.3%	20	100.0%	0.000	HS
	response for request of object and/or action	6	20.0%	18	90.0%	0.000	HS
	Response for labeling	13	43.3%	19	95.0%	0.001	HS
	Answering questions	18	60.0%	19	95.0%	0.008	HS
	Response for negation	7	23.3%	19	95.0%	0.000	HS
	Response for	5	16.7%	19	95.0%	0.000	HS

	turn taking						
	Response for conversational repair.	1	3.3%	17	85.0%	0.000	HS
	Response for topic initiation	1	3.3%	16	80.0%	0.000	HS
	Response for maintenance	12	40.0%	20	100.0%	0.000	HS
	Response for comment/ feedback	0	0.0%	18	90.0%	0.000	HS
	Response for adding information	0	0.0%	16	80.0%	0.000	HS

Table 4.1 shows that children with verbal autism demonstrated significant pragmatic difficulties in comparison to typical children during the general conversation task. All measured behaviors showed highly significant differences (HS) between the two groups. However children with verbal autism had reduced responses for eye contact, smiling, gaze exchange, joint attention, labeling, answering questions, requests, negation, turn-taking, repair, topic initiation, and maintenance.

Table 4.2:

Showing the comparison of pragmatic skills between the group of typical children and children with verbal autism using a task picture description within the range of 5 to 13 years.

	Group				Testing proportions - Z test
	VERBAL AUTISM		TYPICALLY DEVELOPING CHILDREN		
	Yes		Yes		
	Count	Row	Count	Row N	

			N %		%		
TASK 2 :	Response for eye contact	21	70.0%	21	100.0%	0.002	HS
PICTURE DESCRIPTION							
	smiling	15	50.0%	21	100.0%	0.000	HS
	Response for gaze exchange	20	66.7%	20	95.2%	0.006	HS
	Response for joint attention	14	46.7%	21	100.0%	0.000	HS
	response for request of object and/or action	15	50.0%	21	100.0%	0.000	HS
	Response for labeling	21	70.0%	21	100.0%	0.002	HS
	Answering questions	21	70.0%	21	100.0%	0.002	HS
	Response for negation	9	30.0%	21	100.0%	0.000	HS
	Response for turn taking	5	16.7%	18	85.7%	0.000	HS
	Response for conversational repair.	0	0.0%	16	76.2%	0.000	HS
	Response for topic initiation	2	6.7%	18	85.7%	0.000	HS
	Response for maintenance	13	43.3%	21	100.0%	0.000	HS
	Response for comment/	0	0.0%	20	95.2%	0.000	HS

	feedback						
	Response for adding information	1	3.3%	16	76.2%	0.000	HS

From above table it can be seen that children with verbal autism demonstrated notable pragmatic difficulties compared to typical children for picture description task. Highly significant differences (HS) were found across all measured behaviors, including eye contact, smiling, gaze exchange, joint attention, request, labeling, answering questions, and responding to negation, turn-taking, conversational repair, topic initiation, and topic maintenance, providing feedback and adding new information.

Table 4.3:

Showing the comparison of pragmatic skills between the group of typical children and children with verbal autism using a task question answering within the range of 5 to 13 years.

		Group				Testing proportions - Z test	
		VERBAL AUTISM		TYPICALLY DEVELOPING CHILDREN			
		Yes		Yes			
		Count	Row N %	Count	Row N %		
TASK 3: QUESTION ANSWERING	Response for eye contact	22	73.3%	19	100.0%	0.057	NS
	smiling	15	50.0%	19	100.0%	0.002	HS
	Response for gaze exchange	17	56.7%	18	94.7%	0.015	Sig
	Response for joint attention	11	36.7%	19	100.0%	0.000	HS

	response for request of object and/or action	10	33.3%	19	100.0%	0.000	HS
	Response for labeling	16	53.3%	19	100.0%	0.003	HS
	Answering questions	21	70.0%	19	100.0%	0.035	Sig
	Response for negation	9	30.0%	19	100.0%	0.000	HS
	Response for turn taking	3	10.0%	17	89.5%	0.000	HS
	Response for conversational repair.	0	0.0%	14	73.7%	0.000	HS
	Response for topic initiation	0	0.0%	15	78.9%	0.000	HS
	Response for maintenance	13	43.3%	19	100.0%	0.001	HS
	Response for comment/ feedback	0	0.0%	19	100.0%	0.000	HS
	Response for adding information	0	0.0%	14	73.7%	0.000	HS

Table 4.3 shows that children with verbal autism demonstrated notable pragmatic difficulties compared to typical children during the question-answering task. Highly significant differences (HS) were found for smiling, joint attention, response to requests, labeling, negation, turn-taking, conversational repair, topic initiation, maintenance, comment/feedback and adding new information, indicating severe impairments in these core areas of social communication. Significant differences (Sig) were observed in gaze exchange and answering

questions and No significant difference (NS) was noted for eye contact though children with verbal autism still showed reduced responses compared to their peers.

Discussion

From the above results it is clearly evident that children with verbal autism consistently exhibited significant challenges in pragmatic communication compared to typical children aged 5–13 years across all three tasks: general conversation, picture description, and question answering. In general conversation and picture description, they had significantly lower rates of eye contact, smiling, gaze exchange, joint attention, labeling, answering questions, and responding to negation and requests, with major challenges in conversational turn-taking, repair, topic initiation, maintenance, feedback, and adding new information were showing a highly significant difference. Question-answering, deficits persisted in all these skills, except eye contacts were not significant. Gaze exchange and answering questions, which showed a significant difference.

The results of present study are in accordance with the previous Indian studies (Shilpashri & Chengappa; 2016) and (Shetty & Rao; 2019) which reveals that pragmatic tasks are difficult for children with verbal autism compared to typical children.

CHAPTER 5

Summary and conclusion

Pragmatic language refers to the appropriate use of language in social contexts, including skills such as eye contact, turn-taking, topic initiation and maintenance, joint attention, the use of gestures and conversational repair. In children with verbal autism, these pragmatic abilities are often significantly impaired despite adequate vocabulary or grammar skills. Such deficits can impact their ability to engage in meaningful interactions, participate in classroom activities and develop peer relationships.

The present study aimed to assess and compare pragmatic skills in children with verbal autism and typical children speaking Malayalam. A total of fifty children, comprising thirty with verbal autism and twenty typical children, aged between 5 to 13 years were included. The assessment involved three structured tasks general conversation, picture description and question-answering to elicit naturalistic language use. Responses were recorded, analyzed, and interpreted across key pragmatic domains.

The findings of the study revealed that children with verbal autism demonstrated considerable difficulties across most pragmatic skills when compared to typical children. These included reduced eye contact, limited use of gestures, poor turn-taking, minimal topic initiation and challenges with conversational repair and joint attention. Such patterns reflect the core features of social communication deficits observed in autism.

The results of the present study are consistent with earlier research reported that children with autism used language more for non-social purposes and displayed higher turn-taking but increased off-topic utterances. Shilpashri (2010) and Shilpashri & Chengappa (2016, 2020) noted that pragmatic skills like labeling and responding to requests varied significantly among children with ASD and were not always consistent with age. Shetty and Rao (2014, 2019) further emphasized that children with verbal autism, though having comparable mental age, still performed poorly in pragmatic domains such as topic management and commenting. The current findings Dudwadkar, Venkatachalam, Chheda, Shinde, Kale and Priyadarshi (2022), who emphasized the need to focus on pragmatic aspects in therapy beyond language form and content.

In conclusion, the study supports the understanding that pragmatic challenges are not uniform across children with autism and vary based on individual cognitive and communicative profiles. It highlights the need for detailed pragmatic profiling and individualized interventions.

Clinical implication

The present study gives insights to children with verbal autism who speaks Malayalam often struggle with using language socially even if they have good vocabulary and grammar, showing difficulties with eye contact, gestures, turn-taking, topic changes, joint attention and fixing misunderstandings. Clinically, this means therapists should assess the pragmatic skills in real-life situations like play or storytelling, not just in tests. Interventions work best when they start by building social thinking, then teach clear social steps such as greetings, maintaining conversation and using body language through fun play with peers, using video feedback, parent coaching and simple stories to help these skills stick at home and school.

Limitations of the study

Lesser sample size

Age ranges of 5-13 years were taken for the study.

Limited parameters of pragmatic skills were selected.

Future directions

Studies can be conducted in different age groups of children with verbal autism and typical children. Future research can explore pragmatic skills across various Malayalam dialects. Detailed research can be extended to other clinical populations with communication disorders. Comparative studies between different age groups can be conducted to understand developmental patterns in pragmatic skill acquisition.

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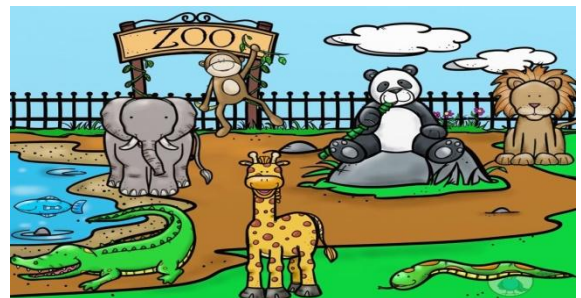
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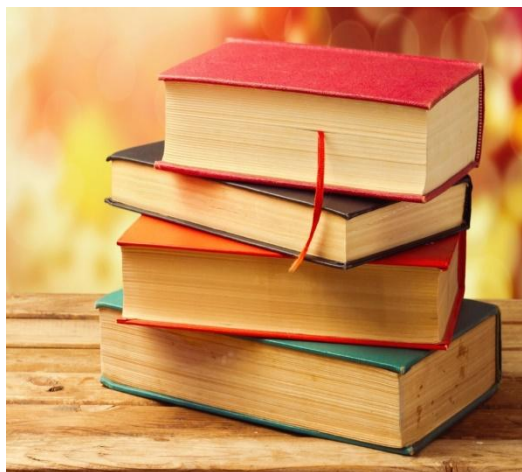
APPENDIX

CHAPTER 7

APPENDIX







CONSENT LETTER

I hereby give my consent for my participation in the project entitled “**PRAGMATIC LANGUAGE PROFILING IN VERBAL AUTISM**”. I understand that the person responsible for this project is **SELEXTEENA BOBAN** under the guidance of **DR. SATISH KUMARASWAMY**.

She has explained that this study is part of a project with the following objective: To collect valuable information on the pragmatic (social) language skills of children with verbal autism. She has explained the procedures to be followed and has described benefits to be expected.

It has further been explained to me that there is **no risk** involved in participation in this study. It has further been explained to me that the total duration of my child’s/ my participation will be **less than 30 minutes**. Only Selexteena Boban, under the guidance of Dr. Satish Kumaraswamy, will have access to the data collected for this study; and all data associated with this study will remain strictly confidential. Selexteena Boban, under the guidance of Dr. Satish Kumaraswamy, has agreed to answer any enquiries that I may have concerning the procedures.

I understand that I may discontinue this study at any time I choose without penalty.

Signature of the subject/Parent/Guardian: _____

Date: _____

Signature of the investigator: _____

Date: _____

Signature of the supervisor: _____

Date: _____

From Classroom to Boardroom: Enhancing Engineering Students' Communication Skills through Mock Business Meetings

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Abstract

Effective communication is a critical skill for engineering professionals, yet it often remains under-assessed in conventional classroom settings. This study investigates the impact of **collaborative mock business meetings** as a method to enhance and evaluate communication skills among undergraduate engineering students. The research compares **collaborative assessment formats** with **traditional individual evaluations** commonly used in technical education.

Using a thematic analysis approach, qualitative data was gathered through recorded meeting sessions, peer evaluation forms, and student reflections. The results highlight that collaborative mock meetings create a realistic and engaging environment for students to develop **verbal articulation, teamwork, active listening, and professional etiquette**. Participants reported increased confidence in expressing technical ideas and greater awareness of group dynamics, leadership, and problem-solving in communication.

The study concludes that **mock meeting assessments** offer a practical, discipline-aligned tool for improving communication competencies in engineering education. It recommends integrating such simulations into engineering curricula to bridge the gap between academic learning and workplace readiness, thereby supporting the development of well-rounded, industry-ready graduates.

Key Words: Communication Skills, Engineering Education, Collaborative Learning, Mock Business Meetings

Introduction

In the current era of rapid technological advancement and interdisciplinary collaboration, the role of engineers is no longer confined to solving technical problems in isolation. The modern workplace demands engineering graduates who are not only proficient in technical knowledge but also effective in communication, capable of working collaboratively, and adept at navigating complex team dynamics. As industries evolve, the expectations from engineering professionals extend beyond individual expertise to include the ability to present ideas clearly, negotiate solutions, lead discussions, and contribute meaningfully to group-based decision-making processes.

Despite the growing recognition of these needs, many engineering programs continue to focus predominantly on technical subjects, often offering limited exposure to soft skills or communication training. Where communication components exist, they are frequently theoretical, with minimal opportunities for real-time application or performance-based assessment. This disconnect between classroom instruction and workplace reality poses a significant challenge in producing industry-ready graduates.

One promising pedagogical intervention to bridge this gap is the use of **mock business meeting assessments**—structured, collaborative simulations where students engage in professionally modeled discussions, decision-making scenarios, and communication exercises. These sessions are designed to replicate the formal and informal communication practices of corporate and technical environments, allowing learners to perform as they would in real-world settings. By participating in these simulations, students are encouraged to articulate their thoughts, respond spontaneously, manage conflicts, and demonstrate leadership and interpersonal sensitivity within a supportive learning environment.

Mock meetings offer more than just an opportunity for practice; they also serve as **authentic assessment tools** that evaluate students' communication competencies in context. Compared to conventional assessment formats—such as written exams or individual presentations—collaborative assessments provide a more holistic view of a student's readiness for professional roles. They capture essential soft skills such as clarity of expression, listening ability, non-verbal cues, negotiation, and teamwork, all of which are difficult to assess through traditional written

tests.

In addition, collaborative assessments align closely with the principles of **Outcome-Based Education (OBE)** and frameworks like **Washington Accord**, which emphasize the development of graduate attributes including effective communication, teamwork, and life-long learning. National agencies such as the **National Board of Accreditation (NBA)** in India also mandate communication skills as a core learning outcome for engineering graduates.

However, despite the pedagogical promise of mock business meetings, their use in engineering education remains relatively underexplored, particularly in terms of their impact on assessment quality and student learning outcomes. While studies in business and management domains have shown positive results from such simulations, there is limited empirical evidence on their effectiveness within technical institutions or engineering communication courses.

This study seeks to fill this gap by examining the use of **mock business meeting assessments** among undergraduate engineering students, comparing their effectiveness with conventional individual assessment formats. Through thematic analysis of student performances, peer feedback, and reflective journals, the research aims to understand how collaborative simulations influence students' communication skills, participation, and overall engagement.

Ultimately, this paper argues for the inclusion of structured, collaborative communication activities as a core component of engineering education. By doing so, institutions can better equip future engineers with the interpersonal and collaborative competencies essential for success in multidisciplinary, real-world work environments.

Literature Review

Communication has long been recognized as a core competency for engineering graduates by professional bodies such as the National Board of Accreditation (NBA, India) and international frameworks like ABET. According to Passow (2012), employers consistently rank communication and teamwork among the most essential skills required of entry-level engineers. Despite this, engineering curricula often offer limited practical avenues to develop these competencies in authentic contexts (Male et al., 2011).

Effective assessment plays a crucial role in reinforcing learning outcomes and skill development. As Gikandi et al. (2011) argue, assessment is a central component of the learning process, measuring students' understanding and progress. Swan, Shen, and Hiltz (2019) further assert that

assessments shape what counts in education, offering critical data for guiding student development. However, oral and speaking-based assessments remain complex and underutilized, particularly in engineering education where emphasis on technical knowledge often overshadows the development of soft skills.

Scholars such as Luoma (2004) and Ahmed & Alamin (2012) have highlighted that oral communication assessments are inherently subjective, requiring teachers to make instantaneous judgments on diverse aspects of language use. This complexity is compounded by logistical challenges such as large class sizes, lack of recording tools, low language proficiency, and time constraints (Sook, 2003; Mekonnen, 2014). These factors often affect the fairness and efficiency of oral evaluations. In many Asian contexts, exam-oriented systems tend to emphasize summative testing focused on reading and writing skills, often neglecting speaking and listening skills, which are critical for real-world communication (Vongpumivitch, 2012; Aziz et al., 2018).

Speaking is regarded as the most direct and observable form of communication, essential for conveying meaning and facilitating interaction (Zaremba, 2006; Ur, 2000). According to Le (2019), speaking serves as the foundation of communicative competence and plays a pivotal role in fostering group discussions and collaborative exchanges. However, traditional summative assessments often fail to capture the interactive and dynamic nature of spoken communication (Gan, 2010).

To address these shortcomings, educators have begun to adopt authentic assessment methods such as forums, debates, interviews, and mock business meetings. These approaches simulate real-world tasks and help assess students' ability to apply their knowledge in practical contexts (Mueller, 2014). Mock business meetings, in particular, have been widely adopted in business and management education for their ability to replicate workplace scenarios and assess communication effectiveness, team dynamics, and leadership skills (Yoke et al., 2024).

Studies have shown the effectiveness of such simulations. For example, Gok and Akbulut (2019) found that mock business meetings significantly enhanced university students' communication and teamwork skills. Arbaugh and Benbunan-Fich (2006) reported similar findings in online learning environments, highlighting improved virtual collaboration and interpersonal communication.

Cempaka (2024) concluded that regular practice of group discussions significantly improved speaking proficiency, while Sandlund and Sundqvist (2019) showed that collaborative assessment in group oral tasks benefited students across ability levels, especially in foreign language learning contexts.

Despite growing evidence of the benefits of mock business meetings, their application in engineering education remains limited, especially in the Indian and broader Asian context. Simulation-based education—such as mock meetings, interviews, and role-plays—has proven effective in promoting critical thinking, engagement, and soft skill development (Prince, 2004; Felder & Brent, 2009; Cant & Cooper, 2010; Stokoe, 2014). Yet, there remains a significant gap in literature assessing their utility as formal tools for evaluating communication competencies in technical fields.

This study seeks to bridge this gap by analyzing the use of collaborative mock business meeting assessments among undergraduate engineering students. Through a thematic analysis of student performance, peer evaluation, and reflective feedback, the research aims to understand the impact of collaborative simulations on learners' communication skills, critical thinking, and professional preparedness. It contributes to the broader discourse on integrating authentic, collaborative, and performance-based assessments within engineering curricula to meet the evolving demands of the profession.

Research Objectives

1. Examine the effectiveness of mock business meeting simulations in enhancing communication skills among engineering undergraduates.
2. Compare collaborative and individual assessments in terms of engagement, performance, and skill development.
3. Identify key communication competencies demonstrated during mock meetings.
4. Analyze student perceptions of the authenticity and usefulness of mock meetings for real-world preparation.
5. Explore pedagogical value of simulation-based assessments in developing oral communication and critical thinking.

6. Recommend strategies for designing and evaluating collaborative oral assessments in engineering education.

Research Design

This study follows a qualitative research design using thematic analysis to explore the effectiveness of mock business meetings as collaborative assessment tools in enhancing communication skills among undergraduate engineering students. The research is exploratory and interpretive in nature, aiming to understand students' experiences, competencies developed, and perceptions related to simulation-based assessments.

Participants

The study was conducted among first-year undergraduate engineering students enrolled in a professional communication course at a renowned engineering institute in India. A total of 80 to 90 students, grouped into teams of 5–6, participated in structured mock business meeting sessions. Participants were selected using **purposive sampling**, focusing on students who have participated in group tasks.

Instruments

A structured observation checklist was developed to assess students' communication performance during the mock business meetings. The checklist was used by both facilitators and peers and included the following criteria:

Table 1 Rubrics for evaluating mock business meetings

Criteria	Indicators
Clarity of Speech	Fluency, pronunciation, articulation, and coherence of ideas
Active Listening	Responding appropriately, non-verbal cues, asking relevant follow-up questions
Turn-taking and Team Participation	Balanced participation, respecting speaking turns, encouraging others

Criteria	Indicators
Use of Formal/Professional Language	Use of appropriate vocabulary, tone, and register
Confidence and Body Language	Eye contact, posture, gestures, voice modulation
Problem-Solving & Decision-Making	Contributing meaningful solutions, constructive disagreement, logical reasoning
Time Management	Staying within allotted time, managing discussion flow

This rubric helped provide objective, multi-angle feedback on the communication skills demonstrated by participants.

Reflective Journal Prompts

As part of the post-session assessment, students were required to write short reflective journals following each mock business meeting. These reflections served as a critical tool to promote self-evaluation, introspection, and metacognitive awareness. The journal prompts were designed to guide students in analyzing their own communication behaviors and team dynamics during the session. Students reflected on the challenges they faced in communication, such as organizing their thoughts, managing interruptions, or expressing opinions under time pressure. They also documented how they contributed to the team's discussion and decision-making process, highlighting moments where they led, supported, or mediated dialogue. Another key prompt encouraged students to identify specific communication skills they believed had improved, such as fluency, confidence, listening, or use of formal vocabulary. To enhance their understanding of interpersonal dynamics, students were asked to evaluate how peer interaction influenced their communication style, shedding light on collaborative learning and mutual feedback. Finally, students were prompted to consider what they would do differently in future sessions, encouraging goal-setting and personal development. These journals provided rich, qualitative insights into the participants' evolving communication competencies and offered valuable data for thematic analysis on the impact of collaborative assessment practices.

Video and Audio Recordings of Mock Meetings

All sessions were video recorded with student consent to allow post-session review and detailed

communication analysis. These recordings were useful for:

- Observing spontaneous verbal and non-verbal behaviors
- Capturing peer dynamics
- Identifying recurring interactional patterns
- Supporting thematic coding in analysis

Procedure

The research was conducted in the context of a professional communication course offered to first-year undergraduate engineering students. The procedure involved multiple phases, integrating both teaching and assessment activities within a structured classroom framework.

Phase 1: Orientation and Preparation

At the outset, students were given an orientation session on the purpose and format of mock business meetings. They were introduced to professional meeting protocols, including roles such as chairperson, secretary, team members, and timekeeper. Guidelines on effective communication, group etiquette, and the assessment rubric were shared. Sample meeting scripts and video demonstrations were used to help students understand the expected structure and tone.

Students were then divided into collaborative teams of 5–6 members, ensuring diversity in communication skills and academic performance. Each group was assigned a real-world engineering or managerial problem, such as project planning, resolving team conflicts, or decision-making under deadlines, to simulate a formal business context.

Phase 2: Execution of Mock Business Meetings

Each team conducted a mock business meeting in front of the class, with all discussions video recorded for later analysis. Meetings lasted between 15–20 minutes, and students were expected to:

- Greet and introduce participants
- Present the agenda and manage discussion flow
- Express opinions, respond to others, and negotiate solutions
- Reach a consensus or final decision

- Summarize the meeting outcome formally

During the meetings, the instructor and selected peers used a structured rubric to evaluate each student's communication performance, focusing on clarity, confidence, collaboration, listening skills, and professional conduct.

Phase 3: Reflection and Peer Feedback

Immediately after the meeting, students were required to write a reflective journal, responding to guided prompts related to their individual performance, team contribution, challenges faced, and areas for improvement. Peers also submitted evaluation forms with constructive feedback for each team member.

This phase emphasized self-awareness and peer-supported learning, encouraging students to internalize feedback and reflect on their progress.

Phase 4: Data Collection and Analysis

All video recordings, reflective journals, peer and teacher evaluation forms, and optional focus group discussions were collected as data sources. These materials were subjected to qualitative thematic analysis to identify patterns related to communication development, student engagement, and the effectiveness of the collaborative assessment approach.

Phase 5: Reporting and Debriefing

In the final phase, a classroom debrief was conducted to allow students to share their learning experiences and suggestions. The instructor discussed recurring themes from the reflections and offered individual feedback to support continuous improvement.

The entire procedure spanned three to four weeks, allowing sufficient time for preparation, performance, reflection, and analysis. This integrated approach ensured that communication skills were not only taught and practiced but also assessed in an authentic, learner-centered manner.

Data Analysis

The data collected for this study were analyzed using a qualitative thematic analysis approach to explore how mock business meeting assessments influenced the communication skills of undergraduate engineering students. The primary data sources included video recordings of mock

meetings, peer and teacher evaluation forms, students' reflective journal entries, and transcripts of optional focus group discussions. The analysis began with a careful transcription of video and audio recordings, followed by repeated readings of all textual data to gain familiarity with the content. An initial coding process was then carried out, wherein key phrases and behaviors were tagged with relevant labels such as "clarity of expression," "team coordination," "nervousness," "active listening," and "confidence gain."

These initial codes were later organized into broader thematic categories. Prominent themes that emerged included: development of communication competence, which encompassed fluency, vocabulary use, and body language; team collaboration and peer dynamics, highlighting participation equity and leadership emergence; self-awareness and reflection, as evident in students' journal entries; and perceived authenticity of the mock meeting as an assessment format. Additional themes addressed the challenges students faced in oral communication, such as managing anxiety or dominance by more vocal team members, and the role of peer feedback, which many students reported as encouraging and constructive.

Cross-validation across data sources strengthened the findings. For example, a student who reflected on improved listening skills was also observed using verbal acknowledgments and maintaining eye contact in the video recordings and received positive comments from peers for attentive behavior. This triangulation ensured consistency and credibility in theme development. Overall, the analysis revealed that collaborative mock meetings not only enhanced students' communication skills but also promoted critical reflection, peer-supported learning, and a greater sense of professional readiness. The richness of the qualitative data provided deep insight into how authentic, simulation-based assessments can effectively foster both competence and confidence in student communication.

Results

The findings of the study indicate that mock business meeting assessments significantly contributed to the development of key communication competencies among undergraduate engineering students. One of the most prominent outcomes observed was the improvement in verbal articulation and fluency. Many students demonstrated enhanced clarity of speech, better organization of ideas, and increased use of professional vocabulary. Over successive sessions, video recordings captured progressive refinement in pronunciation, coherence, voice modulation,

and non-verbal cues such as posture, gestures, and eye contact, suggesting increased confidence and communication competence.

Active listening and equitable team participation were also consistently evident across the data. Students were observed acknowledging peers' points, maintaining eye contact, nodding in agreement, and asking relevant follow-up questions. Peer evaluations frequently highlighted balanced participation and respectful turn-taking, with team members often encouraging quieter students to contribute. Reflective journals reinforced these observations, with students expressing heightened awareness of how listening actively and respecting team dynamics led to more meaningful interactions and smoother decision-making.

Another key outcome was the development of leadership and problem-solving skills within the collaborative context. Some students naturally assumed the role of discussion leaders, managing the flow of conversation, clarifying differing viewpoints, and guiding the team toward consensus. These leadership moments were recognized by peers and reflected upon by the students themselves, who reported feeling empowered by the responsibility and more prepared for future professional tasks. The simulated format, by replicating real-world decision-making scenarios, also encouraged students to engage in logical reasoning and conflict resolution, fostering critical thinking under time constraints.

Students' reflective journal entries revealed a deepening sense of self-awareness and metacognitive engagement. Many participants admitted to initial nervousness or hesitation but gradually gained confidence in expressing their opinions, organizing their thoughts under pressure, and responding spontaneously. Students frequently identified specific areas for improvement—such as reducing filler words, improving time management, or contributing more assertively—and outlined strategies for growth in future sessions. This level of introspection indicates that the simulation-based assessment not only supported communication skill acquisition but also nurtured self-directed learning.

The mock meetings were widely perceived as authentic and professionally relevant. Both reflective journals and focus group discussions indicated that students found the experience realistic and more engaging than traditional communication exercises or theoretical instruction. The opportunity to enact formal roles and interact in a simulated business context was regarded as

highly beneficial for preparing them for workplace communication. Students appreciated the structured nature of the activity, noting that the clear agendas and assigned roles helped them stay focused and practice meaningful communication.

Peer feedback played a significant role in reinforcing learning. Students valued the constructive nature of evaluations from their teammates, often citing peer comments as motivating and eye-opening. Many reported that feedback from peers helped them notice behaviors or habits they had previously overlooked, contributing to a collaborative and supportive classroom environment. This reciprocal evaluation process not only encouraged accountability but also cultivated empathy and critical observation skills among students.

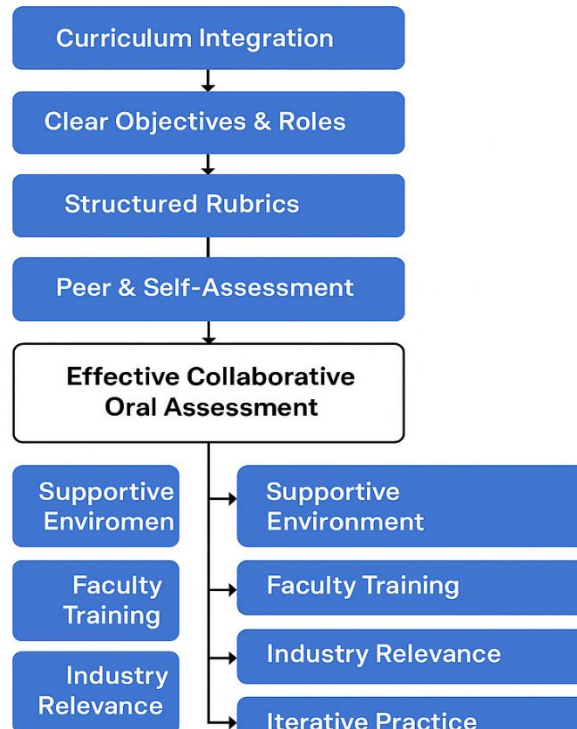
Despite these positive developments, some challenges were noted. A few students expressed difficulty in managing dominant voices within the team or felt overwhelmed during fast-paced discussions. Time management also emerged as a concern in several groups, where meetings occasionally ran over time or lacked proper closure. Nonetheless, students viewed these challenges as part of the learning curve and reported a sense of accomplishment in overcoming them. Instructors observed that teams varied in their cohesiveness and communication dynamics, with some requiring more guidance than others.

Overall, the results suggest that collaborative mock business meetings served as an effective pedagogical and assessment tool for enhancing students' communication skills, encouraging teamwork, and preparing them for real-world professional interactions. The integration of reflective practice and peer feedback added depth to the learning experience, supporting both skill development and personal growth.

Recommendations for Designing and Evaluating Collaborative Oral Assessments in Engineering Education

Based on the findings of this study and a review of best practices in communication pedagogy, several strategies are recommended to effectively design and evaluate collaborative oral assessments, such as mock business meetings, in engineering education:

Figure 1 Designing and Evaluating Collaborative Oral Assessments in Engineering Education



1. Integrate Assessments within Course Structure

Collaborative oral assessments should be embedded within the curriculum of professional communication or soft skills courses, not treated as add-ons. When simulations like mock business meetings are linked to course learning outcomes—especially those aligned with program objectives and accreditation criteria—they become more meaningful and sustainable.

2. Define Clear Objectives and Roles

Before the activity, students must be oriented on the purpose of the task, expected outcomes, and their roles (e.g., chairperson, secretary, timekeeper, team member). Clear guidelines help students take ownership and contribute constructively. Incorporating real-world engineering or managerial scenarios enhances authenticity and relevance.

3. Use Structured Rubrics for Consistent Evaluation

Develop detailed rubrics that assess key competencies such as clarity of speech, active listening, turn-taking, teamwork, use of professional language, body language, problem-solving, and time management. Sharing the rubric in advance helps students understand expectations and self-regulate their learning.

4. Encourage Peer and Self-Assessment

Alongside instructor evaluation, include structured peer feedback and self-reflection components. These promote metacognitive awareness and provide multiple perspectives on performance. Peer assessments should be guided by the same rubric to maintain objectivity and fairness.

5. Incorporate Reflective Practice

Reflection journals or guided prompts after each assessment help students process their experiences, identify strengths and weaknesses, and set goals for improvement. This step is crucial for long-term skill development and encourages students to view communication as an evolving competence.

6. Leverage Technology for Feedback and Review

Video recording the sessions allows students to revisit their performance and receive targeted feedback. It also provides a rich source of data for instructors to assess behaviors, track progress, and offer specific recommendations.

7. Promote a Safe and Supportive Environment

Foster a classroom culture that values experimentation, respectful dialogue, and constructive criticism. Students are more likely to participate confidently when they feel psychologically safe and supported by their peers and instructors.

8. Train Faculty for Effective Facilitation and Assessment

Engineering educators should be trained in communication assessment techniques and facilitation of simulations. Cross-department collaboration with language or soft skills experts can strengthen assessment quality and instructional design.

9. Align Assessments with Industry Expectations

Design scenarios and assessment criteria based on input from industry stakeholders or alumni to ensure that the competencies being assessed reflect real-world communication demands in technical professions.

10. Ensure Iterative Practice

Single-session assessments are insufficient for skill mastery. Organize multiple mock sessions over time, allowing students to receive feedback, reflect, and improve. This iterative model supports continuous development of communication skills.

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Orthography for Foundational Literacy in Manipur's Tribal Languages: Issues and Challenges

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Abstract

This paper examines the complex and evolving efforts toward orthographic development for tribal languages in Manipur's hill districts, where foundational literacy remains a critical concern. The majority of these languages are oral and belong to the Tibeto-Burman family, lacking standardized writing systems until the advent of Christian missionaries in the early 20th century. Drawing from textual analysis of 18 tribal languages, textbooks, community interactions, and a survey of 251 respondents across eight hill districts in Manipur, the study investigates current orthographic practices and community attitudes toward language standardization. It identifies key issues such as the lack of consensus on grapheme inventory, tone marking, spelling conventions, and word division. The paper also addresses the sociopolitical sensitivities tied to script choice and the implications of adopting either new or existing scripts. Practical steps toward developing a sustainable and community-approved orthography are proposed, including the importance of community consultation, grapheme selection, tone representation, and testing. The paper argues that while script invention may offer cultural symbolism, the adoption and careful adaptation of the Roman script present a more feasible path for most tribal communities. Ultimately, the study underscores the urgent need for linguistically informed, socially inclusive, and technically supported orthography development to strengthen foundational literacy and preserve indigenous languages in Manipur.

Keywords: orthography, tribal languages, mother tongue education, standardization

1. Introduction

Orthography plays a vital role in mother tongue education, preservation, and promotion of endangered languages. It serves as the foundation for creating literature, educational materials, and

digital content. For languages with no indigenous script traditions, especially many oral languages, developing or adopting an effective orthography is often the first critical step in ensuring long-term language vitality (Coulmas, 2003). This is particularly relevant in multilingual and tribal contexts, such as the hill districts of Manipur, where most indigenous languages historically lacked a writing system.

The tribal languages of Manipur, like many across Northeast India, are predominantly oral in tradition. Their transition to written forms began largely in the early 20th century, with the advent of Christian missionaries who introduced literacy to these communities through Bible translation, hymn composition, and catechism materials. The missionaries, often unfamiliar with native phonologies, developed practical writing systems based on the Roman script, sometimes borrowing orthographic conventions from neighboring languages like Bengali or even English. In some cases, Bengali or Devanagari scripts were initially used, but these were largely replaced by Roman letter due to its perceived simplicity and alignment with Christian evangelism (Nag, 2020).

At present, speakers of at least 34 tribal communities in Manipur, including the 18 state-recognized tribal languages, use writing systems primarily rooted in these early missionary efforts. This shift marked a major cultural transformation, but the orthographies were often inconsistent. Often, they were designed to serve immediate missionary purposes, religious instruction and scripture reading, rather than long-term educational or linguistic needs. As a result, inconsistencies, phonological mismatches, and ad hoc spellings became embedded in the orthographic conventions passed down through generations (Grenoble & Whaley, 2006).

When we speak of language saving, promotion, or use in formal education, orthography becomes a cornerstone. Without a clear and consistent writing system, it is exceedingly difficult to produce textbooks, grammars, dictionaries, children's books, or online content, all of which are essential to transmitting a language to future generations. For languages with no traditional script, the challenges are greater. A functional orthography must accurately represent the phonemic inventory of the language, be learnable and teachable, and gain social acceptance among native speakers. Moreover, it must navigate sociopolitical dynamics such as inter-dialectal variation, community preferences, denominational differences, and modern expectations of digital usability.

English and Meitei dominate schools, relegating tribal languages to informal use. Bible-based orthographies often lack phonemic accuracy or consistency, confusing young learners. Thus,

when one attempts to teach a tribal language in school, the lack of a standardized, phonologically adequate orthography can lead to chaos. Different church groups, denominations, or community organizations may promote slightly different spellings. Some orthographies represent tone; others do not. Some include unnecessary letters or ambiguous diacritics. Without consensus, even basic teaching materials such as alphabets, primers, or spelling conventions vary from one source to another. This lack of standardization hinders both language teaching and the production of pedagogical materials.

This paper explores the grassroots challenges faced by tribal communities in Manipur's hill districts in their efforts to develop a systematic and standardized writing system for their languages. While there is a growing interest in developing educational materials, progress is often slowed more by differing attitudes within communities than by external political pressures over orthographic choices. This stands in contrast to the case of the Bodo language in Assam, where the script debate was linked to broader efforts promoting national integration before Bodo was recognized as a scheduled language in 2003.

This study aims to shed light on the complexities involved in orthographic development and contribute meaningful insights toward the collective effort of establishing a sustainable and community-accepted writing system in the region.

2. Methodology

First, the study involved a close textual examination of tribal language textbooks and literature produced by 18 officially recognized tribal languages. These included materials used in both formal education settings (government and private schools) and religious domains (church-based literature such as hymnals and Bibles). The writing systems in these texts were analyzed to identify orthographic conventions, including script usage, grapheme inventory, tone marking practices, and word division strategies. Second, the study incorporated field-based interactions with speakers of 17 tribal languages. These interactions included face-to-face conversations, informal interviews, and consultations with current and former leaders of community Literature Societies. Particular attention was paid to their views on mother tongue education and the challenges of orthographic standardization. Third, a structured survey was conducted to assess the status of indigenous language education and orthographic practices in the region. A total of 251 respondents participated, representing diverse roles: Literature Society leaders, schoolteachers, parents,

students, and community members with firsthand experience in local schooling. The survey contained both closed- and open-ended questions, focusing on language use at home and school, methods of instruction (monolingual vs. bilingual), availability of reading materials, and community attitudes toward orthography and policy involvement.

The sample was purposively drawn from eight hill districts of Manipur, ensuring linguistic and geographic representation. Field visits were made to five districts (Tamenglong, Kangpokpi, Senapati, Ukhrul, and Noney), while data from Churachandpur, Chandel, and Tengnoupal were gathered with the assistance of local volunteers due to travel constraints at the time of data collection (2023-2024). The researcher and trained volunteers administered the questionnaires, offering clarification where necessary, and conducting short interviews in cases of low literacy or for open-ended questions. Particular attention was given to inconsistencies in orthographic practices, community preferences, and challenges related to script and language instruction.

3. Writing System in North East Indian Tribal languages

The evolution of writing systems among the tribal languages of Northeast India is largely attributable to the efforts of Christian missionaries during the 19th and early 20th centuries. Initially, some tribal communities adopted scripts such as Bengali or Devanagari for religious texts, particularly Bible translations and hymns. However, the majority eventually transitioned to the Roman script, a change significantly influenced by Western missionary activities and the spread of Christianity. This shift was not merely linguistic but also ideological, aligning literacy practices with religious identity (Sahi, 2001).

Community-led and missionary-driven initiatives have played a crucial role in the early phases of orthographic development (Nag, 2020). Among the tribal languages, Khasi and Mizo are notable for having developed well-established orthographies using the Roman script. Both languages now boast extensive literary traditions and are taught up to postgraduate levels in several universities (Sharma, 2016).

The Development of Orthography among the Tribal Languages

The Khasi writing tradition began with William Carey of the Serampore Baptist Mission. In 1831, his convert Krishna Chandra Pal translated the New Testament into the Shella dialect using the Bengali script, aided by Sylheti and Khasi speakers; the translation was completed in 1824 (CIIL, 2017). A significant shift occurred in 1841 when Welsh missionary Thomas Jones, after analyzing

the Sohra dialect, developed a Roman script-based orthography. This provided better phonemic accuracy and gradually replaced Bengali in written Khasi (Dowman, 2008). Today, Khasi is widely written in Roman script, with newspapers like *Mawphor* sustaining literary expression.

Similarly, the Mizo language (also known as Lushai) of Mizoram adopted the Roman script through the intervention of British missionaries J.H. Lorrain and F.W. Savidge, who arrived in the Lushai Hills in 1894. These missionaries devised a practical orthography based on the phonological structure of Mizo and published primers and biblical texts, laying the foundation for a written tradition (Zawla, 1976). Today, Mizo has a strong literary presence, supported by publications like *Vanglaini*, and the language is taught formally from primary levels up to postgraduate studies.

Other tribal languages in the region that have adopted the Roman script and made notable progress in literacy development include Tenyidie and Ao in Nagaland, as well as Hmar, Thadou, Tangkhul, and Mao in Manipur. These languages have developed varying degrees of orthographic standardization and possess a growing body of written materials. In particular, mother tongue educational resources, such as primers, textbooks, and storybooks, are relatively widespread and are being used in community-based schools, church-run institutions, and multilingual education programs. While these efforts are often localized and uneven across communities, they represent important strides toward strengthening written traditions and promoting language maintenance through education. However, the lack of government-led linguistic planning and resource development has limited their full educational integration and literary growth (Singh, 2013). The neglect is especially pronounced in Manipur's hill districts, where numerous tribal languages remain under-documented or lack standardized orthographies

4. A Brief Linguistic Landscape of Manipur

Manipur, located in Northeast India, represents a linguistically diverse yet under-documented region. While the population is commonly grouped into three broad ethnolinguistic categories—Meitei, Kuki, and Naga—such classifications tend to obscure the actual complexity and richness of the region's language diversity. As Singh (2003, p. 78) observes, the bifurcation of Manipur's tribal communities into just Naga and Kuki is increasingly seen as inadequate and reductive.

According to official records, the Government of Manipur recognizes 34 tribes and has approved 18 tribal languages for early-grade education under the Multilingual Education (MLE)

framework. However, the Council of Tribal Languages and Literature Studies, Manipur, identifies as many as 37 distinct languages (Gangmei, 2012, p. 9). Despite these recognitions, a significant number of speech communities remain unstudied, poorly documented, or excluded from formal education and governmental use. Most tribal languages in Manipur belong to the Tibeto-Burman family and exhibit considerable phonological, morphological, and syntactic diversity.

Further complicating the linguistic scenario are the legal and political classifications tied to administrative and constitutional categories. Under India's system of Scheduled Tribe recognition, mutually intelligible dialects are often classified as separate languages due to their tribal identities being treated as distinct administrative units. Conversely, mutually unintelligible varieties, such as those spoken across different Tangkhul villages, are sometimes grouped under a single language label due to shared ethnic affiliation (Haokip, 2011, p. 5). This disconnect between linguistic reality and bureaucratic classification has led to inconsistencies in both language documentation and policy implementation.

A notable example is the case of the Uipo language, whose speakers are advocating for the recognition of the Uipo (Khoibu) tribe, previously subsumed under the Maring category in official records. While this grouping may have had some basis in shared cultural or historical ties, it did not accurately reflect the linguistic and ethnic distinctions perceived by the communities themselves. Similar reclassifications include the official recognition of Poumai as distinct from Mao in 2003; Liangmai and Zeme as separate tribes from the broader Kacha-Naga group in 2011; and Rongmei and Inpui as distinct tribes from Kabui in the same year¹.

Meiteilon (Manipuri), a Tibeto-Burman language and the only scheduled language of the state, functions as the lingua franca across Manipur. It is widely used in government administration, mass media, and education beyond the primary level. Nonetheless, in rural and tribal regions, local languages remain the primary mode of communication, particularly within households and community settings. Devi (2019) similarly observed that tribal languages are predominantly employed for domestic, cultural, and interpersonal exchanges.

On one hand, the limited presence of tribal languages in education and governance threatens their long-term vitality. On the other hand, their strong usage within communities provides a solid foundation for grassroots-based language maintenance, provided that institutional

¹The gazette of India, Ministry of Law and Justice (2012) (<https://tribal.nic.in/DivisionsFiles/clm/25.pdf>).

support and orthographic development are aligned with the linguistic and sociocultural realities of the region.

5. Current situation

As mentioned in §3, several community-based orthography development efforts in Manipur have emerged in recent decades. Some are led by churches, while others involve state-sponsored mother tongue education programmes. A majority of the 251 respondents indicated that they follow the writing system used in their respective Bibles or hymnals (see Figure 1). However, they also reported that these systems lack consistency, leading to confusion when attempting to write in their mother tongues. A few tribes have developed primers, storybooks, and dictionaries with the support of academic institutions such as Central Institute of Indian Languages, Mysuru. However, challenges remain. One of the main challenges is the lack of standardization in the present writing system of all tribal communities. Without a clear, accepted, and usable writing system, it is nearly impossible to introduce language in formal setting. Only through a participatory, linguistically informed, and culturally sensitive process can orthographies be standardized that truly serve the needs of language education and intergenerational transmission in the tribal communities of Manipur.

One of the major challenges confronting many tribal communities in their pursuit of literary development is the widespread belief that having an indigenous script is essential. This notion that a language lacks legitimacy or authenticity without its own unique script is a misconception. The vitality and value of a language are not determined by whether it has a distinct script. In practice, all 18 officially recognized tribal languages all hill's languages in Manipur use the Roman script, often adapted locally to reflect the phonological features of the language. These adaptations typically involve digraphs such as *ph*, *th*, and *ch*, as well as diacritical marks like *ī* and *ē* to capture specific vowel qualities, including the schwa (See Table 1). While the use of the Roman script has enabled a degree of literacy and mutual intelligibility across communities, the lack of a standardized orthography continues to pose a significant barrier to the consistent development of written materials, particularly for educational and literary use.

Table 1: A modified roman letter followed by different tribal communities in North East India

Language	Modified roman letters: number of letter	diagraph (ch, ts, ph)	diacritics (ū)	excluded symbol
Maram	26	yes	nil	nil
Liangmai	28	yes	nil	q v x
Kuki-Thadou	29	yes	no	q v f z
Rongmei	23	yes	no	f q v
Hmar	25	yes		q v
Mao	27	nil	yes	nil
Chang	23	nil	yes	x f r
Angami	23	nil	yes	x q
Dimasa	20	nil	nil	c f q x v z
Ao	23	nil		f q v x
Nocte	28	yes	nil	f q
Karbi	19	nil	nil	f q x z

(CIIL, 2014)

The need for standardization is pressing. A unified writing system is crucial for producing textbooks, children's literature, teaching resources, and other literacy materials. However, the process of developing a standard orthography is inherently complex and requires careful handling. As Malone (in Karan, 2014) rightly points out, writing systems are not created overnight they demand time, patience, open community dialogue, and often, compromise. In the case of Manipur's tribal languages, the haste to establish standardized orthographies often driven by political, educational, or social imperatives has at times undermined sustainable literary development. Rather than fostering cohesion, such premature efforts have occasionally sparked internal disagreements over orthographic choices, thereby impeding progress in mother tongue education.

All tribal languages in Manipur are tonal, and tone can play a crucial role in distinguishing word meanings. Yet, tone marking remains inconsistently applied or entirely absent in several orthographic proposals. The inclusion of tone marks adds complexity to reading and writing, and

communities are often divided over whether such detail is necessary or practical for daily use. Some prefer a phonemic orthography without tone, arguing it simplifies literacy instruction, while others advocate for tone marking to preserve linguistic accuracy and prevent ambiguity. This issue is ever present and also evolving.

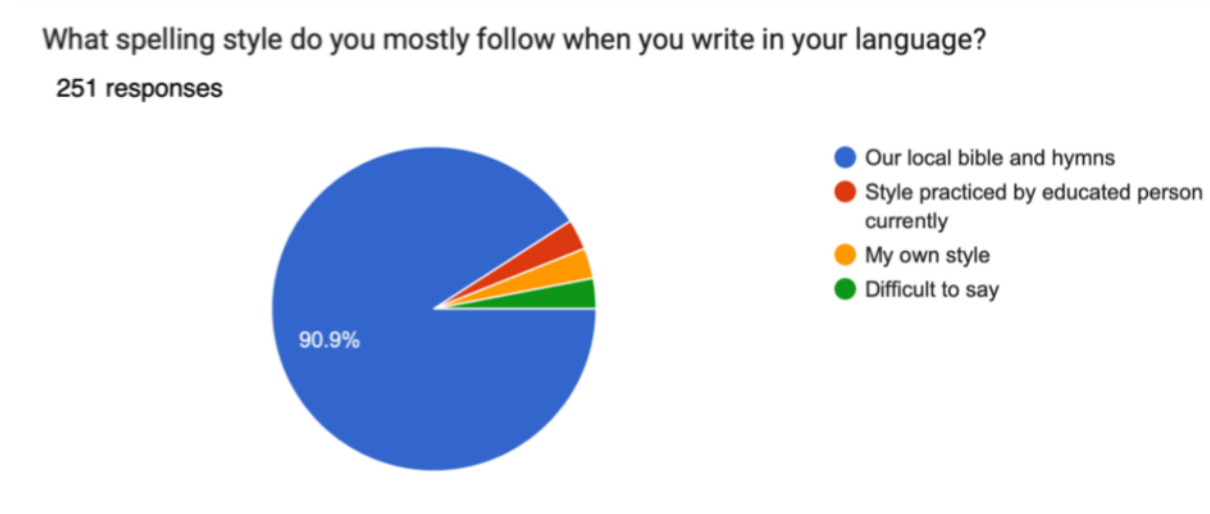


Figure 1: The current spelling system mostly followed by the respondents

6. Is invention of a new script essential?

When communities consider developing a writing system for their language, one of the fundamental questions they face is whether to invent a new script or adopt an existing one. Both approaches carry their own sets of advantages and limitations, particularly in the context of minority and endangered languages such as those spoken by tribal communities in Manipur.

Merits and Demerits of Inventing a New Script

One of the strongest arguments in favor of inventing a new script is the ability to design symbols that directly reflect the phonemic structure of the language. This means that every distinctive sound (phoneme) in the language can be assigned a unique symbol, making the orthography highly accurate and linguistically efficient. A well-designed script tailored to a specific language can also

become a strong marker of cultural identity and pride, uniting the community around a symbol system that is truly their own (Coulmas, 2003).

However, this ideal is not without challenges. Firstly, speech is a dynamic, expressive phenomenon. Human sounds involve not just phonemes but also intonation, tone, loudness, and emotion, elements that are difficult, if not impossible, to fully capture in written form. A writing system, no matter how finely tuned, is ultimately an abstraction of spoken language. This gap between speech and writing is a universal limitation (Coulmas, 2003; Daniels & Bright, 1996).

Secondly, for a newly invented script to gain widespread acceptance and utility, it must be standardized and integrated into modern communication systems. This includes being encoded in The Unicode², which allows digital representation of text across devices and different platforms. Without Unicode support, the script cannot be typed, displayed, or exchanged reliably in digital environments, such as WhatsApp, Facebook, TikTok, and other digital programmes. However, Unicode inclusion is a highly technical and time-consuming process. It requires substantial documentation, including a detailed description of the script, evidence of its current usage in media (such as television, print, or online platforms), and preferably a published linguistic grammars or orthography guide³. The case of the Gurung language, spoken in parts of Sikkim and Nepal, illustrates the difficulty of this process. Despite efforts to develop a script, Gurung has not yet been successfully encoded in Unicode, largely due lack of daily usage in media or published works in Gurung. In contrast, scripts such as Lepcha script of Sikkim and Meitei Mayek of Manipur were encoded more swiftly, as they fulfilled the essential requirements for digital standardization. This process often takes years, sometimes decades.

In addition, the adoption of a new script is a long-term endeavor (Karan, 2014). Historically, it can take 20 to 30 years for a new script to be learned, accepted, and used across generations. For communities whose languages are endangered or experiencing rapid shift, this lengthy transition period poses a critical risk. These languages may not have the luxury of time to undergo such a gradual process of orthographic development and community adaptation (Grenoble & Whaley, 2006).

² Unicode is a global standard developed by the Unicode Consortium that assigns unique codes to new scripts, enabling consistent digital use and display across devices, platforms, and applications.

³ I thank Ken Whistler, The Unicode, for sharing me detail process about the Unicode encoding process

Merits and Demerits of Adopting an Existing Script

On the other hand, the adoption of an already existing script, such as Devanagari, Meitei Mayek, Roman, or Sambhota, is often the more practical and sustainable path, especially for minority language communities. Existing scripts are already institutionalized, widely taught, and digitally supported. They are included in Unicode, supported by standard fonts and keyboards, and integrated into school curricula and publishing systems.

A key advantage of adopting a familiar script is ease of learning and transferability. Children growing up in multilingual settings, especially in India, are already exposed to multiple scripts such as Roman (through English), Devanagari (through Hindi), or regional scripts like Meitei Mayek. If a tribal language adopts one of these scripts, it reduces the cognitive load on learners, who no longer have to acquire an entirely new symbol system in addition to national and state languages. This promotes literacy efficiency, especially at the foundational stage of education.

Moreover, using a common script enhances the language's visibility and integration into national and digital platforms. For example, the Roman script is widely used in online communication and social media, making it easier to generate and share digital content in indigenous languages. It also enables the use of standard publishing software, keyboards, and fonts — resources that may not exist for a newly invented script.

Nonetheless, adopting an existing script is not without its challenges. Often, these scripts were not originally designed to accommodate the specific phonological features of tribal languages. As a result, they may lack symbols for certain sounds, requiring the use of digraphs, diacritics, or other orthographic conventions to compensate. This can introduce inconsistency and ambiguity unless there is a standardized spelling system developed and agreed upon by the community and linguists (Simons & Fennig, 2018).

Furthermore, script choice can become politically and culturally sensitive, particularly when communities associate certain scripts with dominant ethnic or religious groups (Adams, 2014, Lupke, 2011). For instance, using Meitei Mayek may be seen by some tribal groups as symbolically aligning with the Meitei majority, while using Devanagari may evoke associations with mainland Indian languages and cultures. These perceptions must be navigated carefully in community consultations (Nag, 2020).

In the context of Manipur's tribal languages, many of which are endangered or have low literacy rates, I have an opinion that the adoption of an existing script emerges as the more feasible and pragmatic option. While the invention of a new script may offer cultural uniqueness and phonological precision, the realities of time, resource constraints, and digital integration make it a difficult path for most communities. A well-adapted and standardized use of an existing script, supported by experts and community consensus, can meet both educational and preservation goals. The choice of script should ultimately be guided by a combination of linguistic appropriateness, community acceptance, technical feasibility, and sociopolitical context. With proper planning, even adopted scripts can be modified to accurately represent the sound system of a language, and standardized spellings can be agreed upon to facilitate teaching and publishing. In this way, the orthographic needs of tribal languages can be met without the long delays and technical obstacles associated with script invention.

7. Some practical suggestions

In recent years, there has been a surge of enthusiasm among tribal communities in Manipur to develop and standardize their orthographies. While this is a positive indication of rising language awareness and cultural pride, it is essential to recognize that orthography development is a nuanced and gradual process. It requires careful linguistic planning, time-bound community consultation, and coordination among stakeholders. Although inclusive community dialogue is vital, it must not become an open-ended process. Given that orthography touches deeply on identity, even individual members may raise objections based on personal or ideological grounds. Therefore, a structured and time-sensitive consultation strategy is needed.

Each tribe in Manipur has a state-recognized Literature Society and they must play a proactive role by working closely with trained linguists, educators, and relevant government agencies. Regular training and consultative workshops are essential to build local capacity. A balanced orthography must consider both linguistic precision and socio-political factors, including denominational differences, historical writing practices, and dialect variation. As noted by Cahill and Rice (2008), Pappuswamy (2017), and others, an effective orthography should ideally meet five core criteria: phonemic adequacy, simplicity, consistency, acceptability, and adaptability, ensuring it works across print and digital formats. Below are suggested steps for tribal language

communities in Manipur as they move toward orthographic standardization for foundational literacy.

Step 1: Adoption of Roman Script

Making a choice of script is the first step. The adoption of the Roman script has become a de facto standard for most tribal languages in Manipur. This is a crucial first step, as it provides a shared and accessible base for literacy development. The Roman alphabet's adaptability allows for localized modifications to suit the phonological features of each language.

Step 2: Defining Grapheme Inventory

Once the Roman script is adopted, the next step is to determine how many and which graphemes (letters or letter combinations) will be used to represent the language's phonemes. Based on survey data and text analysis from various tribal language primers, it is evident that communities have already begun this adaptation informally. Some use digraphs like *ph*, *ch*, or *sh*, while others introduce diacritics to represent vowel qualities, such as the schwa. For instance, some communities use *a* for both low central and schwa vowels, while others distinguish them with diacritics (e.g., *ǎ* or *ə*). Additionally, some have removed letters like *v*, *q*, and *c*, considering them phonetically irrelevant.

This step should be led jointly by linguists and community representatives, ensuring there is neither overrepresentation (introducing unnecessary symbols) nor underrepresentation (failing to represent important sounds, especially vowels). Given the Roman script has only five base vowels, many languages face underrepresentation in their vowel systems.

Step 3: Minding the Conventional Usage

Orthography development must also take into account existing conventions. Many tribal communities in Manipur have been writing in their languages for decades especially in religious domains, such as hymnals and Bible translations. These conventions, although informal, influence public expectations and language use. Communities with less historical writing such as the Thangal in Manipur or the Tikhir in Nagaland may find it easier to establish new standards since they are not constrained by existing orthographic norms. For them, current decisions will become the new conventions.

Step 4: Spelling Standardization

Creating a consistent and accepted spelling system is crucial. Communities must develop core word lists, which can be drawn from existing literature, religious texts, or oral word lists. However, inconsistencies are common even within the same community. For example, in Liangmai, the word for ‘animal’ appears as *chakhou* in Genesis 1:20 but as *chakhao* in Psalms 125:35 in different parts of the same Bible. Such inconsistencies create confusion for readers and hinder literacy. Developing a community dictionary can be a long-term solution, although it requires significant time and linguistic input.

Step 5: Word Division Practices

A clear and standardized policy on word division must be developed. This includes how to treat grammatical elements like possessive markers, case markers (accusative, locative, etc.), plural markers, and classifiers. In many Tibeto-Burman languages of Manipur, body parts and kinship terms cannot stand alone, for instance, they require possessive prefixes (e.g., *a-pu’* ‘my father’). In some cases, these prefixes are phonologically bound to the root, while in others, they can be written separately (e.g., *naliu ki’* ‘your house’). The orthography committee, ideally including linguists, must determine whether to join or separate such forms to ensure clarity and consistency.

Step 6: Tone Marking

Tone plays a crucial role in distinguishing meanings in many of Manipur’s tribal languages. Yet, tone marking remains minimal or inconsistently applied. For instance, in Liangmai, high tone is sometimes marked by doubling the final consonant (e.g., *khengg’* ‘ask’), mid tone is unmarked (*kheng* ‘to place pot on fire’), and low tone is marked by an *h* (e.g., *khengh’* ‘endure’). Similar approaches are observed in Sumi (Nagaland) and Rongmei (Manipur), where redundant letters such as *h* or *c* are used to indicate tone (Teo, 2014; Ragongning Gangmei, p.c., 2023). Whether or not to mark tone must be a deliberate decision, one that balances linguistic accuracy with literacy practicality. It is advisable to employ tone marking only in contexts where the absence of such marking in Roman script is highly potential to cause confusion for readers.

Step 7: Punctuation Norms

A consistent punctuation system must also be established, especially for educational and formal writing. Decisions need to be made about sentence-final punctuation, quotation marks,

paragraphing, and capitalization. These should align with broader literacy goals and existing practices in the Roman script environment.

Step 8: Testing and Promotion

Finally, the developed orthography must be tested and promoted. This includes both formal testing (in schools or workshops) and informal feedback (from fluent and non-fluent speakers). Community perceptions and usability must be monitored. An agency or language committee should take responsibility for awareness-building through workshops, community meetings, and digital media platforms such as YouTube or Facebook. Short videos or guides explaining the writing system, word division, pronunciation, and spelling can be effective tools for outreach. A primer book as a foundational book is crucial for spelling symbol awareness among the community members.

8. Conclusion

The question of orthographic development for tribal languages in Manipur is not simply a linguistic concern but a deeply sociocultural and political one. While the widespread use of Roman script introduced by missionaries laid the foundation for literacy, these early systems were primarily designed for religious use and often lacked phonological accuracy and consistency. As a result, they are ill-suited for use in formal education without significant revision.

Although 18 tribal languages are officially recognized for early-grade education, foundational literacy in these languages remains weak due to the absence of standardized and widely accepted orthographies. The desire to create such systems is growing, yet progress is slowed by divergent community views, denominational differences, and misconceptions about the need for a unique script. While script invention may carry symbolic value, the practical challenges of digital integration, Unicode encoding, and long adoption timelines make existing scripts, particularly the Roman script, a more feasible and sustainable choice. This study emphasizes that effective orthographies must be phonemically adequate, simple, consistent, acceptable, and adaptable (Cahill & Rice, 2008; Pappuswamy, 2017). Achieving this requires inclusive, time-bound consultations involving tribal Literature Societies, linguists, educators, and policy bodies. These efforts must also include local capacity-building, regular testing, and public awareness campaigns.

In sum, orthographic standardization is essential for the success of mother tongue education in Manipur. It must be rooted in community involvement and guided by linguistic principles and technological realities. A well-developed writing system will not only support foundational literacy but also contribute meaningfully to the preservation and vitality of Manipur's rich linguistic heritage.

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Role of Code-switching in Vocabulary Instructions to the First Year Undergraduate EFL Learners in Bangladesh

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Abstract

It has always been a challenge for EFL instructors to teach the vocabulary of the target language in useful ways. Language practitioners, especially in the EFL contexts around the world are in a continuous process of crafting and fitting various methods and techniques to teach vocabulary to learners. With a view to evaluate the efficacy of code-switching as a tool to deal with the teaching of vocabulary in EFL situations, the current study undertakes a focused group experimentation on 30 first year undergraduate EFL students at Jahangirnagar University. A finite set of vocabulary were selected based on the target learners' responses in a pre-instructional reading test activity. Teacher-made materials including class lectures, audio-visual clips, worksheets, etc. were developed with to establish an optimum level of interlanguage negotiation between English and Bengali. The study required 20 sessions of 50 minutes each to teach the selected vocabulary items with the help of code-switching and to measure their extent and nature of usages by the learners. Both qualitative and quantitative methods were applied throughout observations, evaluations, and explanations of the research findings. The performance rubrics were developed based on the participants' responses in the post-instructional test activities. The outcomes observed in the post-instructional test activities were found promising and productive as code-switching facilitated the target learners with learning and applying the target vocabulary items purposefully in their contextual needs.

Key Words: Code-switching, Vocabulary, EFL Context, Interlanguage Negotiation, Contextual Needs

1. Introduction

Code-switching (CS) as a practice of alternation between Bengali and English is a common phenomenon at different levels of EFL instructions in Bangladesh. The use of CS in EFL situations in Bangladesh is rooted in the pedagogical absorption of *The Grammar Translation Method*, particularly in the primary, secondary, and the higher secondary levels of education. The first year undergraduate EFL learners at Bangladesh encounter plenty of difficulties with managing English vocabulary for they have to adapt to an instructional medium typically based on English. Furthermore, the undergraduate EFL learners do not only wrestle with a wide range of English vocabularies, but also with instructional strategies they are not accustomed with. Using a focused group experimental design involving two groups of undergraduate students, the current study investigates the pedagogical implications of CS in vocabulary instruction to the first-year undergraduate learners in Bangladesh. The main objective of the study is to evaluate how far code-switching enhances the acquisition and retention of English vocabulary among EFL learners at this level. The study takes a mixed method approach in explaining the outcome of CS's application through a comparative analysis between the pre and post instructional test activities. Furthermore, it shades light on some pedagogical reclamation from the learners' insights retrieved from a casual conversation in L1 after the post-instructional test activities were over.

Although the incorporation of CS in vocabulary instruction in EFL contexts is considered contentious by many EFL researchers, the current study takes the complex sociolinguistic space of Bangladeshi EFL contexts into consideration with intent to redefine the implication of CS as an adaptive strategy at this level of education. The relevance of this study lies in both its academic contributions and practical implications. Firstly, very few studies have addressed previously the application-based implications of CS in vocabulary instructions in the EFL contexts. Secondly, most of them were found to be reluctant in statistical characterization of CS's operations into EFL situations. Through a comprehensive approach into investigation, the current study finds CS as an adaptive contextual strategy that facilitates "comfortable negotiation of meaning, easy networking between existing and new knowledge structure, and a stress free learning environment" (see Nation & Newton, 1997) . Moreover, the implications of CS is found to be aligned with learners' "cognitive needs and linguistic realities" (Auerbach, 1993; Gulzar, 2010). This research further interrogates the affective dimensions of CS: learners' comfort, motivation, and classroom

participation- often linked to their sense of linguistic security (Krashen, 1982). Therefore, the study underscores CS as a theoretically efficient strategic notion in the vocabulary instructions at this level of EFL context.

The current mixed method approach into the investigation finds CS compelling in vocabulary instructions to the first year undergraduate EFL context in Bangladesh. Findings of the study demonstrate a wide range of beneficial impacts of CS: reduce learners' anxiety, ensure classroom engagement, effective negotiation of meaning, and an overall improvement into the learning of English vocabulary for the target EFL learners. The study reveals that the sincere use of CS facilitates both comprehension of the target vocabulary items and learners' functional mastery over the focused dimensions of vocabulary usages: synonymic, antonymic, inflectional, derivational, and contextual applications. The outcomes observed in both the listening and guided writing tests in the post-instructional period show multifarious benefits of CS, especially for learners joining English-dominant academic instructions without sufficient prior exposures or readiness. In addition to its cognitive and linguistic advantages, the findings of the study also confirm CS's satisfactory role in addressing the affective factors of language instructions, particularly in the EFL context in Bangladesh.

2. Background of the Study:

This experimental study premises on the pragmatic EFL landscape of the first-year undergraduate program in Bangladesh that seeks to understand the implications of 'Code-switching' (CS) as a strategic tool in vocabulary instructions. This section of the study sheds light on specific objectives, research questions, significance, and research limitations those substantiate the background of the study.

2.1 Objectives of the Study:

EFL instructors have been wrestling for decades to teach English vocabulary in most useful ways. Code-switching, a method of 'alternation of two languages within a single discourse, sentence or constituent' has been practicing as a major pedagogical strategy in EFL contexts in teaching target language vocabulary. The current study in the form of focused group experimentation intends to measure the efficacy of 'code-switching' as a method in teaching English vocabulary to the EFL learners. The core objective of the study is to measure the impacts of 'code-switching' as teaching

technique in vocabulary instructions to the first year undergraduate EFL context in Bangladesh. Specifically, the present study aims to accomplish the following objectives:

1. to assess the efficacy of ‘code-switching’ in EFL classroom
2. to understand how the EFL learners associate, manage and use interlanguage properties
3. to offer pedagogic insights for vocabulary instructions in EFL situations

2.2 Significance of the Study:

This experimental study grounds on the implications of ‘code-switching’. Like all other EFL contexts, ‘code-switching’ is found to be extensively practiced phenomenon from the primary to the higher secondary level of education in Bangladesh though, the first year undergraduate EFL learners encounter an English-centric monolingual instructional system. That is to say, the learners at this level face multifarious challenges due to the transitions in pedagogic prescriptions and practices. The study at hand concentrates on the instructional efficiency of CS, particularly in instructing English vocabulary where the EFL learners at this level encounter significant transitional complications. This study takes CS as a strategic pedagogic tool to be implemented in vocabulary instructions, particularly to the EFL learners who go through a major pedagogic transition. Firstly, the significant investigative endeavour of the current study includes the identification of the contextual needs of the target EFL learners by theorizing the implication of CS in a statistical move. Secondly, with all its comprehensive findings; attempts to measure the pedagogic necessities required to have an optimum outcome out of the controlled implementation of CS in EFL contexts. Finally, based on the findings, the study also addresses significant affective factors that manipulate CS-based vocabulary instructions in the defined EFL context. Therefore, this empirical study is endowed with meaningful investigative activities with a view to uncovering the pragmatic roles and pedagogic possibilities of CS as an adaptive strategic tool in EFL vocabulary instructions.

2.3 Research Questions:

Having studied several research articles on the topic at hand, the researcher finds a significant lack in the application-based investigation on the implementation of CS as a pedagogic tool in vocabulary instruction at the undergraduate EFL context in Bangladesh. Most of the relevant studies are found to be conducted with a qualitative approach based on semi-structured interviews

with EFL learners and instructors. On these grounds, the researcher of this experimental study takes a mixed method approach that intends to qualify the impact of CS in EFL vocabulary instructions in light of quantitative data based on the learners' performances. Prior to the conduction of the research, the researcher considers the following as the research questions of the study:

1. How far 'code-switching' functions as an adaptive strategy in vocabulary instructions in the undergraduate EFL context of Bangladesh?
2. To what extent does 'code-switching' help the first year undergraduate EFL learners in retention and application of the target vocabulary items?
3. In what ways 'code-switching' helps first year undergraduate EFL learners prevail over the affective factors in vocabulary instructions?

2.4 Limitations of the Study:

Like many experimental studies in controlled environments, the current study is not free of its limitations. The major limitation of this experimental study centers around the limited number of participants it takes into operation. Additionally, the target vocabulary items were also limited in number. Furthermore, the pre-instructional and post-instructional test activities as the tool of assessment on learners' performance did not address all the four major language skills. Moreover, the extraneous variables like the facilities in experimental environment, experiences, and outward distractions may cause significant deficiencies to the assessment and evaluation process of this study. Again, the findings of this study may contain results stricken by Hawthorne effect due to the extra sensitivity and sincerity from the participants' part. However, keeping possible challenges in focus, the current study aspires to theorize instructional efficacy of CS with a view to enriching instructional pedagogy in the undergraduate EFL context in Bangladesh.

3. Review of Literature:

Olivera (2021) maintains a qualitative study examining CS's affective role in Philippine tertiary EFL classrooms, focusing on how switches to Filipino influenced students' confidence and participation in vocabulary teaching. This study operates on semi-structured interviews with 25 students and three teachers at a single university. Interviews investigated into teachers' CS strategies, students' emotional responses, and perceptions of CS's impact on learning vocabulary

and meanings. The study proclaims that L1 clarifications reduced anxiety among the participants and fostered clearer understanding of the new vocabularies. It describes CS as an emotional scaffold, bridging linguistic gaps and enhancing engagement. However, based on the teachers' and students' perspectives, the study cautioned that excessive CS could hinder L2 practice, particularly for speaking skills, as students reverted to Filipino during tasks. The study recommends moderate CS—targeted to initial explanations—to support confidence while encouraging English use.

Further, Gallagher (2020) maintains a comparative qualitative study exploring CS practices in tertiary EFL classrooms across three unspecified multilingual settings, focusing on its role in vocabulary instruction among other functions. Data were collected through classroom observations and semi-structured interviews with teachers. Observations noted CS's efficiency in conveying meanings, particularly for low-proficiency learners, with teachers reporting improved comprehension and participation. Interviews revealed that 80% of teachers viewed CS as a necessary scaffold but worried frequent use reduced English practice, especially for speaking tasks.

Adriosh & Razi (2019) undertake a mixed method study exploring the pedagogical functions of CS in EFL undergraduate classrooms at two universities in Libya, with a focus on its role in vocabulary instruction. This study sets its' core instrument as classroom observation in Arabic-EFL situations to examine CS's influence on learners' comprehension of new words and engagement in instructional activities. The study denotes that the teachers used Arabic in 60% of CS instances to define complex academic vocabulary for overcoming learners' limited proficiency as a barrier to comprehension. This focus group experimentation showcases that 85% of students perceived CS as reducing confusion, enabling faster understanding of word meanings, particularly for discipline-specific terms. However, the study also records that frequent switching disrupted fluency practice, especially in speaking tasks, as it shifted focus to L1 processing. Teachers acknowledged CS's scaffolding role but expressed concerns about over-reliance, which could undermine L2 immersion.

Again, Ehsan et al. (2019) conducted a study entitled, “The Impact of Code-switching on Vocabulary Learning among Iranian Upper-intermediate EFL Learners” through a focus group experimentation of about 64 male participants in Iranian context. The researchers equally divided the participants into two groups where one group got the treatment of code-switching and another

was not in the process of interlanguage explanation in new vocabulary teaching. The new word items were selected with the help of a pre-test activity for all the 64 participants and the results were presented based on the post-test performances between the experimental and controlled group of participants. The study offers an effective outcome in favour of the group treated with code-switching in teaching new vocabulary.

Mazur et al. (2018) ascribes the significance of context-based vocabulary learning in “Teaching Words in Context: Code-Switching Method for English and Japanese Vocabulary Acquisition Systems” with the help of a computer-mediated system of code-switching in L2 situations. In this experimental study, the researchers offer a wide range of statistical analysis in favour of context-based vocabulary learning. The study uses a co-mix method of vocabulary instruction and signifies the positive outcome of the code-switching phenomenon through the portrayal of results in semantic differential scale.

Zhao & Macaro (2014) undertakes a mixed method experimental study that examines CS’s role in vocabulary acquisition among 100 Chinese EFL undergraduates at a university in China. Participants, with intermediate to advanced proficiency, were randomly categorized into two groups: a CS group and an L2-only group. Data were collected via pre-tests, post-intervention tests, and production tests with certain intervals. The study also includes classroom observations that ensured consistent delivery of CS or L2-only methods. The result of the study offers that the CS group showed superior initial comprehension, achieving 88% accuracy versus 72% for the L2-only group, as translations linked words with L1 perceptions of the CS group. However, one month later to the initial investigation, the L2-only group outperformed in productive use (65% vs. 50% accuracy), reflecting stronger lexical integration from wrestling with English explanations. The CS group retained comprehension advantages (80% vs. 75%), but gains eroded over time. Students in the CS group reported lower cognitive effort, while L2-only students noted initial frustration but greater confidence in using words actively. The study concludes with a note that CS excels for immediate understanding but limits productive mastery to certain extent.

A qualitative study by Chowdhury (2012) investigated CS practices among EFL instructors at two private universities in Dhaka, Bangladesh, emphasizing the use of Bangla in English instruction, particularly for vocabulary teaching. The study was conducted with classroom

observation and semi-structured interviews with instructors. This study proclaims students' low to intermediate proficiency and anxiety as key drivers behind the deficiencies in EFL instructions at the tertiary level of education in Bangladesh, particularly to teach vocabulary items. It also recognizes CS's promising contribution in the reduction of cognitive load. Besides, it records that the incorporation of CS accelerates comprehension of new words, particularly when English-only explanations were unclear. The study positions CS as a culturally ingrained practice in Bangladeshi tertiary classrooms, necessitating careful management for it may potentially limit L2 exposures and hinder fluency.

Teaching vocabulary for L2 situations is asserted effective in context by Smith (1969) in his appreciated work entitled *Teaching Vocabulary*. Paul Smith argues that the foreign language teachers, while engaged in teaching vocabulary should concentrate less on the structure of the target words as they offer a plenty of framework than content. The study prioritizes the essence of contextual teaching and learning of target language vocabulary over accurate pronunciation and command of structure of the vocabulary items particularly, with a view to minimize the semantic blanks during lecture sessions. With an intention to bridge between the 'word' and the 'referent', Paul Smith suggests a wide range of activities related to the target learners' context along with the crafting of well suited testing modules in foreign language vocabulary teaching. That is to say, the study reflects an urge to place the learners on a platform of actual experience of L2 vocabulary items in native context.

4. Theoretical Overview:

4.1 Code-switching:

Code-switching, as a tool to teach foreign languages to the target learners arrests increasing interest among language practitioners around the world. The method of code-switching became popular in the EFL contexts, particularly with the language communities who have been dealing with certain systems of "The Grammar Translation Method" in teaching English for decades. Jamshidi & Navehebrahim (2013) see code-switching as "the alternation of two languages within a single discourse, sentence or constituent". For example, "Multifarious exploitation from the military government of Pakistan built JATIOTABADI CETANA among common Bengali people in 1971". Here, JATIOTABADI CETANA is a Bengali phrase used within an English sentence that replaces *nationalistic conscience*. In general sense, it is viewed as a system of insertion of a word or a group of words from one language into another. People involved in code-

switching are generally bilingual in nature and they do this with an intention to convey meaning effectively in conversational contexts. On the contrary, the coin has its' opposite side as well. Nishimura (1995) offers lots of evidences that code-switching is also used by people having less proficiency in the second/ foreign languages to minimize linguistic gaps especially, while they face the problem of insufficient vocabulary. However, researchers of around last two decades pen through the positive effects of code-switching in teaching second language.

4.2 Vocabulary Instruction:

Vocabulary instruction is a fundamental part of language instructions, particularly in EFL contexts. Effective vocabulary instruction goes beyond simple memorization; it involves helping learners connect new words to their prior knowledge and use them in meaningful ways. Teachers and/ instructors employ a variety of strategies such as using visual aids, bilingual translations, contextual examples, storytelling, and interactive activities to develop understanding. Emphasizing word relationships, such as synonyms, antonyms, and word families, also facilitates vocabulary knowledge. Repeated exposures and active engagement—through reading, writing, speaking, and listening—are crucial to reinforce vocabulary learning. Additionally, encouraging students to use new vocabulary in authentic conversations fosters retention and confidence. Teaching meanings alongside vocabulary not only enhances comprehension but also empowers learners to express themselves more clearly and effectively. In due course, a balanced approach that integrates direct instruction, context-based learning, and consistent practice builds a strong, functional vocabulary foundation for students.

4.3 EFL Context:

EFL stands for “English as a Foreign Language” denoting the practice of studying English in an environment where it is not the dominant language. EFL students mostly learn English as a foreign language within their own native country (or a country that is not a typical English-speaking one). It seems that these students are deficient in experience in the languages' cultural and historical background. Their exposure is limited in the authentic target language community and they predominantly depend on their weekly classes. For example, Bengali is the native tongue of the EFL students of Bangladesh who learn English within their native context and mostly they depend on academic activities in doing English.

4.4 Undergraduate EFL Education in Bangladesh:

Oxford Learner's Dictionaries defines undergraduate education as “the period of study at a

university or college leading to first degree, most commonly a bachelor degree”. Undergraduate education in Bangladesh refers to the post-secondary education at universities, colleges, and institutes those certify degrees to the learners in their respective area of knowledge. English is taught as a compulsory GED course in almost all the disciplines at this level of education in Bangladesh. The current study considers the first-year students of Bachelor degree in the Department of International Relations at Jahangirnagar University who mandatorily takes 4 credits on English language course to attain their Bachelor of Social Science degree.

5. Methods

5.1 Setting and Participants:

The study takes place in the English language classrooms of the Department of International Relations at Jahangirnagar University that involves 30 participants from the first year B.A. (Honors) program. The range of age of the participants was eighteen to twenty and they had an experience of studying English as a foreign language for at least twelve years. The two groups, each containing 15 members and mixed in sex were formulated among the participants to operate the post-instructional test activities. The participants were grouped on basis of the comprehensive score they obtained in the MCQ based pre-instructional test. Group-1 was formulated with the participants who scored above 70% marks in the pre-instructional test activity. On the other hand, Group-2 was formulated with the participants having less than 50% marks in the pre-instructional test. The first language of all the participants in both the groups was Bengali.

5.2 Instruments:

The primary instrument applied into the current study was a MCQ based pre-instructional reading test to measure their proficiency in the target language vocabulary. A well thought reading passage of about 1000 words along with 20 MCQ questions is used as the researcher-made pre-instructional vocabulary test instrument to the participants to be respond to. The researcher develops and applies a variety of language materials into the later instructional sessions and activities focusing on the vocabularies that challenged the participants during the pre-instructional test activity. The researcher-made post-instructional vocabulary test instruments in the form of listening and writing tests were designed in such a way that the participants might get frequent opportunities to use the target words in the post-instructional test segments.

5.3 Procedure:

After the conduction of the pre-instructional reading test on vocabulary skills, the researcher

checked the responses of the participants with a view to find out the words those were beyond their current level of competency. Then the researcher made a friendly environment in the classrooms through a casual conversation with the experimental groups in L1 to be more accurate in his pre-instructional test findings by making a bridge between the participants' response papers and the vocabulary challenges exposed orally by the participants in the conversation hours. After having learners' collective perspectives on the use of CS to expose vocabularies and their meanings, the researcher considered 10 vocabulary items in common to be taught for all the participants round the semester with the help of well-developed language materials focusing on the selected vocabulary items. During each instructional session, the target vocabularies were explained with the help of code-switching from the target language to the native tongue of the experimental groups. Each time the target vocabulary items were taught and explained, they were treated sincerely in accordance with the target learners' native contexts. The selected vocabularies were pronounced, translated, their grammatical categories were explained with inflectional and derivational formations and their contextual usages were explained and exemplified through grammatically well-formed sentences. After the completion of 20 instructional sessions, two post-instructional test activities: one listening test and one guided writing test were arranged. The test contents set at this level of activities were well thought by the researcher so that the participants may create chances to use them in answering. The post-instructional test responses were well scrutinized by the researcher and a separate portfolio was developed for each participant according to his/ her usages of the target words. Finally, the researcher made some mathematical calculations to make the findings definite and visible.

5.4 Data Collection and Analysis:

In the current focus group experimentation, pre-instructional and post-instructional test activities function as the main sources of data. Since, the number of participants in the experimental groups was limited in number; their responses against the pre-instructional and post-instructional test activities were evaluated, scrutinized, and calculated carefully by the researcher in the most traditional way of scripts checking. The data based on their various dimensions of performances were preserved in the individual portfolio for each participant. Finally, the researcher uses descriptive statistics including mean and percentage to analyze and explain the data for measuring the impacts of code-switching in vocabulary instructions to the focused experimental groups.

6. Findings and Discussion

The findings of the empirical study showcase a number of affirmative implications on CS's application in vocabulary instructions- to clarify meanings, explain difficult concepts, develop grammatical categorizations, learn syntactic procedures through cross-linguistic structural discoveries, relate contextual needs of the target learners, and manage effective classroom interactions at the first year undergraduate EFL education in Bangladesh. In catching the CS's impact on instructional outcomes, performative checklists for both the groups were developed based on the post-instructional test activities showing learners' supremacy in retention and contextual handling of the target vocabulary items that are assessed through certain levels of performative areas. As the assessment checklist record, the learners from both the groups performed almost equally after having similar CS-based instruction, although their performance-based grouping in the pre-instructional period suggests a clear inter-group gap in terms of knowledge and skills related to the target vocabulary management. The precise performances of the focused groups and their parallel progresses in target vocabulary management during the post-instructional test activities are marked out in the following section of the study.

This empirical study records the pedagogical value of code-switching (CS) in the teaching of English vocabulary to the first year undergraduate EFL context in Bangladesh. Despite having significant gaps in terms of command over target vocabulary items between the experimental groups in the pre-instructional period, the performance records reflected in the following checklists based on the post-instructional period highlight that the careful conduction of CS in vocabulary instruction accelerated both the group performances. Both the groups show positive reflections of CS in both of the post-instructional test activities: the listening test activity and the guided writing test activity. The learners' post-instructional performances are documented in the performance checklists follows:

Target Vocabulary Items	Accuracy in Listening Test in terms of the number of the participants	Performative Distribution in Guided Writing Test								
		Synonymic Usages		Antonymic Usages		Inflectional Usages		Derivational Usages		Contextual Appropriation in terms of the number of the participants
		Total Number of Users	Total Number of Usages	Total Number of Users	Total Number of Usages	Total Number of Users	Total Number of Usages	Total Number of Users	Total Number of Usages	
Ambiguous	14/15	7/15	11	4/15	5	0/15	0	4/15	5	2/15
Assessment	15/15	8/15	13	1/15	1	8/15	11	2/15	2	8/15
Arbitrary	13/15	10/15	16	5/15	9	0/15	0	5/15	8	3/15
Derivation	14/15	11/15	17	0/15	0	4/15	5	3/15	5	4/15
Identical	15/15	12/15	18	6/15	8	0/15	0	1/15	1	5/15
Instigation	12/15	4/15	9	2/15	5	2/15	3	0/15	0	3/15
Pragmatic	14/15	6/15	13	3/15	4	0/15	0	0/15	0	3/15
Reinforce	14/15	9/15	12	2/15	3	5/15	8	2/15	2	5/15
Sophistication	15/15	11/15	14	4/15	7	3/15	6	0/15	0	2/15
Stimulus	14/15	10/15	15	3/15	4	3/15	5	0/15	0	7/15

Figure-6.1: Performative Checklist in the Post-instructional Test Activities (Group-1)

Target Vocabulary Items	Accuracy in Listening Test in terms of the number of the participants	Performative Distribution in Guided Writing Test								
		Synonymic Usages		Antonymic Usages		Inflectional Usages		Derivational Usages		Contextual Appropriation in terms of the number of the participants
		Total Number of Users	Total Number of Usages	Total Number of Users	Total Number of Usages	Total Number of Users	Total Number of Usages	Total Number of Users	Total Number of Usages	
Ambiguous	15/15	6/15	11	5/15	7	0/15	0	3/15	7	3/15
Assessment	15/15	9/15	14	2/15	3	9/15	11	6/15	11	6/15
Arbitrary	12/15	11/15	14	6/15	11	0/15	0	4/15	4	2/15
Derivation	13/15	10/15	16	0/15	0	3/15	6	3/15	6	3/15
Identical	14/15	12/15	17	8/15	12	0/15	0	2/15	3	4/15
Instigation	13/15	8/15	10	5/15	5	3/15	3	0/15	0	2/15
Pragmatic	15/15	7/15	12	7/15	8	0/15	0	0/15	0	4/15
Reinforce	14/15	10/15	13	3/15	6	7/15	9	3/15	3	5/15
Sophistication	14/15	9/15	13	4/15	5	3/15	5	1/15	1	2/15
Stimulus	13/15	6/15	10	2/15	3	3/15	6	0/15	0	3/15

Figure-6.2: Performative Checklist in the Post-instructional Test Activities (Group-2)

The figure 6.1 as the performance rubric of the experimental group-1 maintains that 93.33% participants in average were accurate in response in the post-instructional listening test activity.

On the other hand, the figure 6.2 ensures that 91.86% participants in average from the experimental group-2 attained accuracy in the similar post-instructional test segment. The performance rubrics also hold that no target items were performed by less than 80% participants from both the experimental groups. The lowest average accuracy (83.33%) attained against a single item by respondents from both the groups. The reason behind the poorer performance on a single item was justified in the post-instructional conversation session by most of the participants with a note that the pace and native like accent of the listening text was quite up above their competence in the target language. Few of the participants also accused the pedagogic limitation of orientation and practice of listening activities in their prior academic levels. The finding on the post-instructional listening test interestingly catches that 33.33% of the target items were performed with 100% accuracy by the respondents from any and/ or both groups. The performances on the post-instructional listening test articulate learners' progression in detection, comprehension, and application of the target vocabulary items equally for learners having discrepancies in exposure and ability. The overall result in the post-instructional listening test activity signifies CS as an effective adaptive strategy for the first year undergraduate EFL learners in Bangladesh. Figure 6.3 below summarizes a comparative performance record between the experimental groups on the post-instructional listening test that infers significant positive outcome of CS in vocabulary instructions at the first year undergraduate EFL context in Bangladesh.

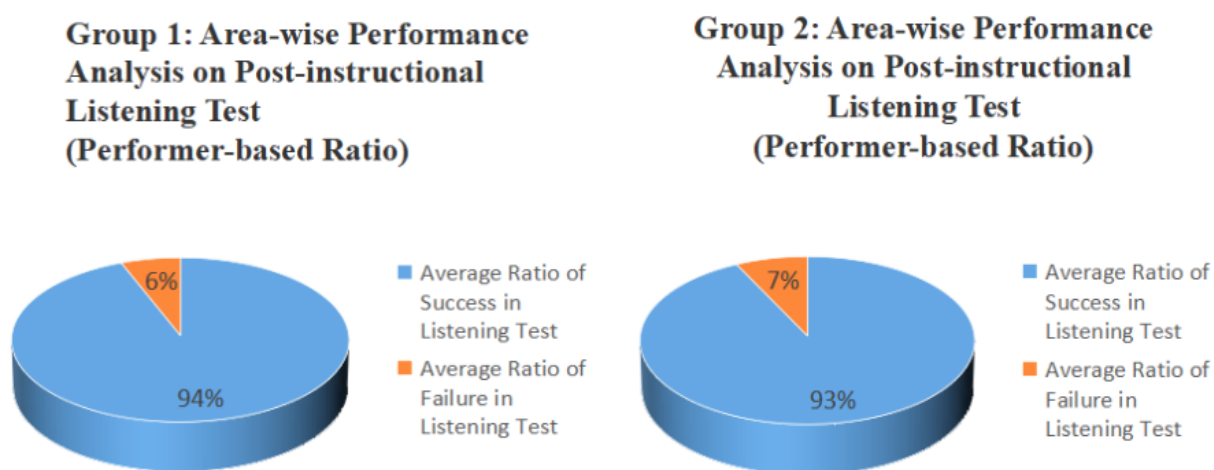


Figure 6.3: Comparative Analysis on Area-wise Performances between Experimental Groups in the Post-instructional Listening Test

Again, the performance checklists of both the groups maintain harmony in terms of learners' excellence and achievements in the post-instructional guided writing test. At this stage of assessment, learners' performances were measured against five distinctive set skills of vocabulary usages: synonymic usage, antonymic usage, inflectional usage, derivational usage, and contextual usage. The guided writing test were instructed in such a way that the learners might have opportunities to use every target vocabulary item in their composition by utilizing their prior knowledge and apply them in the set dimensions of usages. The overall performances of the learners from both the groups were found promising. Figure 6.4 below reflects the comparative graphical record between the two experimental groups regarding area-wise average performances and thus, the affirmative implications of CS on EFL learners' mastery over set vocabulary items becomes justified.

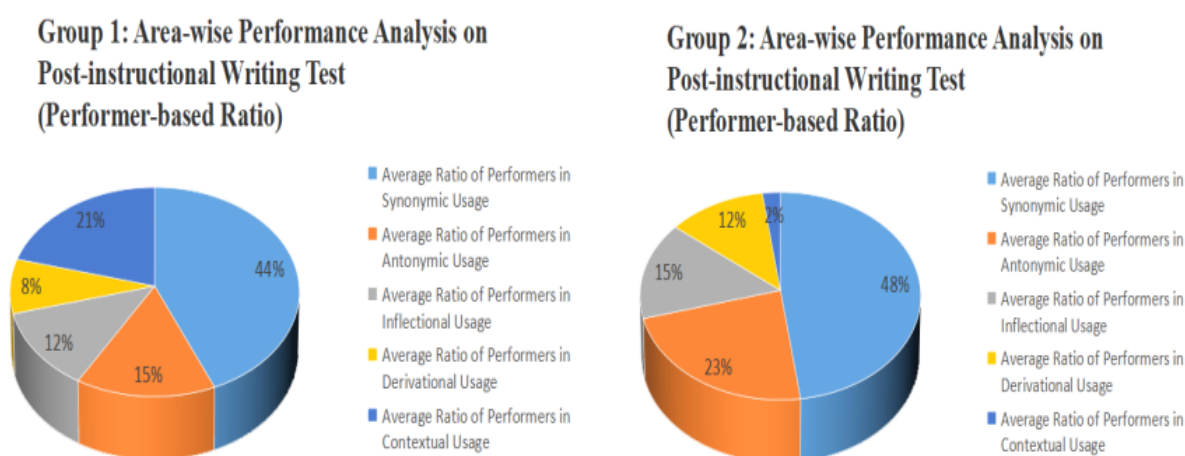


Figure 6.4: Comparative Analysis on Area-wise Performances between Experimental Groups in the Post-instructional Writing Test

To be precise in outcome; learners' achievement in the guided writing test showcases that the learners from both groups ensure synonymic usages to all the words from the target vocabulary list. Again, 93.33% targeted items in the vocabulary list were used with their antonymic forms by the performers of both the groups. Almost in all cases, the ratio of users and usages between two experimental groups in synonymic and antonymic applications were found analogous to great extent. Similar result is reflected in case of the inflectional and derivational usages of the targeted vocabulary items by both the groups. The learners from group-1 show their ability to use the

targeted words inflectionally by 60%, whereas the learners from group-2 confirm 70% of the targeted words to be used in inflected ways. The performance checklists also present that 60% items from the target vocabulary list is accurately constructed through derivational process by the learners of group-1, whereas the learners from group-2 excels 10% more in the same ground of performance. The scenario substantiates learners' development in grammatical and morphological understanding on the targeted vocabulary items. The performance checklists again reflect learners' growing ability to satiate their contextual needs by incorporating the new vocabulary items in communication. As the checklists show, 100% targeted vocabulary items are contextualized by the learners from both groups; including 28% of the participants from group-1 and 22.66% of the participants from group-2. The overall scenario in the post-instructional guided writing test represents EFL learners' progresses and possibilities in vocabulary acquisition with the assistance of CS as an efficient learning and adaptive strategy.

7. Conclusion:

The findings of this empirical study confirm the pedagogical efficiency of code-switching (CS) as a contextually beneficial and functionally adaptive instructional strategy in enhancing English vocabulary acquisition among the first year undergraduate EFL learners in Bangladesh. Despite initial discrepancies in vocabulary knowledge and their usages, both the experimental groups demonstrated notable improvements in their post-instructional performances, which clearly support the role of CS in bridging linguistic and cognitive gaps during vocabulary instruction. Through a balanced integration of Bengali and English, CS provided learners with a comprehensible and comfortable platform for negotiation of meaning, facilitated learning, and ensured engagements in classroom activities.

The study further reveals that the strategic use of CS not only aids in the comprehension of vocabulary items but also enhances learners' functional mastery across various dimensions of vocabulary usage, including synonymic, antonymic, inflectional, derivational, and contextual applications. The substantial gains observed in both the listening and guided writing tests underscore the multifaceted benefits of CS, especially for learners lifting them up into an English-dominant academic environment without sufficient prior exposure or readiness. In addition to its cognitive and linguistic advantages, CS plays a crucial role in addressing the affective dimensions of language learning. As found in the post-instructional conversations, learners expressed comfort

and reduced anxiety when CS was employed during instruction. This emotional reassurance seemingly contributed to their increased motivation and willingness to participate in the pedagogical activities. The consistent performance between the two groups, despite their varying initial competencies, strongly suggests that CS helps level the playing field and fosters inclusive participation.

The findings of this research call for a pedagogical shift in the traditional monolingual approach of vocabulary instruction in Bangladeshi first year undergraduate classrooms. While complete reliance on L1 is neither encouraged nor practical, a judicious and purposeful application of CS can act as a scaffolding tool, easing the transition from L1 to L2 learning. The study aligns with prior research advocating for learner-centered approaches that are sensitive to learners' linguistic realities and socio-cultural contexts (Auerbach, 1993; Nation & Newton, 1997). Given the empirical evidence and the sociolinguistic dynamics of the Bangladeshi EFL context, educators and curriculum designers are suggested to reconsider the rigid boundaries around language use in the classroom and embrace CS as a supportive instructional tool that aligns with learners' needs, rather than viewing it as a pedagogical concession. The study leaves spaces to the future researchers for expanding on these findings by exploring the long-term retention of vocabulary and investigating CS's implications in other linguistic competencies such as reading comprehension and oral fluency.

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Culturally Responsive Pedagogy in English Language Teaching: Embracing Diversity for Inclusive Learning

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Abstract

In today's increasingly multicultural classrooms, English Language Teaching (ELT) must evolve to reflect and respect the diverse cultural backgrounds of learners. Culturally Responsive Pedagogy (CRP) is an educational approach that acknowledges the cultural knowledge, prior experiences, and unique learning styles of students to create more inclusive and effective learning environments. This paper explores the role and impact of CRP in ELT contexts, with a focus on how language teachers can integrate culturally relevant practices into curriculum design, instructional strategies, and classroom interactions. The study adopts a qualitative methodology, including interviews with ELT teachers, classroom observations, and student surveys to understand how CRP is currently implemented and perceived by instructors and learners. Findings reveal that CRP enhances student engagement, fosters a sense of belonging, and promotes better language acquisition outcomes. However, the research also identifies barriers such as limited teacher training, lack of culturally diverse teaching materials, and systemic constraints within institutions. The paper argues that integrating CRP into ELT is not only pedagogically effective but also ethically necessary in fostering equity and inclusion in language education. Practical recommendations are offered for curriculum planners, teacher educators, and policymakers to better support culturally responsive approaches in ELT classrooms worldwide.

Keywords: Culturally Responsive Pedagogy, English Language Teaching (ELT), Multicultural Education, Inclusive Learning, Intercultural Competence

Introduction

In an era of globalization and migration, English language classrooms have become increasingly diverse, with students coming from a wide array of cultural, linguistic, and social

backgrounds. This shift challenges traditional, one-size-fits-all teaching methods and demands a more inclusive, culturally sensitive approach to language instruction. Culturally Responsive Pedagogy (CRP) has emerged as a key framework that addresses these challenges by centering learners' cultural identities and lived experiences in the learning process. Originally conceptualized in the context of multicultural education, CRP has found meaningful application in English Language Teaching (ELT), where language is deeply intertwined with culture. This paper investigates how CRP can be effectively integrated into ELT practices, exploring its benefits, challenges, and practical applications. It emphasizes the importance of recognizing students' cultural capital as a resource rather than a barrier, and highlights the role of teachers in mediating culturally inclusive interactions. By drawing on qualitative research conducted among ELT professionals and learners, the study aims to provide insights into current practices and propose actionable strategies for more equitable and responsive teaching. Through this inquiry, the paper contributes to the growing body of scholarship that advocates for a more humanistic and inclusive approach to language education. [2] [3]

Objectives of the Study

- To explore the implementation of culturally responsive pedagogy (CRP) in English Language Teaching (ELT) classrooms.
- To examine ELT teachers' perceptions, strategies, and challenges in applying CRP within culturally diverse learning environments.
- To analyze the impact of culturally responsive teaching practices on student engagement, participation, and language acquisition.
- To evaluate the availability and use of culturally inclusive teaching materials and resources in ELT contexts.
- To propose pedagogical recommendations for integrating CRP effectively into ELT curricula, teacher training programs, and policy frameworks.[3] [1]

Research Methodology

Research Design:

This study employs a qualitative research design, supported by descriptive analysis, to gain

in-depth insights into how culturally responsive pedagogy functions in ELT settings.

Participants:

Teachers: 10 English language teachers from secondary and higher education institutions with multicultural student populations.

Students: 50 learners from diverse linguistic and cultural backgrounds enrolled in English language courses. [1] [3]

Data Collection Methods:

1. Semi-structured interviews with ELT teachers to understand their awareness, practices, and challenges related to CRP.
2. Classroom observations to record the use of culturally responsive strategies during instruction.
3. Student surveys/questionnaires to gather learners' perspectives on cultural inclusivity, motivation, and classroom experiences.
4. Document analysis of teaching materials and lesson plans for cultural representation.

Data Analysis:

- Interview and observation data was analyzed using thematic analysis to identify recurring patterns and insights.
- Student responses was categorized and interpreted to reflect learners' attitudes and experiences.
- The triangulation of data sources ensures reliability and validity of findings.

Analysis and Discussion

The data collected through interviews, classroom observations, and student surveys reveal several significant trends regarding the implementation of Culturally Responsive Pedagogy (CRP) in ELT classrooms.

Teachers' Understanding and Application of CRP: Most participating teachers demonstrated an awareness of cultural diversity in their classrooms but varied in their depth of understanding of CRP principles. Some equated CRP simply with celebrating festivals or using multicultural texts, while others incorporated deeper strategies such as drawing on students' linguistic backgrounds or using culturally relevant analogies to explain English grammar. [1][5]

Instructional Strategies: Teachers who actively practiced CRP employed methods such as:

- Code-switching to support multilingual learners.
- Using culturally diverse examples in reading and writing activities.
- Encouraging students to share their own cultural narratives during speaking sessions.

These approaches promoted better engagement and made learners feel respected and represented.

Classroom Climate and Student Engagement: Classrooms that embraced CRP had more collaborative environments. Students reported feeling a greater sense of belonging, which positively influenced their participation and confidence in using English. This was particularly noticeable among learners from marginalized or minority communities.

Challenges

Common challenges included:

- Lack of culturally inclusive textbooks.
- Institutional pressure to follow rigid syllabi.
- Limited professional development opportunities on CRP.

Teachers also expressed concern about unintentionally stereotyping or misrepresenting cultures due to inadequate training.

Findings

- Based on the analysis, the study identified the following key findings:
- Culturally responsive pedagogy enhances student motivation and participation, especially among learners from underrepresented communities.
- Teachers who integrate students' cultural knowledge into lesson planning create more inclusive and effective learning environments.
- Students respond positively to culturally relevant content, reporting increased comfort in classroom interactions and improved confidence in language use.

- Despite growing awareness, implementation of CRP remains inconsistent, often limited by a lack of resources, rigid curriculum frameworks, and insufficient teacher training.
- There is a critical need for institutional support, including the integration of CRP principles into teacher education programs, availability of multicultural teaching materials, and encouragement of reflective teaching practices. [3][4][6]

Implications for ELT Practices

The findings of this study underscore the transformative potential of Culturally Responsive Pedagogy (CRP) in English Language Teaching (ELT). To foster inclusive and effective language learning, several practical implications must be considered:

Curriculum Development: ELT curricula should integrate culturally diverse content, including literature, examples, and real-world contexts that reflect learners' backgrounds. Materials should move beyond tokenism to represent the complexities of various cultures.

Teacher Training and Professional Development: Pre-service and in-service teacher education programs should include modules on cultural competence, anti-bias training, and inclusive instructional strategies. Teachers need continuous exposure to best practices in CRP.

Assessment Practices: Language assessments should account for cultural and linguistic diversity. Teachers must design assessments that are fair, contextualized, and meaningful across cultures.

Classroom Practices: Teachers should encourage cultural sharing, adopt flexible teaching methods, and allow students to express themselves in ways that reflect their identities. Culturally relevant examples and student-led discussions can create a participatory learning environment.

Institutional Support: Schools and universities must support CRP implementation by providing access to multicultural teaching resources, fostering community engagement, and promoting policies that value linguistic and cultural diversity.[1][3]

Conclusion

Culturally Responsive Pedagogy offers a powerful framework for transforming English Language Teaching into a more inclusive, equitable, and engaging practice. This research has highlighted how CRP supports learner identity, improves language acquisition, and fosters a respectful classroom climate. However, challenges such as limited resources, institutional rigidity, and teacher preparedness hinder its full implementation. The study calls for a systemic shift in

ELT—from viewing culture as an add-on to recognizing it as integral to language learning. Empowering teachers through professional development and revising curriculum policies are crucial steps toward achieving this vision. Future research could explore the long-term impact of CRP on learner outcomes and investigate how digital technologies can further support culturally inclusive ELT practices.

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Analytical Study on *Life of Pi*: Exploring Marginalized Identities Across Cultures

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Abstract

Yann Martel's novel *Life of Pi* explores how identity is shaped by different cultures and religions. The protagonist of the novel, Piscine Molitor Patel (Pi), gets attracted to all three religions - Hinduism, Christianity, and Islamic religions, showing his interest in all three religions and their practices. This narrative reflects India's religious diversity and the challenges faced by people with mixed cultural and spiritual identities. As Pi moves from India to Canada due to unfortunate situations and later survives at sea, his journey represents these struggles. Living on a lifeboat with the animals, it symbolizes how one must adapt, stay strong, and explore one's way to understand the world. Being open-minded and inclusive can help societies embrace diversity. The novel presents a powerful message about identity, survival, and the beauty of blended cultures coming together. The paper explores how people with mixed identities face more difficulties with acceptance and understanding in new environments. The story of *Life of Pi* illustrates the

interconnectedness of identity, migration, and faith in shaping an individual's sense of self. Pi's story is an icon of accepting mixed identities in a multicultural world.

Keywords: Multiculturalism, identity crisis, religion, migration, cultural diversity

Introduction

Cultural identity is an integral part of literature and society. Yann Martel is a contemporary Canadian author who is best known for his Man Booker Prize-winning Novel *Life of Pi* (2001). His literary output includes *Life of Pi*, *High Mountains of Portugal*, *Beatrice and Virgil*, and *Self*. His short stories include: *The Facts Behind the Helsinki Roccamatios*, *Manners of Dying*, and *Mirrors to Last till Kingdom Come*. The novel deals with the themes of religious faith and spiritual belief. Yann Martel explores identity through regional and cultural variations, particularly in the context of marginalized communities.

The protagonist of the novel, Piscine Molitor Patel (Pi), was born and brought up in Pondicherry, a former French colony in India. His parents named him after a famous and luxurious swimming pool in France called Piscine Molitor. His father, Santosh Patel, hails from a Hindu background, but he was secular and rationalist, and his mother, Gita Patel, was also raised as Hindu, but she had a Baptist education as an adult; she is described as non-religious. Pi's mother did not actively participate in any religion, but she encouraged Pi to read as much as he could. His family moved from Pondicherry to Canada due to an emergency declared by the Indian government. Before going to Canada, they sold most of their animals to different zoos. Only two of the animals remained along with them. Pi's father wanted to provide a better life for his sons, unfortunately their ship drowns in the water and his parents die. His journey from India to Canada caused him to feel like a victim of his own circumstances. As an adult, Pi was attracted to Hinduism, Christianity, and Islam. He saw the world in two ways. One is Indian culture, shaped by his roots, and the other one is learned British culture. All these situations made him live a multicultural life.

Identity Crises in Known and Unknown

Identity is one of the most controversial topics in the postcolonial world and even in literature. In the novel, Pi's identity is moving from a familiar to an unfamiliar world. Identity is not fixed; it is

an ongoing process. As the shipwreck occurs in island waters, Pi somehow survives, and along with him, some of the animals also remained. Pi finds himself alone in the lifeboat in the middle of the Pacific Ocean. In the beginning he is safe, but then he soon realizes that he's sharing the boat with Richard Parker, a Bengal tiger. It is the turning point for him, as his known world is totally collapsed. Pi uses some tricks to assert dominance over Richard Parker. It is hard for Pi's family to move from India to Canada. At a certain point, "Pi feels that he had entered into a jungle of foreignness where everything is new, strange, and difficult" (Martel 70). His journey from India to Canada gave him a different worldview, and he was also forced to adapt his nature to survive.

Pi's identity is deeply influenced by his upbringing in Pondicherry, a region that represents colonial hybridity. Bhabha points out that, hybridity is nothing but mixing of two cultures to create new one (159). The theory of hybridity suggests that individuals in postcolonial societies create more cultures to interconnect symbolically. Pi expresses this hybridity through his Tamil heritage and colonial education. His struggles to practice multiple religions, mirroring the challenges faced by marginalized communities, and rejecting rigid categories in favour of having inclusive identities.

Religious identity plays a crucial role in Pi's marginalization. While he embraces Hinduism, Christianity, and Islam, religious leaders insist that he must choose only one faith. "It is not possible to believe in three religions at once," Piscine said "Why not?" (Martel, 70). The novel gives a narrow mindset of people who often impose their identities. Individual identity is neither created by hierarchies nor supreme powers. In the novel, the main character suffers to fix strong boundaries for himself.

Fanon says people are isolated from themselves (206) Migrated people move from one place to another place that makes their life more complicated. When Pi is on the lifeboat, his identity is set, as it happens for many marginalized cultures, people who fly from one region to other region. Bhabha in his Orientalism introduces a concept of "in-betweenness," which means existing between cultures, people exist between hometown or adopted country. (4). Pi's story illustrates how immigrants face difficulties in preserving their cultural identity with all the burdens of hardships.

Moreover, Life of Pi highlights regional variations through identity within India. As a Tamil boy growing up in Pondicherry, he belongs to a regional community dominating South Indian cultural

hierarchies. Eventually the novel illustrates the difficulties faced by the individual rules posed by the supreme powers. Pi's story makes us to understand the importance of accepting blended identities in this supernatural world. This experimental study emphasizes the gifts individuals demonstrate when they are exploring multiple religions they belong to.

Pluralism, Culture, and Religion in India

Pluralism is the belief or system that accepts the existence of many ideas, cultures, and even religions. Pi is deeply religious, spiritual, and curious about God. He embraces Hinduism from his parents. He discovers Christianity through the church priest and Islamic religious teachings from the Sufi imam. *Life of Pi* clearly shows that religious pluralism is nothing but practicing all religions at the same time, influenced by religious leaders and his parents. Pi does not look at religion as limited but rather as multiple ways that lead to one truth. The novel highlights the sufferings of a religious pluralistic society that often implies complex religious beliefs. His journey becomes symbolic of the struggles faced by individuals who exist between two cultural identities and traditions.

Pi's upbringing in Pondicherry shows him in a culturally blended space where Indian traditions exist within colonial influences. Pi expresses his identity not only in this multicultural world but also in his spiritual beliefs. In Martel's *Life of Pi*, the protagonist says, "Bapu Gandhi said, 'All religions are true.' I just want to love God." (76). Pi explores Hinduism, Christianity, and Islam, which upsets traditional understanding of cultural and religious belongingness.

Religious leaders told Pi that he needed to take up one religion instead of following three of them. This is how people are treated in society; they will try to impose their choices on others based on their culture. Famous thinker Amartya Sen argues that people should not be forced to confine themselves to one religion, culture, or political identity, he calls that idea as singular identity (2). Through this story, the author Martel suggests that one should have more open-minded about spirituality.

Pi's migration from one country to another country further complicates his sense of self-identity. Pi finds himself in a world of difficulties, as do many immigrants who must find a way to balance culture and power with pressures of cultural assimilation. The tension is evident when he

experienced it on the boat; he quotes that "I was alone and orphaned in an unfamiliar world." (Martel, 85). The sense of isolation tells of the sufferings of marginalized people that they face in their day-to-day lives. The author presents a powerful message about how migrated people feel the pressure physically, mentally, and emotionally.

In postcolonial contexts, Martel focuses on individual identity crises with religious pluralism. Mohsin Hamid, in his novel *Exit West*, explores the shift of migrants and the changing of their identity through force by the supreme powers. These novels highlight the challenges faced by the characters who live between cultures, even if they differ in their treatment within the society, because regional and cultural variations do exist in the society.

Culture - Power - Crisis

Power, culture, and crisis are deeply interrelated to one another in society and literature. In Mohsin Hamid's *Exit West*, Saeed and Nadia's relationship begins in a society torn by wars and strict cultural norms, which follow them. Saeed practices Muslim culture, prays daily, and is deeply inspired by his religious and spiritual background. Nadia wears a black robe usually worn by religious Muslim women. Nadia does not wear this out of devotion, but to protect herself. Here, the author says religion can be used both as a tool for control and as a source of strength. In *Life of Pi*, Pi's father takes his sons to the zoo to teach them an unforgettable lesson about the danger of wild animals. To emphasize this, he places a live goat into the cage of a Bengal tiger at Pondicherry Zoo. The tiger automatically kills and eats the goat in front of the boys. Based on this incident, the boys quickly learn that it is the way of life for superior power to dominate the inferior. These differences show how *Life of Pi* represents a blend of religions as a path to personal growth. On the other hand, *Exit West* shows religion as something that influences both culture and society.

Survival of the Fittest

All people cannot survive in a new culture; survival requires both acceptance with adaptability. In the novel *Life of Pi*, Pi survives on the lifeboat not because he is physically powerful but because he is mentally strong and adaptable. Pi is a theist; he believed in the existence of God, which helps him to survive alone on the sea voyage. Pi realizes that he must keep Richard Parker alive to stay for himself. The tiger helps to keep Pi alert and vigilant. Pi learns how to catch fish and he collects

rainwater. He eats foods that he never imagined eating like raw fish, turtle blood, and meerkats. In the initial days on the boat, he was powerless but later when he believes in God and religion, he becomes more strong and powerful. He builds his own empire and trains Richard Parker; he uses whistle sounds to feed Richard Parker. Pi himself states that, I survived 227 days that's how my long trial lasted over seven months. The protagonist of the novel is floating in the Pacific; he must construct his own means of survival. Like migrants, Pi must adapt to unfamiliar environments. His reliance on storytelling allows him to share two different versions of his survival, one with animals and one with humans. He demonstrates how marginalized voices often reshape their narratives to fit in the world. Pi's dual narratives reflect the struggles of marginalized individuals to have their experiences recognized and validated.

Beyond the global experience of migration, *Life of Pi* also explores regional marginalization within India. Pi, as a Tamil boy, occupies a unique position within Indian society. As the protagonist states, Born and brought up in Pondicherry, which was the French part of India. My father owned a zoo, he highlights his identity as Tamil heritage, French influence, and Western style of newness. The theme is further reflected in the different ways religions are practiced in India. While Hinduism, Christianity, and Islam are all present in the community, each tradition operates within a structured hierarchy. Pi's ability to explore multiple religious traditions without strictly following one practice is found in many marginalized communities. Here the novel states that identity is not a static one but rather it is a continuous process, shaped by the regional and cultural traditions.

Pi's experience on the lifeboat demonstrates how individuals from marginalized roots often develop resilience in response to exclusion and adversity. He had a great bond with the Bengal tiger. Richard Parker shows the symbolic duality of identity, both the civilized self and the primal self that exists within all individuals. At one point, Pi states, "Without the animal called Richard Parker, I wouldn't be alive today" (Martel, 164). Highlighting the need for individuals to embrace all aspects of themselves in order to survive.

Adaptability is the Solution for Cultural Crisis

Adaptability means the ability to adjust oneself to the new culture, environment, or situation. In simple words we can say that it is the willingness to survive in any circumstance. After the shipwreck, Pi makes a raft for himself to survive on the ocean. The biggest adaptation is living

with Richard Parker as Pi must learn to control him, feed him, and coexist with him. Pi also learns survival skills, protects himself from the sun, catches fish, and collects water for himself. He understands the animal's behaviour, and in spite of all these sufferings, he holds his faith on God.

This adaptability is a common experience among marginalized groups who have navigated diverse cultural expectations while preserving their own identities. The author had great ability to write two versions of the story, one fantastical and one realistic, demonstrating the power of storytelling in shaping the self-identity. Marginalized people use storytelling as a means of communication, asserting their identities in societies they seek to remove or simplify their experiences. In the novel, while Pi is moving from India to Canada, his survival on the lifeboat symbolizes the existence of flyers between the cultures. The immigrants often face many challenges in balancing their cultural and religious beliefs against new expectations. Pi realizes that he was alone in the unfamiliar world and that loneliness always accompanies migrated people.

Martel's *Life of Pi* delves into regional identity, rooted in the postcolonial world within the broader Indian national identity. His upbringing in a former French colony shows him as a product of colonial history. Martel creates Pi's identity as one that is led by cultural and social settings. In *Life of Pi*, Pi offers multiple versions of the survival story, one with animals and one with humans. He feels alienated when Richard left him alone on the sea. Mirroring the fact that many marginalized people adapt their works to reach the dominant group's expectations.

Martel's *Life of Pi* offers an ultimate exploration of identity, particularly about cultural hybridity, migration, and survival. Pi's journey from a multicultural childhood in Pondicherry to the limited existence of migration and the isolation of the sea represents the sufferings of marginalized individuals who must explore multiple cultural affiliations while facing exclusion and misunderstanding. The protagonist's ability to embrace fluid religious and cultural identities against challenges from rigid customs imposed by hierarchies is key to his survival.

Over the course of Pi's experiences, the author highlights the need to recognize and respect blended identities, mostly within marginalized communities. The novel insists that identity is important, and is built by an amalgamation of regional, cultural, and personal experiences. In a world that increasingly runs with issues of migration, diversified beliefs and mixed multiculturalism, this novel serves as a powerful weapon and proof of the resistance and adaptability of those who may

be in-between cultures. By accepting all these, societies can move towards the greater identities; where all voices are heard and valued.

Conclusion

In conclusion, *Life of Pi* illustrates how individual identity is shaped by different cultures, religions, and life experiences. Pi's journey from India to Canada was a lonely one and shows how hard it is to be in new environments. One must reject imposed identities and create a new image, like Pi. He follows Hinduism, Christianity, and Islam, showing his admiration for all three religions. This faith gives him strength to survive on the lifeboat. Even though he faces many challenges, he learns to adjust himself and stay strong. His story implies that people who follow different cultures and religions can live together peacefully. In today's world, many people move from one country to another country for a better life. This novel reminds us to accept other people, cultures, religions, and respect different ways of life. Pi's journey helps us understand that being open-minded and kind makes for a better multicultural world.

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Exertion of Val Plumwood's Theory of Instrumentalism in the Manipuri folktale "Uchek Langmeidong" in Dr. Haobam Bilashini Devi's *Folktales of Manipur*

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Abstract

It is to the advantage of the study conducted in this paper that Val Plumwood's instrumentalism in *Feminism and the mastery of nature* is exploited. The study in this paper explicates the dualistic relationships involved in the folktale "Uchek Langmeidong" in Dr. Haobam Bilashini Devi's *Folktales of Manipur*. The fundamental purpose of this study is to unfold the elements in the dualistic relationships of the folktale that align with the Val Plumwood's theory of instrumentalism.

Keywords: Folktale, Manipur, instrumentalism, dualism

Defining "instrumentalism" in *Feminism and the mastery of nature*

The theory of instrumentalism, or objectification, in *Feminism and the mastery of nature* refers to the conventional theory of dualism. The theory of dualism dates back to the dualism of Ferdinand de Saussure in Structuralism. Dualism is a western school of thought, designed in binary oppositions of two terms. Binary oppositions are operated not independently, with reference to the fact that the two terms are rendered the positions of first and second terms under not mere difference but on account of the values and qualities associated with the terms. Categorically, the terms are classified the first and second terms; the first term stands superior to the second. As in the dualistic pair- men/women, men in the first term are conveyed superior; serving a contrasting

figure to the women in the second figure. When it is exchanged to- women/men, the same is interpreted; here, women stand superior to men as to the fact that women are positioned in the first term and men in the second term.

Val Plumwood's theory of instrumentalism deconstructs the structure of dualism. Making use of instrumentalism, the politics embedded in the configuration of dualism is exposed by Plumwood in her *Feminism and the mastery of nature*. Instrumentalism extends a notion that the framework of dualism is configured entirely to make the ends meet for the dominator which refers to the first term. Pertaining to instrumentalism, the construction of a dualistic pair is marked with the target to deliver the interest of the superior first terms at the expense of the inferior second terms; the dominated second term is instrumentalised to facilitate the needs and purpose of the dominator first term. The dominated second term in a dualistic relationship is perceived as a mere resource to the first term. The needs and interest of the second terms are set aside, while that of the first term is prioritised. The play of the theory of dualism is executed in the interest of the upper side of a pair. The dualistic theory capacitates the upperside of the pair, the freedom to "impose his own ends."⁴ The upperside of a pair recognises not the needs and interests of the underside, owing to the fact that the position of the underside is conceived to serve the interest of the upperside; the worth of the underside depends on its being useful to the upperside. Laying bare the given circumstances of the framework of dualism, the expounded context of the state of affairs involved in a relationship between the two terms is positioned to establish a "moral dualism".⁵ It is the understanding that the underside in a dualistic pair is ruled out to get their identity acknowledged morally, yet they are in fact perceived entirely independent of morality in light of a different standard.

Construing "Uchek Langmeidong" in the context of "instrumentalism"

The folktale "Uchek Langmeidong" in Dr. Haobam Bilashini Devi's *Folktales of Manipur* exceedingly foregrounds a relationship between a step-mother and a step-daughter (Heiyainu) of a negatively intense nature. Deprived of a mother, a father figure in the story takes a woman in marriage to look after his daughter, Heiyainu and the house. Thereafter, the second wife who is a

⁴ Val Plumwood, *Feminism and the mastery of nature*. pp. 53

⁵ *Feminism and the mastery of nature*. pp. 53

step-mother to the daughter gives birth to a son. The son is often left under the care of Heiyainu. Despite the fact that she is physically and emotionally abused by her step-mother, she takes care of her younger step-brother when he is left under her care: she requests their neighbouring women to breastfeed her step-brother as he cries in hunger. Moreover, she bids farewell to her baby brother when she transforms into a hornbill. In the absence of the father, the daughter is ill-used, abused and tortured by the step-mother. Notwithstanding the torture, the daughter escapes her tragic reality by transforming into a Uchek langmeidong, which stands for a hornbill bird. Requiring an income of the family, the father leaves home for a trading. The narrative maintains that the father leaves home for work in consideration of the fact that his daughter is under the care of his second wife. With a heavy heart, the father consoles his daughter to come back and live with him together at the time when she has transformed into a hornbill. On refusing his request, the narrative concludes with a farewell from the daughter and with the bitter cry of the helpless father.

Expressing the narrative in a dualistic construction, the story exclusively emphasises on the dualistic pair of step-mother/step-daughter. The step-mother/step-daughter is accounted a dualistic pair with the comprehension that the step-daughter is abused and ill-used by the step-mother to make her own ends meet, intensely impacting the character to the extent that she transforms into a hornbill. As a matter of fact, the abuse initiated substantiates the perception that the step-mother has the power and capacity to treat her step-daughter on her own terms, which offers her the space of the superior first term. With no physical and emotional power to retaliate the abuse, the step-daughter is backgrounded.

Making exertion of Plumwood's "instrumentalism" on the folktale, it is construed that the dualism step-mother/step-daughter is maintained with the understanding that the step-daughter is instrumentalised to fulfil the needs of the step-mother; the vulnerable little girl is used by the step-mother to do house chores, to look after her younger brother, collect fish and vegetables for her step-mother to sell in the market and failing to fulfil any share of the duties imposed on her, she is tortured physically and emotionally. The construction of the narrative prioritises the interest and needs of the step-mother which occupies the space of the first term. The underside of the pair is a construct availed to the disposal of the upper side. Hence, it infers that the upperside in a dualistic relationship is an end in itself. Concerning the dualistic relationship – step-mother/step-daughter, the needs and interest of the step-daughter is disregarded in all respects, yet she is instrumentalised

to fulfil the daily duties of the step-mother. The identity of the step-daughter in the narrative is structured in terms of the purpose and needs of the step-mother. A fundamental aspect that occasions the manifested verbal assault and physical abuse on Heiyainu by the step-mother in the narrative is associated with the consciousness that her step-daughter is a vulnerable maiden, unguarded by any stronger figure in light of the fact that her mother is demised and her father is absent. Being well-aware of the capacity her step-mother holds over her, her psychological surrender to her step-mother is marked evident in her execution of the share of major responsibility of the household chores, which includes looking after her younger step-brother to the extent that whenever the baby boy cries, she requests their neighbours to breastfeed the baby. The delivered share of house chores and looking after the baby which is accountably generated by the psychological surrender reflect the psychological constitution of the dualistic relationship between the step-mother/ step-daughter with the apprehension that the step-daughter is aware of the threatening physical and psychological power of her step-mother as much as the step-mother is mutually aware of the weakness and vulnerability of her step-daughter.

The detrimental affairs maintained in this dualistic pair are secured clarity in rendering extensive comparative study on the dualistic pairs- father/mother (second wife) and Heiyainu/step-brother. Contrasting the dualism- step-mother/step-daughter, the dualistic pairs- father/mother and Heiyainu/step-brother are not in exact alignment with the Plumwood's instrumentalism bearing the fact that the mother in the second term and the step-brother in the second term are not instrumentalised by the figures in the first terms without any exchange of something in return. Be that as it may, the physical and psychological power of the first terms father in father/mother and Heiyainu in Heiyainu/step-brother over its second terms are immense, yet, the physical or psychological abuse is not rendered on the second term by the first term; instead, they are protected. The constitution of this paper gets wise on the fact that the unwritten gaps of the narrative is observed and studied concerning the argument that the contentment of the father in the pair father/mother depends on his daughter's being well taken care of by the mother and the safety of the Heiyainu depends on her looking after her step-brother, failing which she may be abused by her step-mother, owing to the paradigm of actions laid out in the narrative. The dualisms- father/mother and Heiyainu/step-brother are rendered rather on the grounds of potential power that the first terms have over their second terms, yet these second terms in the narrative are conveyed

with no abuse of any forms. The figures in the second terms are not instrumentalised to a great extent by the first terms because they are well protected with genuine intention by the first terms: mother in the second term is asked to look after her step-daughter in exchange of the financial and food provision by the father and the step-brother in the second term is looked after with true genuine intent on its being assigned to her by the step-mother, even though Heiyainu is liable of receiving physical and psychological torture from her step-mother on general terms, regardless of her looking after the baby with great care. In the dualisms- father/mother and Heiyainu/ step-brother, it is delivered that the immense power and capacity that the first terms hold over the second term is not ill-used in terms of physical, psychological and emotional abuse. However, the dualistic pair- step-mother/step-daughter serves a stark contrasting affair, considering the power and capacity that the step-mother has over the step-daughter and the imposition of it upon the step-daughter is in fact in requirement of a genuine intent; as the step-daughter is instrumentalised for her advantage and she is physically and emotionally abused to the extent that she escapes her tragic life by transforming into a hornbill. Diving into a greater depth, it is undeniably imperative to call attention to the impact initiated by the father/mother dualistic pair on the step-mother/step-daughter as to the possible underlying key factors that bring the toxic relationship into play. Though the consequences positioned in the narrative require the father to marry his second wife to take care of his daughter and the house, the toxic construct of the relationship is occasioned by the father's lack of cross-checking the relation maintained between his second wife and his daughter; provided that he rarely makes himself available to look into the matter as he spends most of his time outside his home for his work. If the father marries not for the second time, presumably, his domestic life with his daughter is likely to go haywire in managing the household chores. Nevertheless, it is unlikely to estimate encounters of any catastrophic circumstances concerning the well-being of Heiyainu, the tragic transformation of Heiyainu into a hornbill that is witnessed in the narrative, is out of picture in consideration of no second marriage of the father; given the temperament and the love of the father for his daughter that is conspicuous at the end of the narrative.

Conclusion

In application of the theory on the narrative, the study discovers that the step-daughter occupying the space of the inferior second term is instrumentalised by the step-mother in the first term to

fulfil the needs of her own. The study conveys the dualistic relationship -step-mother/step-daughter in the general context that this step-mother exploits the step-daughters to make their ends meet, considering the fact that they share no blood. It is supported by the situation structured in the narrative; the son who shares blood of her own is treated with care and love while the step-daughter is ill-used. The application of instrumentalism in the dualistic pair- step-mother/step-daughter is effectively elucidated with precise clarity with a contextual comparative study of the pairs- father/mother and Heiyainu/step-brother; drawing the difference between possessing the capacity over the other in the second term yet not using it in abusing the other and possessing the power over the second term figure, executing its true intent of abuse on the second term. Contributing the comprehension of the power dynamics between the figures in dualism, the impact of the dualistic pair- father/mother on the step-mother/step-daughter is stressed on this paper.

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Exploring the Interface between Nonverbal Elements and Data Commentaries in Biology and Engineering Research Articles

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Abstract

The present study investigated the interface between nonverbal elements (NVEs) and data commentaries in the results sections of biology and civil engineering research articles. A corpus of 40 research articles published in peer-reviewed journals from both biology and civil engineering disciplines and semi-structured interviews with two researchers from the respective disciplines formed the data for this study. While the corpus data were analysed both manually and by using the UAM corpus tool, the data obtained from semi-structured interviews with specialist informants from both the disciplines were analysed thematically. The findings of manual analysis revealed that although there were slight variations in terms of type, proportion and position of NVEs in data commentaries, the process involved in establishing the interface between NVEs and data commentaries seems to have little variation. The findings of corpus analysis indicate that though the move structure of data commentaries is more or less similar in both the disciplines in terms of the major moves *Background information*, *Presentation of visual* and *Comment on result*, it was observed that there were a few variations in the type, sequence and occurrence of the submoves. The findings of thematic analysis show that the disciplinary variations when integrating NVEs and data commentaries into results sections of research articles were due to the nature of data generated and the different tools and techniques deployed in their disciplines reflective of their respective discursive practices. The findings of the study have implications for research scholars, novice researchers and ESP writing teachers.

Keywords: Nonverbal Elements, Data Commentaries, ESP, Move Structure

Introduction

Engineering and science discourses get constructed by integrating written and visual modes of communication. In genres such as research articles, both engineering and science disciplines deploy a range of NVEs for presenting data and developing scientific arguments (Poe et al 2010). Though several critical decisions precede the presentation of the data in the visual form, the challenge does not stop there. In fact, the challenge gets more pronounced from here as it becomes essential for the author to interpret NVEs for the reader. In this context, the interface between NVEs and the accompanying written interpretation/comment assumes centrality in academic writing for all stakeholders involved in the production and consumption of engineering and science knowledge.

The importance of the interplay between NVEs and data commentaries in a variety of fields has been widely acknowledged by many scholars (e.g., Swales & Feak, 1994, 2012; Poe et al 2010; Sancho Guinda 2011; Wharton, 2012; Roth, 2013). Though there have been several studies on move structure of different sections of research articles in various disciplines (e.g. Brett, 1994; Hopkins & Dudley-Evans, 1988; Kanoksilapthamm, 2015; Swales, 1990; Samraj, 2002), fewer studies (Nordrum & Eriksson, 2015; Eriksson & Nordrum, 2018) have focused on data commentaries alone despite their acknowledgement of the central role played by the interaction between NVEs and data commentaries in engineering and science fields. A few move analysis studies in science and engineering (Kanoksilaptham, 2005, 2015; Maswana, Kanamaru, & Tajino, 2015; Stoller & Robinson, 2013) have examined the interface with a focus on the move structure of data commentaries against a larger frame of full-length research articles. There seems to be a lack of research on the interface between text and graphics, with Busch-Lauer (1998) being a notable exception, which was conducted on three medical research genres - research papers, review articles, and case reports. Since the results sections of a research article make use of both data commentaries and NVEs to highlight the key findings of a study and to narrate the story of scientific discovery (Stoller & Robinson, 2013), exclusive investigation on the interaction between NVEs and data commentaries in the results sections gains importance. Additionally, there appears to be scant research on the interplay between the text and the visual in civil engineering and biology. Given this research gap, the present study attempts to investigate the interface between NVEs and data commentaries in the results sections of life sciences and civil engineering research

articles.

The principal aim of the study was:

- to investigate the interface between nonverbal elements and data commentary in the results sections of biology and civil engineering research articles.

The specific objectives that would help achieve the principal objective were:

- to analyse the move structure of data commentaries
- to examine the occurrence and types of NVE in research articles;
- to study the NVE-location and NVE-arrangement in research articles;
- to explore types of data integration and data commentary.

Methodology

In order to investigate the interface between NVMs and data commentaries, a representative sample of 40 research articles published in peer-reviewed journals from both civil engineering (20) and biology disciplines (20) was carefully selected by consulting respective disciplinary researchers who have published in journals of high repute. A small specialized corpus was then created by using UAM corpus tool (O'Donnell, 2008).

In addition to this, insiders' perspectives were obtained from four semi-structured interviews with two specialist informants from each discipline for gaining ethnographic perspective. The semi-structured interviews covered questions on the following areas:

- Integration of NVMs in results section
- Types of NVMs used in their disciplines
- Move structure of data commentary
- Proportion of NVMs to the text

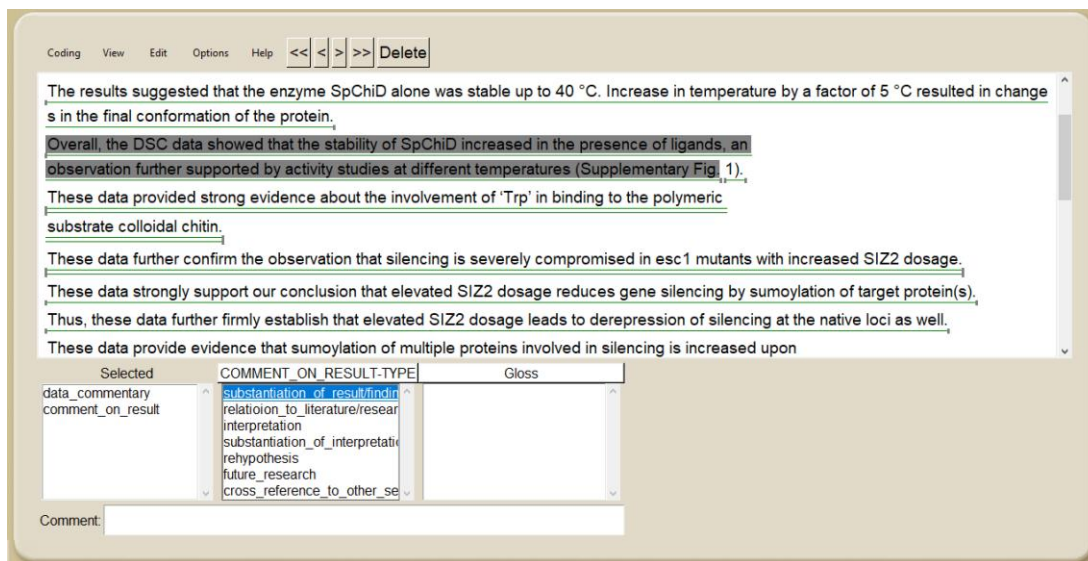
The two sets of data were analysed qualitatively. Since the focus of the study was on data commentaries and the NVEs that go with them, 'Results' or 'Results and Discussion' sections were considered for analysis. To corroborate the findings obtained from text analysis, data gathered from semi-structured interviews were analysed thematically for bringing in ethnographic perspective.

Data related to texts were analysed step-by-step as described below:

1. 'Results' or 'Results and Discussion' sections were extracted manually from the research papers, cleaned and saved as plain text files.
2. These text files were uploaded to the UAM corpus tool.
3. A layer was created as per Nordrum & Eriksson's (2015) moves model of data commentary (see Figure 1).
4. The corpus created thus was used to explore move structure.

Nordrum & Eriksson's (2015) moves model of data commentary was adapted for this study. This model presents three major moves in data commentary: *background information*, *presentation of visual* and *comment on results*. Each move branches out into two or more sub-moves or stages and some sub-stages may have further delicacies. Based on this model, a layer was created in the UAM corpus tool to annotate the select texts. A snapshot of a stage in the procedure of annotation is presented in the figure below:

Figure 1: Snapshot of annotation in the UAM corpus tool



As can be seen in Figure 1, the larger box on the top displays the text from research articles fed into the corpus and the three small boxes under the text display the moves as per the design from the layer created. The section highlighted in grey is identified as the major move, *comment on*

results. The second box below the text displays seven sub-moves, of which the segmented text in grey is identified as *substantiation of results*. Such an annotation was carried out for all the texts to analyse the move structure of data commentaries in the research articles of both the disciplines.

Data related to NVEs were analysed manually as follows:

- NVEs were segregated from the research articles and categorised into types.
- Similarities and differences in the use of NVEs between civil engineering and life sciences research articles were noted.
- Captions and legends associated with NVEs were compared.
- Interface between NVEs and data commentaries was tracked.

Semi-structured interview data were processed by listening to the recordings several times; and notes were made keeping in mind the objectives of the study. The notes made were grouped into four broad areas covered in the semi-structured interviews mentioned in the beginning of the section. The themes identified through this categorisation were mapped to the findings of the manual analysis to add ethnographic perspective to the study.

Findings and Discussion

The analysis of data revealed that there was considerable variation in the interface between nonverbal elements and data commentaries in results sections of research articles in both civil engineering and biology. This variation was observed in terms of the type, proportion and position of NVEs and the move structure in data commentaries. The reasons for such a variation were observed in the analysis of semi-structured interview data alongside some insights into their disciplinary culture and practices.

Interface between NVEs and data commentaries in both the disciplines

Though NVEs present complete findings and are visually appealing, they need to be interpreted for the reader by the researcher with respect to the objectives/ hypotheses/ research questions of a given study. Therefore, they occur together in the results sections of research papers. The deployment of NVEs seems to vary depending on the nature of the discipline and its epistemic discursive culture and practices and the type of research reported. In this study, such disciplinary

variations in the deployment of NVEs were observed in terms of their type, proportion and occurrence.

A closer examination of the results sections of both the disciplines revealed that biology research articles use a wide variety of NVEs compared to those of civil engineering. Results sections in biology research articles included tables, graphs, data plots, microscopic images, chromatographs/spectrographs, 3D models, schematics, photographs, pie charts, and bar charts whereas the range of NVEs used in civil engineering is limited to tables, graphs, bar charts and photographs. The reasons for the use of wide range of NVEs in biology may be attributed to the typical research techniques employed and the variety of evidence generated from various research tools. To present such a variety of evidence in the results sections in a condensed manner, biology tends to use a wide range of visuals. However, the nature of data civil engineering research processes appears to be condensed by using a limited range of NVEs.

Table 1: Types and proportion of NVEs

Types of NVEs	Civil Engineering	Biology
Tables	104	84
Pie charts	0	3
Bar charts	58	61
Graphs	98	112
Schematics	0	13
Photographs	46	11
Data plots	0	55
Microscope images	0	57
Chromatographs/ spectrographs	0	46
3D models	0	8
Total	306	450

Table1 presents the types and proportion of NVEs found in the results sections of research articles of both the disciplines. As can be seen from the table, the number of NVEs in biology articles is

more and the distribution is also wide across the types. On the other hand, not only the number of NVEs is less in civil engineering articles but also the distribution is limited to only four types of NVEs. NVEs such as microscopic images, chromatograph/ spectrographs, data plots, schematics and 3D models are typical of results sections in biology research articles and their absence in civil engineering articles may be attributed to the absence of research practices that generate these kinds of NVEs in the discipline.

In biology results sections, it is common to see multiple NVEs put together as a single figure. The reasons for such a practice were found to be i) same finding having multiple evidences, ii) graphically quantifying visual information present in data plots, iii) to track trends or a series of events. This disciplinary convention appears to make the results sections of biology research articles distinctly different from those of civil engineering.

With respect to the position of NVEs in results section, there are three possibilities of presenting NVEs in relation to the accompanying text -- pre-text position, parallel position, and post-text position. In this study, it was found that both the disciplines have predominantly used NVEs in post-text position. This choice seems to be in congruence with the nature of discourse in these disciplines because *background information* as move structure of data commentaries precedes NVEs. It was also observed that there were a few instances of NVEs in parallel text position, the choice of which seems to have been determined by the layout of the content in the paper rather than the deliberate choice made by the researchers. However, positioning NVEs parallel to the accompanying data commentaries facilitates the process of reading as they are in close proximity to each other. In this study, there was little evidence of NVEs in pre-text position as it seems essential for *background information* as a move structure to precede NVEs so as to enable the reader to relate to the context of findings.

Move structure of data commentaries in both the disciplines

Move structure analysis revealed that both the disciplines include all the three major moves – *background information*, *presentation of visual* and *comment on results* – as established in Nordrum & Eriksson's (2015) moves model of data commentary in results sections of research articles. However, there appears to be noticeable variation between sub-moves in both the disciplines in terms of their type, sequence and occurrence.

The background information move

It was observed that in the *background information* move, in both the disciplines, the occurrence of all the three sub-moves – *procedure/method*, *disciplinary knowledge* and *explanation of choice of visual presentation* – was not uniformly distributed. In both the disciplines, sub-moves related to *procedure/ method* and *disciplinary knowledge* were observed to be present in different sub-sections of results sections. Interestingly, in both the disciplines, the occurrence of the third sub-move, *explanation of choice of visual presentation* in the background information move was scarce in this data and hard to establish from it.

The following excerpt from biology research article illustrates an instance of *disciplinary knowledge* as part of the major move, *background information*.

Excerpt 1

Previous studies have shown that mutations in HMR locus silencer elements (ORC, Rap1, or Abf1 binding sites) that abolish repression can be bypassed by tethering of Sir proteins to the deleted silencers in the form of Gal4 DNA binding domain (Gbd) fusions (11, 33). Remarkably, silencer mutations can also be bypassed by tethering of the locus to the nuclear periphery, through overexpression of several different Golgi apparatus/endoplasmic reticulum (ER) proteins, such as Yif1, Yip1, and Yip3, fused to Gbd (1). Targeted silencing by these Gbd fusion proteins is also Sir dependent and requires at least one functional silencer element at the HMR-E silencer. It was hypothesized that these proteins establish silencing by placing the defective HMR locus in the milieu of Sir proteins, which normally accumulate at the nuclear periphery.

(Source: Mishra, K, 2012: 454)

Background Information (BI)

Interestingly, the highlighted segment of the text relates to restating the hypothesis of the study, which is not included in the *background information move* of the move structure model adopted in this study.

The following excerpts are examples that illustrate the sub-move, *procedure/ method* of the move, *background information* in both civil engineering (a) and biology (b).

Excerpt 2 (a &b)

a. The AAC stage can be considered as the main processing unit since the major utilization and treatment of PSS were performed during this stage. (Source: Hait, S, & Vinod Tare, 2011: 2814)	BI_Procedure/method Civil Engineering
b. In order to identify novel proteins that are involved in maintaining Sir protein accumulation at the nuclear periphery, we set up a screen for factors that when overexpressed would lead to a decrease or loss of silencing by Gbd-Yif1. Briefly, YSB35 expressing Gbd-Yif1 was transformed with a yeast genomic library in a high-copy-number vector (a gift from K. Nasmyth) and screened for transformants that showed robust growth on medium lacking tryptophan. (Source: Mishra, K, 2012: 454)	BI_Procedure/method Biology

From these findings, it can be concluded that the *background information move* in both civil engineering and biology tends to include the sub-moves, *procedure/ method* and *disciplinary knowledge* and that there is very little possibility of the third sub-move, *the choice of explanation for visuals*. There appears to be no trace of interface between NVEs and data commentaries in the *background information move*.

At times, though uncommon, it is quite possible to see the co-occurrence of the moves, *presentation of the visual* and the *background information move* together in a single sentence. The following is an example of such a co-occurrence where the sentence begins with procedural details followed by a finding and a reference to NVE.

Excerpt 3

We isolated a plasmid from one candidate transformant (named D4) that reproducibly conferred a modest level of derepression of the <i>TRP1</i> marker (Fig. 1B). (Source: Mishra, K, 2012: 454)	BI_Procedure/method Presentation of the visual (PoV)
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It can be concluded that it is customary to both the disciplines to include the move, *background information*, with varying types and sequence of sub-moves and at times, it is quite possible to have the co-occurrence of the *background information* with the *presentation of visual* in the same sentence. In the next section, how findings relating to the interface of NVEs and data commentaries happen through the move, *the presentation of visual*, are discussed.

Presentation of visual move

The next move of the data commentary, *presentation of visual*, can establish the interface between NVEs and the accompanying text in two ways: *with reference* and *without reference*. When the interface between NVEs and the accompanying text is established *with reference to visual*, this can manifest as *reference and summary*, *reference and result* and *reference and explanation* /

interpretation of visual. When the interface between NVEs and the accompanying text is established *without reference to visual*, the interface can be realized either as *after explicit reference* or *no explicit reference*. The findings from this study indicate that both the disciplines seem to include this move structure in terms of both *with reference to visual* and *without reference to visual* though such occurrence might not happen in all the sub-sections of the results section. The excerpt below illustrates how this move structure comes about:

Excerpt 4

The kinetics of hydrolysis of *PeCsn* and its truncated mutants was determined using 0% DA chitosan as substrate (Fig. 2A). The derived kinetic values (K_m , k_{cat} , and k_{cat}/K_m) are summarized in Table 1. The two truncated protein variants GH8FN3 and GH8 showed a minor increase in the K_m value in comparison with the wild type enzyme. The overall catalytic efficiency (k_{cat}/K_m) of *PeCsn*, GH8FN3, and GH8 remained the same suggesting no remarkable influence of *PeCBM32* on the activity when 0% DA chitosan solution was the substrate (Table 1). The hydrolytic activity of both *PeCsn* and GH8 toward the chitosan polymers of different DAs decreased substantially when the DA of substrate increased. However, no significant difference in activity was observed between the wild type and the truncated protein (Fig. 2B). The activity of GH8 on 26% DA powdered chitosan was reduced more than 3-fold in comparison with the full-length protein (Fig. 2C). To discern whether *PeCBM32* influences the pattern of product formation, we analyzed the formation of hydrolyzed products both qualitatively and quantitatively using UHPLC-ELSD-ESI-MS. Hydrolyzed products ranging from chitosan disaccharide to heptasaccharide were observed at the early phase of degradation (Fig. 3, A and B, and supplemental Fig. S1).

(Source: Narayan Das, S & et.al. 2016: 18978)

PoV Reference and Summary

PoV Without reference-after explicit reference

PoV Reference and result

BI Procedure/method

PoV Reference and Summary

As can be seen from the colour-coding of the excerpt above, a clear interface between NVEs and data commentaries can be observed in terms of both *with reference to the visual – reference and summary*, *reference and result* and *without reference to the visual – after explicit reference*. The textual segments in pink indicatively present results with reference to NVEs whereas the textual segment not highlighted in colour presents important results without reference to the visual but after explicit reference to the visual in the previous sentence. It appears that results sections in biology research articles tend to begin this move structure with these sub-moves highlighted in pink colour. It is clear from the textual segment in blue that informative statements are used for presenting important findings by explicitly making a reference to NVEs and results. However, one anomaly can be observed in the textual segment in yellow which relates to the move, *background information*, specifically about procedure. The occurrence of *background information* move within the *presentation of visual* does not seem to be unusual to results sections in biology research

articles.

The following excerpt from results section of a civil engineering research paper illustrates how the presentation of visual as a move structure brings about interface between NVEs and data commentaries in the discipline.

Excerpt 5

For the sensitivity analysis, the upper and lower bound values for each of the input parameters are taken as the lowest and highest values listed in Table 2. Fig. 3 presents results of the tornado diagram analysis, while Fig. 4 presents results of the FOSM analysis. It is observed from Fig. 3 that the normalized moment demand is mostly dependent on the friction angle and spring spacing, while it is fairly insensitive to the modulus of elasticity, the stiffness ratio, and Poisson's ratio. For the settlement demand, the friction angle is again the most dominant parameter followed by the stiffness ratio R_s . The modulus of elasticity of the soil and the spring spacing used in the model have nearly equal importance in accurate settlement prediction. The dominant importance of friction angle is also evident for other demand parameters (shear, sliding and rotation; Raychowdhury 2008). Observing the skewness of swings with respect to the mean normalized demands as represented by the vertical line, the relation between moment and settlement demands and some of the parameters, in particular $I_e \propto L$, is not linear (Fig. 3). This observation is consistent with the results presented in Fig. 2. The swings corresponding to the friction angle are 24% and 28%, for the normalized moment and settlement demands, respectively, which are approximately one-half of the range of variation in the friction angle.

(Source: Raychowdhury, 2010:540)

PoV_ Reference and Summary

PoV_ Reference and result

PoV_ Without reference-after explicit reference

Comment on Result(CoR)

PoV_ With Reference and result

PoV_ reference and Interpretation

PoV_ Without reference-after explicit reference

As can be observed from the excerpt, there appears to be quite a good deal of similarity between the results sections of biology and civil engineering research articles with regard to *the presentation of visual* as a move structure. Just as in biology, *the presentation of visual* move in civil engineering clearly establishes interface between NVEs and the data commentaries. This interface can be observed in the colour-coding of the excerpt in terms of *reference and summary* in indicative statements highlighted in pink and *reference and result* in informative statement highlighted in blue. Besides these, it can also be observed that there was the inclusion of the important finding without making explicit reference to NVEs. However, the interface with the visual was made implicitly understood through anaphoric reference.

As can be seen from the excerpt, a segment of the text in grey falls outside the move structure under discussion. However, its occurrence within this move does not seem to be uncommon in

results sections of science and technology discourse. This segment of the text relates to the move, *comment on results*, specifically, *relation to literature*.

From these findings, it can be concluded that *presentation of visual* as a move in both the disciplines tend to include both the sub moves alongside traces of other moves such as the *background information* and *comment on results*. The move structure *comment on results* is analysed in terms of all its sub moves as presented in the following section.

Comment on results move

Like the *background information* move discussed in the previous section, the move, *comment on results*, hardly has any interface with NVEs. This move usually gets configured in terms of its sub-moves such as *substantiation of result/finding*, *relation to literature/research question/other data*, *interpretation*, *substantiation of interpretation*, *(re)hypothesis*, *future research* and *cross reference to other sections*. However, in this study, it was found that not all these sub-moves were present in the research articles of both the disciplines. The sub-moves that are commonly found in the research articles of the disciplines investigated in this study were *substantiation of results*, *interpretation*, *cross-reference to other sections*, and *relation to literature*. Another interesting finding observed from this study was that these sub-moves seem to occur quite elaborately when both ‘results and discussion’ sections are combined rather than when they are treated independently. Since most of the papers analysed for this study treated results section independently, the sub-moves relating to *comment on results* were found to be less elaborate.

The two excerpts given below from civil engineering illustrate some of the sub-moves of *comment on results* move. While excerpt a) includes *substantiation of findings*, excerpt b) has the sub-moves, *interpretation of findings* and *reference to other sections* as part of the move.

Excerpt 6 (a &b)

- | |
|---|
| <p>a. The column failure initiated due to CFRP rupture because of hoop stress followed by inter-surface failure of core concrete and cementitious grout. The failure was due to complete de-lamination of cover concrete indicating the strong interface developed between the cover concrete to FRP and weak interfacial link between the core concrete and the cover concrete. Due to lesser degradation in concrete core, the effective stiffness is better restored as compared to other strengthening techniques.</p> <p>(Source: Jain, et.al. 2017:758)</p> |
| <p>b. Once again, the abnormal increase in the quantity of gypsum indicates the formation of secondary gypsum from the direct attack on C-S-H. This was confirmed by SEM, which is reported in the next section.</p> <p>(Source: Manu Santhanam, 2011: 1009)</p> |

CoR_Substantiation of findings

CoR_ Interpretation of findings

CoR_Reference to other section

Similarly, the following excerpt from biology illustrates three sub- moves of the move, *comment on results: interpretation of findings, reference to literature* and *future research*. Interestingly, as can be observed from the excerpt, there are two instances of the sub-move, *interpretation of findings*

Excerpt 7

<p>It can be explained that the Fe-S exporter activity of hMIA40 probably requires a transient association of Fe-S clusters. To support this notion, no stable association of Fe-S with another ISE machinery component, Erv1(ALR) has been observed even under anaerobic conditions [44]. Since the oxidized form of hMIA40 is essential for import and folding of cysteine-rich proteins in the intermembrane space of mitochondria, it is possible that a small fraction of hMIA40 can exist in a reduced state for Fe-S binding and export. However, further work is required to elucidate the precise molecular function of hMIA40 in transferring Fe-S clusters and maturation of cytosolic Fe-S clusters.</p> <p>(Source: Murari, A, et.al,2015:240)</p>

CoR_ Interpretation of findings

CoR_Reference to literature

CoR_ Interpretation of findings

CoR_Future research

It can be concluded from these findings that *comment on results* move seems to have low probability of having interface with NVEs as there is less scope for referring to NVEs while commenting on results in both these disciplines.

Based on the findings discussed in this section, it may be possible to conclude that of all the moves in data commentaries in both the disciplines, it is only in the move, the *presentation of the visual* that instances of having interface with NVEs was evidenced and that the other moves tend to have less occurrences of interface with NVEs.

Ethnographic perspective drawn from semi-structured interviews with disciplinary researchers

The findings of the thematic analysis of semi-structured interview data with disciplinary researchers indicate that the interface between NVEs and data commentaries gets influenced by the type of research each individual researcher carries out and also the journal in which the article is published.

It is known that there are broad differences between biology and civil engineering as two distinct disciplines. The findings from the semi-structured interviews revealed that there are further finer differences across specializations in each discipline. These finer differences call for use of different tools and techniques while doing research which in turn results in deployment of different types of NVEs in each specialized research. It was reported that the majority of the biology research uses multiple tools in a single experiment for gathering multiple evidence for a single phenomenon and hence the results sections are replete with the different combinations of NVEs in a single figure. When asked the similar question to civil engineering researchers, it was reported that they too use multiple graphs together to trace the trends related to a given experiment. Besides, the responses of researchers confirmed the findings from the manual analysis related to the variation in the proportion of NVEs used in each discipline.

When asked about their decisions regarding the integration of NVEs in data commentaries, it was reported that the choice of placing NVEs is dependent on the journal house-style sheet. It was also reported that some journals insist that the authors send NVEs as separate document indicating their preferred position in the final publication. It was also indicated that sometimes the layout of the page in the journal may alter the position of the NVEs preferred by the author.

When asked about how they organize the data commentary with respect to the NVEs presented, their explanation reflected an intuitive sense of the major moves that make up the data commentary which are in line with the move structure of the model used in the study. Researchers from both the disciplines appeared to follow a similar procedure while establishing an interface between NVEs and data commentaries.

The findings from the manual analysis of NVEs in results sections, corpus analysis of data commentaries in results sections and thematic analysis of data gathered from semi-structured interviews with disciplinary researchers revealed that though there were slight variations in terms of type, proportion and position of NVEs in data commentaries, the process involved in establishing the interface between NVEs and data commentaries seems to be more or less the same.

Conclusion

The present study investigated the interface between NVEs and data commentaries in the results sections of biology and civil engineering research articles and found that though there are a few variations, there appear to be many similarities with regard to the interface between NVEs and data commentaries in both the disciplines.

The findings of the present study indicate that the disciplinary researchers have intuitive sense of the textual elements in the results section, which they might have developed through osmosis over a period of engagement with the texts. However, novice researchers may find it frustrating to integrate the NVEs with data commentaries appropriately as they lack such an engagement with disciplinary texts for a long duration. Making novice researchers understand the move structure explicitly as indicated in the analysis of the present study may help them navigate the texts with ease and also integrate the NVEs and data commentaries in accordance with the disciplinary expectations of their discourse communities. Experienced disciplinary researchers can also benefit from explicit awareness as it gives them greater access to their intuitive sense of the interface between verbal and visual elements in results section.

Research in the area of English for Academic Purposes (EAP) can take a cue from the present study in terms of combining the analytical tools and extending the ethnographic perspective beyond interviews to include interdisciplinary collaboration across disciplines to explore various issues such as developing specialized courses for novice researchers, exploring disciplinary practices with respect to writing across disciplines and demystifying the disciplinary procedures involved in publishing research.

Future research can attempt an interdisciplinary collaboration to understand disciplinary practices

better. Longer collaboration between ESP researchers and disciplinary researchers would provide deeper insights into discursive practices of respective disciplines, which can lead to the development of materials and courses catering for the specific needs of the target students (for example, see Robinson et.al., 2008). Future research can extend the investigation beyond results sections to understand the multimodal nature of science and technology discourse throughout the research article.

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Appendix: Source texts for corpus

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The Use of Animal Metaphors for Humans: A Discourse Analysis of Indian Urdu Speakers' Daily Interactions

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Abstract

The creation and comprehension of animal metaphors seem to be automatic cognitive processes that most likely developed with language creation and comprehension. The aims of this study were threefold: (first) was to examine the topic of “PEOPLE ARE ANIMALS” in the context of everyday talks among Indian Urdu speakers from Moradabad city; (second) was to highlight the animal metaphorical expressions used in their conversations; and (third) was to explain how these animal metaphorical expressions take shape into meaningful expressions. Drawing on Semino's (2008) definition of metaphor and the concepts of Conceptual Metaphor Theory proposed by Lakoff & Johnson (1980) and Kövecses (2002), this study used a descriptive qualitative analysis of animal metaphors used in daily Urdu conversations. The findings of the study revealed that the people in Moradabad use a wide range of animal names for human. In this study, 48 different animal metaphors of four categories (mammal-animals, birds, reptiles and arachnids/ insects) were identified. Of these 48 animal names, the names of 28 mammal-animals—the most in number—as well as seven birds, five reptiles, and eight arachnids/ insects were identified. Most of these animal names were used for the people with negative characteristics while very few of them were used for the people with positive ones. The majority of these animal metaphors were used for males rather than females. Finally, the study concluded that the animal metaphors can be utilized to manipulate or convey quickly since they are digested naturally and without conscious thought. Furthermore, these metaphors are culturally loaded and can vary from culture-to-culture.

Keywords: animal names for human, communication, cultural expressions, metaphorical

expressions, socio-cultural concept, everyday communication

Introduction

Cambridge English Dictionary defines the term metaphor as “an expression, often found in literature, that describes a person or object by referring to something that is considered to have similar characteristics to that person or object”. According to Simpson (2004, p. 41), it is “a process of mapping between two different conceptual domains.” People can perceive and comprehend one type of entity in terms of another through the use of metaphorical language. Target categories can be understood in new and frequently illuminating ways by conceptually mapping and selectively transferring features from a certain source domain onto a target domain Haslam et al., (2011). Fadaee (2011) defines metaphor as the Greek word "metaphoria," which means "to carry," is where the word metaphor originates. Metaphor is the comparison of two distinct occurrences that have certain things in common. According to Fatihi (2015), metaphors are used to explain complicated and challenging concepts in terms of simpler and easier ones. According to Dubovičienė and Skorupa (2014), metaphor enhances the message's aesthetics and emphasizes the key concept by comparing one thing to another. As Shariq (2020) mentioned that the metaphors are used in expressions in order to create a poetic effect that makes listeners enjoy the expression. Metaphors provide insight into how social identities are formed. Many metaphors are biased in favor of specific social groupings that are viewed as the normal, harming others who do not fit into this group since they are conduits of folk ideas (Rodríguez, 2009).

The ability to convey oneself verbally, in writing, or in discussion (including gossiping and chit-chatting) with others is what most of us think of as communication. Additionally, it represents the sharing of ideas with friends, family, coworkers, superiors, subordinates, and even complete strangers (Shariq, 2013). The use of animal metaphorical expressions for humans is a very common aspect of our daily conversations. These metaphorical expressions define a person's appearance, thinking, activities and behavior. According to Haslam et al., (2011) animal metaphors can convey various meanings, including insults and demonstrations of affection. These animal metaphors occur because of the co-existence of people and animal since the beginning of the earth. As mentioned in Lund et al., (2024) and Hamdan et al., (2023), humans and animals have lived together on the same planet, Earth, for thousands of years or since the beginning of the universe.

As a result, humans interacted with animals and used them as (1) pets, like dogs and cats; (2) guards, like German Shepherds; (3) circus performers, like monkeys, dolphins, and bears; (4) subjects for laboratory experiments, like mice and rabbits; and (5) food, among other uses. Because of their coexistence, people began referring to and addressing one another in communications by utilizing animal names and/or characteristics for a variety of purposes, whether they were complimentary or not. Humans frame their location in an evolutionary continuum and their ongoing relationship with the environment using animal analogies. Because they are automatically processed, concentrate on things that we prefer to pay attention to, and draw on the multitude of literary and thematic universals that inform stories, animal metaphors are incredibly effective communication tools (Hart & Long Jr (2011). Fatihi (2015) argued that the animal's negative or positive characteristics can be mapped on to people. He cited the example of 'dog' for the negative characteristics as given in Iqbal's poetry and 'hawk' for the positive characteristics. According to Iori (2023), it is very likely that metaphors that conceptualize people or human activity in terms of lower levels of the chain contain a negative connotation. It is possible to determine which species are most likely to be used as metaphors for human personality and which parts of personality are most likely to be included in animal metaphors by looking into animal metaphors for human personality. At least in folk speech, the lack of zoomorphs can aid in defining those characteristics that are thought to set humans apart from other species (Sommer & Sommer, 2011). This study intends to overcome the lack of comprehensive research that focuses on metaphor used in Urdu daily conversations. By examining animal metaphors used to frame humans in Urdu conversations, this study more precisely examines the use of animal metaphors in Urdu discourses and aims to answer the following questions:

- What animal names are used as metaphorical expressions for humans?
- How these animal metaphorical expressions take shape into meaningful expressions?
- What characteristics of animals are mapped on to the human characteristics?

Literature Review

Since one's entire life experiences go into constructing and comprehending metaphors, conceptual metaphor theory (Lakoff & Johnson 1980) has quickly emerged as a crucial tool for organizing

and comprehending the real world. The source, the target, and the ground—what the source and the target have in common—are the three factors to take into account when working with a conceptual metaphor. Metaphors are created and understood by drawing on one's entire life experience. According to Solopova et al., (2023), what the metaphor source and the metaphor target share in common is known as the metaphor ground. In order to determine the nature of the grounding—that is, the similarities between the source and the target—people must first consider the object being referred to (the target) in light of the comparison's foundation (the source). While typical metaphor targets are abstract, complicated, and novel, metaphor sources are typically common, every day, old, prototype, simple, and concrete components of life. By using references to the known, metaphors allow us to discuss the unknown. Furthermore, conceptual metaphor theory asserts that metaphors are a conceptual tool that people use to organize, reorganize, and build realities in addition to being decorative stylistic techniques used by authors and speakers to provide an artistic effect.

The universal and culturally unique nature of conceptual metaphors in language, society, and discourse have been the subject of several research over the past few decades (Kövecses, 2009; Silaški, 2011; Fatihi, 2015; Kozlova, 2020; Tran, 2022; Solopova et al., 2023; Rumman et al., 2023; Gong, 2024). Scholars agree that universal metaphors are panchronic in nature, originating from the collective unconscious, reflecting all that humanity has experienced throughout history, and reflecting comparable thought patterns and universal linguistic qualities. However, a wide range of circumstances influence and change the meanings of metaphors in various languages, discourses, and civilizations, influencing their application in the real language.

In his discussion of anthropological topics, Leach (1964) proposed that humans utilize figurative animals to convey the social difference that exists within a group and offered inedible animals and near animals as means of verbal abuse. Many scholars studied animal metaphors to describe and illustrate their extent and to learn how they aid in the comprehension of human personalities (Brandes, 1984; Ana, 1999; Kiełtyka and Kleparski, 2005; Goatly, 2006; Hart and Long Jr, 2011, Sommer and Sommer, 2011; Miller, 2012; Lori, 2023). Three studies on the usage of nonhuman animals as zoomorphs (metaphors) for human personality traits were carried out by Sommer and Sommer (2011). In their study, University students evaluated 36 mammal names based on their gender, age, and favorability when used figuratively to describe a person. Furthermore, the

majority of animal metaphors used to describe human personalities are negative and serve to further emphasize how different nonhuman animal species are seen to be from humans. Moreover, zoomorphs are mostly masculine and describe healthy adults; they are rarely used to describe infirmity or impairment. They concluded that zoomorphy of mammal names is higher than that of bird, insect, or fish names.

Talebinejad and Dastjerdi (2005) examined the nature of metaphor by comparing metaphors in two typologically distinct languages—Persian and English—across cultural boundaries. The findings demonstrated that while there are some similarities between Persian and English animal metaphors, many of their features are culturally distinct. By concentrating particularly on animal metaphors used to frame China during the COVID-19 epidemic in two corpora of American and Australian newspapers, Lori (2023) made a further contribution to the study of Sino-phobic discourses. The findings demonstrated how, in the newspapers examined, Chinese institutions are frequently linked to dangerous and predatory animals; these negative metaphorical representations are contrasted with those of Australian institutions, which are presented as innocuous pets. The evolving character of wild animal metaphors used to model the representation of Russia in American media discourse between the 19th and 20th centuries was studied by Solopova (2023). According to the study's findings, the metaphors "Russia is a bear" and "Russia is a beast" were widely employed in media discourse in the United States during the twentieth century to realize the "othering" strategy. However, their definitions permitted change and adaptation during the times of friendship and collaboration between the two nations. Bhattacharji and Sinha (2024) presented cognitive analysis of animal imagery in Bengali digital discourse and provided empirical evidence that one of the main causes of Bengali speakers' speciesist views is their usage of animalized language. Additionally, they made people more aware of the hateful content of the animalized tweets. (Fatihi, 2015) examined the metaphor of dog in Faiz's poem that conceptualizes the common man as dog in order to show the socio-cultural component of animal metaphors. He maintained that in order to comprehend why common people use dog metaphors, it was essential to look at our social and cultural roots.

Methods

A qualitative investigation of animal metaphors utilized in everyday Urdu talks is employed in this

work. There are 15 participants in all, including both males and females. These participants are from the Indian state of Uttar Pradesh, specifically the city of Moradabad. Urdu is the native tongue of these participants. In order to examine the negotiation of meaning of animal metaphors, the researcher in this study employed a descriptive qualitative method. According to Creswell and Poth (2023), human social problems that arise spontaneously are analyzed and explored using the qualitative research approach. This approach involves word analysis and a detailed explanation of the data collected; the descriptive qualitative design is used in this study. Descriptive qualitative research is a popular approach for studying environmental situations, claims Sugiyono (2013). As a crucial tool, the researchers present a scenario honestly or in light of obvious facts. This study uses the definition of metaphor given by Semino (2008, p. 1), who defines it as the process “whereby we talk and, potentially think about something in terms of something else.” The study addresses the PEOPLE ARE ANIMALS idea within the theoretical framework of Conceptual Metaphor Theory (Lakoff & Johnson 1980; Kövecses 2002). Inter-domain mappings of concepts across two distinct domains are well known, and the collection of correspondences between them is referred to as "conceptual metaphors" (Fatihi, 2015).

Data collection

The data in this study was collected through the discussion, observation, and interview method from the people of Moradabad city in India while having usual conversations with them. The researcher observed and noted the names of animals referred to a person’s quality, behavior, appearance and activity etc. The researcher then identified and categorized the types of animals in four categories namely; mammals, arachnids or insects, birds and reptiles. The grammatical category (masculine and feminine) for these names was also identified.

Results

It can be seen from the four tables below that the Urdu speakers in Moradabad use a wide range of animal metaphors to represent or talk about people in their conversations. The total number of animal metaphors collected in this study is 48 including 28 mammals (Table 1), 7 birds (Table 2), 5 reptiles (Table 3), and 8 arachnids /insects (Table 4). The most of the animal metaphors are used for males representing the negative character while very few of them represent the positive characters and used for females.

Table 1*Human described as Mammals*

No	Metaphor used	Gloss	Grammatical category in the source domain	Grammatical category in the target domain	Characteristic (positive/negative)
1	/kutta/	Dog	Masculine	Masculine	Negative
2	/kutiya/	Bitch	Feminine	Feminine	Negative
3	/lomRi/	Fox	Feminine	Masculine & Feminine	Negative
4	/gadha/	Donkey	Masculine	Masculine	Negative
5	/gadhi/ or /gadhayya/ (impolite form)	Female donkey	Feminine	Feminine	Negative
6	/bhens/	Buffalo	Feminine	Feminine	Negative
7	/sand/	Bull	Masculine	Masculine	Negative
8	/bail/	Ox	Masculine	Masculine	Negative
9	/bakri/	Goat	Feminine	Feminine	Negative
10	/bhediya/	Wolf	Masculine	Masculine	Negative
11	/suwar/	Hog	Masculine	Masculine	Negative
12	/jaanwar/	Animal	Masculine	Masculine	Negative

13	/jangli/	Wild	Masculine	Masculine	Negative
14	/billi/	Cat	Feminine	Feminine	Positive
15	/u:t/	Camel	Masculine	Masculine	Negative
16	/girgit/	Chameleon	Masculine	Masculine	Negative
17	/haathi/	Elephant	Masculine	Masculine	Negative
18	/sher/	Lion	Masculine	Masculine	Positive
19	/chiita/	Tiger	Masculine	Masculine	Positive
20	/hiran/	Deer	Feminine	Feminine	Positive
21	/genda/	Rhinoceros	Masculine	Masculine	Negative
22	/bandar/	Monkey	Masculine	Masculine	Negative
23	/ghora/	Horse	Masculine	Masculine	Positive
24	/ghori/	Mare	Feminine	Feminine	Negative
25	/gaaye/	Cow	Feminine	Feminine	Positive
26	/chuhiya/	Mouse	Feminine	Feminine	Negative
27	/chuha/	Rat	Masculine	Masculine	Negative
28	/chamgadaR/	Bat	Feminine	Feminine	Negative

Table-1 shows that the people are represented as mammal-animals. Here the source is mammal-animal and the target is human. The first two examples in the table-1 above are /kutta/ ‘the dog’ and /kutiya/ ‘bitch’ used for males and females with negative or bad characteristics. The Urdu speakers use the animal metaphor dog, for people especially, when they are very unhappy or angry

with them. The sentence spoken by one the participants is */us kutte ne mere pese nahi diye/* ‘That dog did not give me my money’. In this example, the source ‘dog’ and his characteristic of not returning a piece of flesh when grabbed is mapped to the person who doesn’t return someone’s money. Another example, */kutte ki dum/* ‘the tail of dog’, is also frequently represented in Urdu speakers’ talk. Here, the source idea is that the dog’s tail ‘doesn’t remain straight’ which is mapped to the person’s unchanged negative behavior. The female counterpart of dog */kutiya/* ‘bitch’ is also negatively mapped to a female’s bad characteristic and its use is considered as more impolite than the use of the word ‘dog’. The other negative qualities such as the wild nature, dirty appearance, carnivorous nature, eating and drinking behavior, mating, barking are also mapped on to the target domain.

The third animal */lomRi/* ‘fox’ as metaphorical expression is also used by the Urdu speakers. It is because of the use of the animal in children’s stories as sharp minded animal. Hence, the source idea that fox is a sharp minded animal is referred to the target as a sharp minded person. The sharp mindedness represents the positive character of a person. However, in the target domain, it is used negatively for the person who deceives with tricks or talks tricky. The word ‘foxy’ is also found in google translate dictionary when searched for the word ‘clever’ and it translates it as ‘cunning’, ‘clever’, ‘like fox’ etc.

The fourth example */gadha/* ‘donkey’ for males and fifth */gadhi/* ‘female donkey’ for females is mapped to the people representing the foolishness. In Urdu/ Hindi, donkeys are the symbols of foolishness and used in most of the jokes. When a person does some foolish activity, then he becomes the target. */gadhayya/* female donkey is very impolite form used for females’ foolishness. Hence, the sixth animal metaphor like */bhens/* ‘buffalo’ is mapped for the female target who is overweight and someone who doesn’t respond as said in the proverb */bhens ke aage biin bajana/* that can be translated as ‘cast pearls before a swine, talk wisely before a fool’. The seventh example */sand/* ‘bull’ is used for a male who is also overweight. The participants used the name of ‘bull’ in the expression like */wo sand ki tarah khata hai/* ‘He eats like a bull’ that means ‘He is bull’. In the same way */bail/* ‘ox’ also mapped on to a person who eats more, overweight, of fighting nature, and doesn’t understand. Similarly, */bakri/* ‘goat’ is also represented in the same sense ‘who eats more’ but never gets weight. The expression used in this situation is */khaye bakri ki tarah aur sukhe lakRi ki tarah/* ‘eats like a goat and gets dried like a wood’. The tenth animal metaphor

/bheDiya/ ‘wolf’ is mapped for a person ‘who is wild in nature’, ‘keeps on fighting with other people’ ‘hairy’ ‘someone who has long canine teeth’ etc. The eleventh, twelfth, and thirteenth animal metaphors */suwar/* ‘hog’, */jaanwar/* ‘animal’, */jangli/* ‘wild’ is for someone who is wild in behavior, having bad behavior, or anyone who does something bad. The fourteenth animal metaphor */billi/* ‘cat’ is used for females but with good characteristics like beauty, cuteness, innocence etc. The famous Bollywood star Shahrukh Khan also calls the actress Priyanka Chopra as */jangli billi/* ‘wild cat’. The other animals */u:t/* ‘camel’ for someone who is tall, foolish or doesn’t understand, */girgit/* ‘chameleon’ for someone who is dynamic and changes his behavior, ideas, thoughts, breaks promise etc., */hathi/* ‘elephant’ for someone who is giant, huge, tall etc., */sher/* ‘lion’ for brave, powerful, dominant, */chita/* ‘chitah or leopard’ for ‘active’, ‘fast’, ‘speedy’, ‘powerful’, ‘brave’ etc., */hiran/* ‘deer’ for ‘beautiful woman’, ‘woman with beautiful eyes, neck etc., */genda/* ‘rhinoceros’ for ‘overweight’, */Bandar/* ‘monkey’ for ‘ugly faced’, ‘hairy’ ‘who jumps a lot’ etc., */ghoRa/* ‘horse’ masculine and */ghoRi/* ‘mare’ feminine for ‘who runs fast’, ‘eats more chickpeas’ and foolish for female only, */gaye/* ‘cow’ for ‘an innocent lady who follows commands easily’, */chuhiya/* ‘mouse’ for female who is ‘slim’ and */chuha/* ‘rat’ for male who is slim. Finally, the mammal that is a flying animal */chamgadaR/* ‘bat’ is mapped to a female who is ‘slim’, ‘not beautiful’, and ‘doesn’t sleep at night’.

Table 2

Human described as Birds

No	Metaphor used	Gloss	Grammatical category in the source domain	Grammatical category in the target domain	Characteristic (positive/negative)
1	<i>/ullu/</i>	Owl	Masculine	Masculine	Negative
2	<i>/Kawwa/</i>	Crow	Masculine	Masculine	Positive & Negative

3	/Chiil/	Eagle	Feminine	Masculine & Feminine	Positive
4	/giddh/	Vulture	Masculine	Masculine	Negative
5	/morni/	Peahen	Feminine	Feminine	Positive
6	/murghi/	Hen	Feminine	Masculine & Feminine	Positive
7	/murgha/	Cock	Masculine	Masculine	Negative

Table 2 shows the animal metaphors as birds used for human. These commonly used birds are seven in total and out of these are four that have negative characteristics and three have the positive characteristics. The first bird is /ullu/ ‘owl’ that is negatively mapped to a person who is ‘fool’ or ‘block head’ and ‘doesn’t sleep at night’. The most common phrase used with the owl is /ullu ka paTTha/ literally translated as ‘the son of owl’ and /ullu ki paTThi/ as ‘the daughter of owl’. However, the feminine phrase is considered as the impolite form. The second /kawwa/ ‘crow’ for someone who is ‘clever’, ‘black skin’ and ‘speaks more’ etc., The third /chiil/ ‘eagle’ is used for someone who has ‘sharp eyesight’, /gidh/ ‘vulture’ for who remains ‘dirty with scattered hair’, the feminine /morni/ ‘peahen’ for ‘beautiful lady’, /murghi/ ‘hen’ positively used for someone who is rich as in the phrase /moTi murghi/ ‘fat hen’ and finally /murgha/ ‘cock’ for someone who is easily ‘fooled’ by the others.

Table 3

Human described as Reptiles

No	Metaphor used	Gloss	Grammatical category in the source domain	Grammatical category in the target domain	Characteristic (positive/negative)
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1	/saanp/	Snake	Masculine	Masculine	Negative
2	/sapola/	Snakelet	Masculine	Masculine	Negative
3	/magarmach/	Crocodile	Masculine	Masculine	Negative
4	/chipkali/	Lizard	Feminine	Masculine & Feminine	Negative
5	/kachua/	Tortoise	Masculine	Masculine	Negative

Table 3 shows the animal metaphors as reptiles used for human. These commonly used reptiles are five in total and all of these have negative characteristics with one used for females and four for males. The first reptile is /sanp/ ‘snake’ that is used for someone who is ‘poisonous in the sense that he speaks harsh to someone or responds suddenly in a way that hurts’. The most common used proverb /astin ka sanp/ literally translated as ‘the snake in the sleeve’ that is used for ‘the enemy in the guise of a friend’. The second example /sapola/ ‘baby snake or snakelet’ is used for enemy’s son. The third animal /magarmach/ ‘crocodile’ is also used for someone who acts as an enemy. The proverb used with this animal /magarmach ke aansu/ ‘crocodile tears’ is referred to a person who ‘begs something, shows something or mourns for something with artificial tears. The fourth /chipkali/ ‘lizard’ for ‘slim women or girl’ and finally /kachua/ ‘tortoise’ is mapped to a person who is slow in doing his work.

Table 4

Human described as Arachnids /Insects

No	Metaphor used	Gloss	Grammatical category in the source domain	Grammatical category in the target domain	Characteristic (positive/negative)
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1	/bicchu/	Scorpion	Masculine	Masculine	Negative
2	/macchar/	Mosquito	Masculine	Masculine	Negative
3	/dimak/	Termite	feminine	Masculine & feminine	Negative
4	/jonk/	Leech	Feminine	Feminine	Negative
5	/keeRa/	Insect	Masculine	Masculine	Positive & Negative
6	/makghi/	Fly	Feminine	Masculine & Feminine	Negative
7	/TiDDa/	Grasshopper	Masculine	Masculine	Negative
8	/chiTi/	Ant (wing)	Feminine	Masculine & Feminine	Negative

Table 4 shows the animal metaphors as arachnids/ insects used for human. These commonly used arachnids/ insects are eight in total and all of these have negative characteristics. In this category, the first metaphor for human is */bicchoo/* ‘scorpion’ that mapped with the same characteristics of snake as mentioned above. The second in this category is */macchar/* ‘mosquito’ used for someone who is ‘slim’. The phrase */macchar pehelwan/* ‘mosquito wrestler’ and */macchar ki aulaad/* impolite form ‘son of mosquito’ are used frequently in this sense. The third metaphor termite used for a person who ‘finishes things like money or property slowly’ and who ‘hurts’ time to time and it is used for both males and females. The fourth */jonk/* ‘leech’ is used for a person who ‘stays at one place for long’, ‘talks a lot’ or ‘takes longer’. The fifth is */ki:Ra/* ‘insect’ which is mapped on to several things that a person does in abundance. For example, the expression such as */kitabī kiRa/* ‘book worm’ describes a person who reads books a lot. It is also used for someone who ‘deeply thinks and does things with perfection’. However, the verbal expression used negatively as */kiRe ka kaatna/* ‘insect bite’ and used for someone who ‘does things in a hurry and doesn’t seek for

advice'. The sixth is */makkhi/* 'house fly' that is used for a person who 'whispers' or 'talks slowly'. The seventh */TiDDa/* 'grasshopper' refers to a person who is slim. And finally, the last metaphor */chiTi/* 'ant' is used in the expression such as */pardaar chiTi/* 'winged ant' that refers to a person who 'does things or appears occasionally'.

Discussion and conclusion

The study's conclusions showed that the majority of animal analogies are negative, indicating that most people are characterized by the negative traits of animals. This result is consistent with Sommer and Sommer (2015). Metaphors involving more despised animals may be more insulting because they equate someone to an animal that is despised or repulsed, which is equivalent to attributing the animal's undesirable traits to them. Moreover, the most dehumanizing metaphors could also be the most offensive. Some animal analogies may be particularly offensive to human dignity (Haslam et al., 2011). It suggests that people place themselves in a better position than the animal. However, when it comes to define some other persons' nature, they disguise them. These could include the user of the metaphor, its target, and the character of their relationship. In summary, a metaphor's offensiveness may vary depending on the speaker's intention while expressing it in a specific social setting in addition to its propositional meaning.

As mentioned earlier in this study that the human and animals have lived together since the beginning of the life. This co-existence is largely with mammals because of the similarities with humans. And scientifically, human is also characterized as mammal. These mammal animals are kept by human for several benefits like; guards, entertainers, pets, laboratory experiment subjects, for source of food; dairy products and meat (Hamdan et al., 2023). "Much of human behavior seems to be metaphorically understood in terms of animal behavior," according to Kövecses (2002, p. 124). The conceptual analogies "HUMANS ARE ANIMALS" and "HUMAN BEHAVIOR IS ANIMAL BEHAVIOR" eventually emerged as a result of this. Our surroundings have a significant impact on how we perceive the world, how we perceive animals, and how we use them symbolically in our discourse. Moreover, it is believed that these animal metaphors might have different dimensions of meanings in different cultures, contexts and situations.

The present study focused on the conversations of Urdu speakers in Moradabad. According to the study's findings, individuals in Moradabad refer to humans by a variety of animal names. This

study identifies 48 distinct animal metaphors from four categories: birds, reptiles, arachnids/insects, and mammals/animals. Few of these animal names are used for their positive traits, whereas the majority are used for their negative traits. Males are the subject of most of these animal metaphors, not females. Moreover, the source and target concepts in this kind of metaphor are socioculturally determined, and the resemblance between the source and target concepts as viewed by society serves as the driving force behind their mapping (Fatihi, 2015). Identifying the animal metaphors used by the people of the context, which conceptualizes human as an animal, has demonstrated this. It should be noted that in order to comprehend why people use animal metaphors, it is important to look at our social and cultural roots. According to Littlemore (2003), metaphors are usually culturally loaded statements whose meaning must be deduced by drawing on common cultural knowledge. Furthermore, the study suggests that the future research should focus on the use of these animal metaphors in different regions and languages in order to see the cultural differences and aspects of these animal metaphors used for humans.

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The Craft of Eerie Atmosphere in Lalzuithanga's Horror Fiction

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Abstract

Lalzuithanga's contribution to Mizo horror fiction lies in his subtle yet powerful construction of eerie atmosphere, which functions as both a literary device and a cultural expression of fear. His narratives employ light and darkness to destabilize perception, silence and sound to heighten psychological tension, and the manipulation of time to distort readers' sense of reality. Such strategies move beyond conventional plot-driven horror, emphasizing instead the slow build of dread that lingers in familiar yet unsettling spaces. Rooted in Mizo folklore and belief systems, Lalzuithanga's works illustrate how supernatural fear is inseparable from cultural imagination, while also revealing how human malice often hides behind the mask of the otherworldly. By blending folkloric tradition with modern horror techniques, his fiction demonstrates how atmosphere becomes an active agent of fear, shaping both character experience and reader response. Situating Lalzuithanga within broader discourses of horror theory, this study argues that his craft of atmosphere not only enriches Mizo literature but also dialogues with global traditions of the eerie and uncanny.

Keywords: Mizo literature; Lalzuithanga; horror fiction; eerie atmosphere; supernatural; folklore

1. Introduction

Horror fiction in Mizo literature is unique because it combines traditional folk beliefs with modern narrative techniques. Among the leading writers of this genre, Lalzuithanga stands out for

his careful craft in creating an eerie atmosphere. Eeriness, as a literary effect, does not rely on immediate shocks or grotesque images but on a slow and unsettling feeling that something may not be as it seems. Mark Fisher explains that the “eerie” is often linked to the sense of “something missing” or “an unexplained presence” (61). In Lalzuithanga’s novels, this is achieved through disguise, cultural belief, supernatural figures, and carefully using settings.

Noël Carroll defines horror as a genre that produces a particular emotional state—fear mixed with curiosity and unease (Carroll 18). Lalzuithanga uses this principle to shape his stories in ways that make the reader question the boundary between the real and the supernatural. Instead of simply presenting ghosts or spirits, he blurs the line between human deception and supernatural possibility. This strategy connects directly with Mizo culture, where folktales about spirits, *lasi*, and unseen beings continue to influence collective imagination (Pachau 142).

The following discussion looks at three of his major works—*Phira leh Ngurthanpari*, *Thlahrang*, and *Aukhawk Lasi*. Each text shows a different technique in the creation of eeriness: disguise and uncertainty, crime and supernatural belief, and the ambivalent figure of the supernatural feminine. Finally, the essay also considers how setting and pacing help Lalzuithanga sustain the eerie mood.

2. Setting as a Source of Fear

One of Lalzuithanga’s strongest tools is his ability to use setting as an agent of fear. In *Thlahrang*, the rural environment—forests, villages, and lonely paths—creates a backdrop where danger is both expected and concealed. These settings reflect what Punter calls the “haunted landscape” of Gothic literature, where ordinary places are imbued with dread and mystery (Punter 21). The familiar is transformed into the uncanny, a space where one is never sure whether the rustle of leaves or the flicker of shadows hides a human intruder or a supernatural presence.

In *Aukhawk Lasi*, the forest is not just a location but a living force, filled with supernatural presence. The figure of the *lasi*, a spirit associated with the wilderness in Mizo folklore, renders the natural landscape inseparable from the spiritual and the threatening (Pachau 87). Lalzuithanga’s forest is a site of both livelihood and terror—villagers depend on it for survival, but it simultaneously represents a world that resists human mastery. This dual function of setting ties his fiction to the folk horror tradition, where landscapes hold cultural memory and become “repositories of the uncanny” (Scovell 18).

By embedding horror in spaces that are part of daily life, Lalzuithanga blurs the line between safety and threat, making the atmosphere eerie and unpredictable. Such use of setting creates what Carroll calls “art-horror”—a reaction grounded not in spectacle but in the audience’s awareness that the familiar world has been invaded by forces that defy reason (Carroll 27). In this sense, the terror of Lalzuithanga’s settings lies not only in supernatural beings but also in the possibility that one’s home or surroundings may suddenly turn hostile.

Furthermore, his landscapes are culturally specific. Unlike the castles or abbeys of European Gothic, Lalzuithanga’s fear emerges from the Mizo hills, villages, and forests—spaces that already carry folkloric weight in oral traditions. This localization of Gothic space resonates with what Botting describes as the adaptability of Gothic to new environments, where “the unfamiliar is constructed within the familiar” (Botting 8). In doing so, Lalzuithanga establishes a horror atmosphere that is uniquely Mizo yet linked to a broader global tradition.

3. Disguise and Uncertainty in *Phira leh Ngurthanpari*

In *Phira leh Ngurthanpari*, the eerie atmosphere grows from the relationship between Phira and Ngurthanpari. Phira pretends to be a supernatural being in order to secretly meet her. At first, the deception is successful, and the reader, like the characters, is left to wonder whether a ghostly presence is real. This creates hesitation between natural and supernatural explanations. Tzvetan Todorov calls this hesitation the essence of “the fantastic” (25).

The use of disguise here is not simply a narrative trick but reflects a deeper cultural fear of the unseen. Mizo folklore is full of stories where spirits take on human form, and people often worry about whether a stranger might in fact be a supernatural being. Phira’s disguise makes use of this cultural belief, showing how superstition can be manipulated for personal reasons. The effect is eerie because it feels believable in the cultural setting, even though it later proves false.

Another element that deepens the eeriness is the secrecy of the meetings. Lovers meeting at night, in quiet places away from the community, are already crossing into liminal space. The boundary between ordinary human action and supernatural fear is thin. Lalzuithanga uses silence, darkness, and secrecy to build tension. The reader is drawn into the same uncertainty as the characters, unsure whether to expect romance or horror.

This balance of love and fear makes the story different from typical Western horror, where the supernatural is often more direct and violent. Here, the supernatural remains in suggestion, and

the fear grows from not knowing. This is a key feature of Lalzuithanga's craft: horror is not immediate, but it lingers in the imagination

4. Fear and Crime in *Thlahrang*

If *Phira leh Ngurthanpari* creates eeriness through disguise and secret meetings, *Thlahrang* takes a darker turn by combining violent crime with the community's belief in spirits. The story revolves around Parmawii's disappearance and death, and the suspicion that supernatural forces might be involved. Kawla, the true murderer, hides his crime by disguising himself as a ghostly being. This deception makes the villagers believe in the presence of a spirit, showing how quickly supernatural explanations can take root in the absence of clear evidence.

The eerie atmosphere of *Thlahrang* comes from this mixture of crime and belief. As Mark Fisher argues, the "eerie" is felt most strongly when there is either "a failure of presence"—something missing that should be there—or "an excess of absence"—an unexplained gap that creates unease (61). In the novel, the absence of a known killer makes the villagers suspect something otherworldly. Instead of seeking rational explanations, they lean toward a supernatural cause, which deepens the atmosphere of fear.

Lalzuithanga carefully delays the revelation of Kawla's guilt, allowing the community and the reader to remain in suspense. This slow unfolding of truth builds tension, since each unexplained event could be interpreted as ghostly intervention. Horror, as Noël Carroll explains, thrives on this balance between curiosity and dread (18). The villagers' curiosity about the strange events mixes with their dread of the supernatural, and the reader shares this experience.

The setting also plays a key role in sustaining the eerie mood. Much of the action takes place in isolated, shadowed areas—forests and quiet village paths—where the boundaries between human and supernatural are uncertain. These liminal spaces intensify the fear, since crimes that occur there are more easily attributed to spirits than to humans. This reflects what Stephanie Wytovich describes as central to folk horror: atmosphere and setting combined with cultural practices and legends ("The Rise of Folk Horror"). In *Thlahrang*, the setting mirrors the characters' uncertainty, making the crime appear even more ghostly.

What makes *Thlahrang* especially powerful is how it reflects social fears within the community. The villagers' quickness to accept a supernatural explanation shows the deep influence of folklore on Mizo society. At the same time, the eventual revelation—that the crime

was human—shows how belief in spirits can be used as a mask for human evil. Kawla manipulates cultural fears to protect himself, and this manipulation is what makes the atmosphere so eerie. The story suggests that the most frightening aspect of horror is not always the supernatural itself, but the way humans exploit belief in the supernatural to commit violence and hide the truth.

Thus, in *Thlahrang*, Lalzuithanga's craft of eeriness comes from the tension between belief and reality. The villagers' faith in spirits, the shadowy settings, and Kawla's disguise work together to produce a mood where the supernatural feels possible at every turn. This mixture of cultural imagination and human deception makes the narrative both unsettling and culturally meaningful, showing how horror in Mizo literature often reflects the dangers of both unseen worlds and human actions.

5. The Role of Light and Darkness

Another important craft that Lalzuithanga employs in creating an eerie atmosphere is his symbolic use of light and darkness. In *Thlahrang*, night often becomes a stage for fear, where the absence of light allows human imagination to run wild. Darkness cloaks the villain Kawla as he impersonates a supernatural being, allowing his crimes to appear like acts of the otherworldly. In this way, Lalzuithanga makes darkness not just an environmental condition but an accomplice to horror. It becomes a space where deception, violence, and superstition flourish because the eye cannot fully discern what lies ahead.

Darkness in his fiction corresponds to what Freud calls the *unheimlich* or “uncanny”—the return of the familiar in strange and threatening ways (Freud 241). For villagers used to walking paths at night, the same familiar routes suddenly become infused with terror when the lantern light grows dim or shadows take unnatural forms. Lalzuithanga exploits this psychological tension between the known and the unknown, so that even silence or a flicker in the dark carries an ominous weight.

By contrast, moments of light in his novels are often short-lived, fragile, or deceptive. In *Aukhawk Lasi*, light occasionally breaks through the forest canopy, but instead of offering safety, it highlights the uncanny presence of the *lasi*. This reflects what Punter calls the “ambiguity of illumination” in Gothic writing, where light reveals only partial truths and deepens, rather than dispels, the mystery (Punter 44). In other words, the rare appearance of light does not guarantee security—it often confirms that something terrifying is present.

From a broader perspective, Lalzuithanga's manipulation of light and darkness resonates with the folk horror tradition, which relies on contrast between visibility and obscurity. Scovell notes that folk horror thrives in "liminal moments—dusk, twilight, or shadow—where reality seems thinnest" (Scovell 36). Similarly, in Mizo cultural imagination, twilight and nighttime are considered spiritually charged times, when spirits and supernatural beings are most active (Pachau 92). By situating his horrors in these liminal spaces, Lalzuithanga aligns literary craft with cultural belief.

Ultimately, Lalzuithanga's use of light and darkness heightens suspense and reinforces the uncanny. It is not only the absence of light that terrifies, but the uncertainty of what little light reveals. This interplay sustains the eerie mood of his fiction and situates his works within both Mizo folklore and the global Gothic tradition.

6. Silence and Sound as Psychological Tools

Silence and sound are central to Lalzuithanga's craft of creating an eerie atmosphere. Where silence suggests the unknown, sound becomes the trigger that unsettles the mind. In *Thlahrang*, long stretches of silence in the village or on forest paths generate tension, as readers are forced to anticipate what might emerge from the stillness. When Kawla impersonates a ghostly being, his presence is often marked not by words but by sudden noises—the rustle of leaves, the crack of twigs, or footsteps in the dark—that break the silence in chilling ways. These auditory cues manipulate both the characters and the readers, forcing them into a heightened psychological state where imagination completes what is left unseen.

Silence in Lalzuithanga's fiction functions like what T. S. Eliot once described as "the intolerable wrestle with words and meanings" (Eliot 20), except here it is a wrestle with absence. Silence becomes oppressive, not peaceful, because it suggests that something is deliberately withholding itself. In Mizo folklore, moments of quietness in the forest are often interpreted as signs of a spirit's presence (Pachau 114). Lalzuithanga draws on this cultural association to make silence itself uncanny.

The combination of silence and sound also connects Lalzuithanga's writing to Gothic and folk horror traditions. As Punter notes, Gothic fiction often thrives on the contrast between "the mute and the audible, where silence becomes a space of projection and sound becomes a disturbance" (Punter 61). In folk horror, too, silence before ritual or sound within ritual (chants,

cries, drums) play with the audience's expectations of threat (Scovell 73). Lalzuithanga adapts this global technique into a Mizo setting, using natural and cultural soundscapes—forest silence, spirit voices, village sounds—to heighten his readers' psychological involvement.

Ultimately, silence and sound in Lalzuithanga's fiction are not mere background details. They are psychological instruments that manipulate fear. Silence sharpens the imagination by withholding certainty, while sudden sound jolts the mind into shock. Together, they create a rhythm of suspense that sustains the eerie atmosphere of his works.

7. Manipulation of Time and Temporal Disruption

Another important craft that Lalzuithanga employs to heighten eeriness is his manipulation of time. In his narratives, time often appears suspended, accelerated, or strangely fragmented, which destabilizes the reader's sense of normal progression. Such disruption of temporal order places characters in unsettling situations where the ordinary flow of life is altered by supernatural or human intrusion.

In *Phira leh Ngurthanpari*, Phira's secret meetings with Ngurthanpari occur at night, a liminal period associated with both romance and fear. Darkness slows down the sense of time, making every encounter appear prolonged and filled with suspense. The cover of night not only hides Phira's impersonation but also intensifies the feeling of danger, since time itself seems stretched into a perpetual moment of secrecy and dread.

In *Thlahrang*, the manipulation of time is even more pronounced. Parmawii's disappearance and the villagers' fear unfold across days, but the killer Kawla uses disguise to blur the line between past and present encounters with the supposed supernatural being. Memories of earlier ghostly sightings are carried into the present moment, producing an atmosphere where time seems cyclical rather than linear. This echoes Todorov's concept of the "hesitation" in fantastic literature, where the narrative moment hangs between natural and supernatural explanations (41).

Aukhawk Lasi also reflects temporal disruption in its depiction of magical journeys. The characters move through space at unnatural speeds, flying or teleporting in seconds rather than walking for hours. Such distortions of time and space collapse the ordinary perception of reality and reinforce the uncanny. Freud's notion of the uncanny highlights how the familiar becomes frightening when natural laws are broken; here, the distortion of time intensifies that uncanny sensation (Freud 150).

Through his manipulation of time, Lalzuithanga constructs atmospheres where the reader feels disoriented, as though caught in a dream where the hours do not pass normally. This temporal instability contributes directly to the eerie tone of his novels, showing how horror often arises not only from what is seen but also from how time itself is experienced.

8. Setting and Suspense as Tools of Eeriness

In all three novels—*Phira leh Ngurthanpari*, *Thlahrang*, and *Aukhawk Lasi*—Lalzuithanga demonstrates a careful craft of using setting and suspense to create an eerie mood. The landscapes he describes are not simply backgrounds but active participants in generating unease. Forests, riversides, and mountain paths—ordinary parts of Mizo life—become stages for supernatural or deceptive events. This use of landscape recalls Wytovich’s definition of folk horror, where atmosphere and place are central: “it typically references the occult in the form of cultural practices, urban legends, religion, or witchcraft” (“The Rise of Folk Horror”).

For instance, in *Thlahrang*, the eerie atmosphere is amplified by Kawla’s ability to use the forest as a hiding ground while impersonating a spirit. The physical environment mirrors the uncertainty of the narrative: dense trees, shifting shadows, and echoing sounds make it difficult to distinguish natural from supernatural. Similarly, in *Phira leh Ngurthanpari*, the eerie comes from hidden nighttime meetings, with secrecy heightened by dim, unsettling environments. In both cases, the setting becomes inseparable from the suspense, allowing Lalzuithanga to prolong tension and unsettle readers.

Suspense in these novels is generated not through sudden shocks but through anticipation. As Carroll notes, horror relies heavily on the “drama of disclosure,” where fear builds as readers wait for the revelation of something monstrous or uncanny (28). Lalzuithanga’s narratives delay such revelations, often layering rumor, suspicion, and gradual hints before the truth—whether supernatural or criminal—is unveiled. This narrative pacing deepens the eeriness, because the unknown always feels more threatening than what is immediately revealed.

What makes Lalzuithanga’s use of setting and suspense distinctive is its grounding in Mizo cultural imagination. Unlike Western Gothic novels, which rely on castles, graveyards, and ruined abbeys, Lalzuithanga situates eeriness in familiar landscapes—forests, hills, and villages that his readers recognize. These spaces become uncanny not because they are exotic, but because they reveal a hidden dimension of danger. Fisher’s theory of the eerie is again useful here: the sense of

something unexplained, of an unknown agency shaping familiar surroundings, captures exactly how these novels transform ordinary settings into sites of unease (61).

By blending culturally familiar landscapes with suspenseful storytelling, Lalzuithanga crafts a style of horror that feels both local and universal. His work shows that the eerie is not limited to ghosts or monsters but can emerge from how people perceive their surroundings, their relationships, and the possibility of unseen forces at work.

9. Cultural Beliefs and Supernatural Fear

A central reason Lalzuithanga's works create such powerful eerie atmospheres is their deep connection to Mizo cultural beliefs about the supernatural. Unlike imported Gothic conventions that rely on castles or medieval ruins, Lalzuithanga draws on local cosmologies where the boundary between human life and the spirit world is fragile. This cultural grounding gives his horror an authenticity that speaks directly to Mizo readers while also resonating with universal themes of fear.

In *Thlahrang*, the fear of the supernatural stems from villagers' belief that spirits can impersonate humans or mislead travelers. This belief is not simply decorative but shapes how characters interpret events: when Parmawii disappears, suspicion quickly turns to supernatural causes before the human culprit is revealed. As Botting notes, Gothic terror often arises when "the unseen becomes a presence" (Botting 2). Here, the unseen is powered by Mizo tradition itself, where impersonating spirits (*thlahrang*) are part of accepted folklore.

Similarly, in *Aukhawk Lasi*, the forest spirits (*lasi*) represent both allure and danger. They are not monstrous in the Western sense but reflect animistic traditions where non-human beings share agency with humans. As Pachuau observes, the *lasi* are seen as guardians of the forest, sometimes benevolent and sometimes dangerous, embodying the ambivalent role of nature in Mizo thought (Pachuau 125). Lalzuithanga uses this belief system to blur the line between natural environment and supernatural terror, making the landscape itself feel alive and unpredictable.

Anthropologists like Tylor describe animism as the belief that natural objects and forces are animated by spirits (Tylor 94). Lalzuithanga adapts this cultural framework into his fiction, showing how trees, forests, and unseen presences carry power and danger. In doing so, he transforms ordinary spaces into haunted ones, where fear arises not from an external monster but from cultural memory itself.

This integration of cultural belief with narrative horror also reflects what Scovell identifies in folk horror: a genre where the past and the supernatural remain embedded in local traditions and continue to shape the present (Scovell 44). In Lalzuithanga's novels, fear is never abstract—it is rooted in the collective imagination of the Mizo people, where spirits and human beings coexist in fragile tension.

By weaving Mizo supernatural beliefs into his stories, Lalzuithanga creates an atmosphere that is both eerie and culturally resonant. The horror does not simply imitate Western Gothic but emerges from within the community's worldview, making his fiction a unique contribution to both folk horror and supernatural literature.

10. Human Villainy Behind the Mask of the Supernatural

One of Lalzuithanga's most striking narrative techniques is his use of the supernatural as a mask for human villainy. In both *Thlahrang* and *Aukhawk Lasi*, what at first seems to be evidence of ghostly or spiritual activity is later revealed to be orchestrated by human hands. This strategy deepens the atmosphere of fear because it plays on the tension between belief and reality, while also exposing darker truths about human nature.

In *Thlahrang*, Kawla manipulates the villagers' belief in spirits by disguising himself as a supernatural being. His impersonation creates terror, allowing him to commit murder and mislead others. This device reflects what Todorov calls the "fantastic hesitation," where characters and readers are caught between supernatural explanation and rational discovery (Todorov 25). The eventual revelation that the horror was human-made adds another layer of dread, because it suggests that cruelty and deception are more dangerous than spirits themselves.

Similarly, in *Aukhawk Lasi*, the forest is filled with unseen forces, but Lalzuithanga complicates this atmosphere by weaving in human motives of greed, betrayal, and violence. The *lasi* may be feared, but the true threats often emerge from within the human community. This aligns with Julia Kristeva's idea of the abject—the horrifying recognition that the greatest threats often come from within the familiar, not the alien (Kristeva 4). By showing how humans exploit cultural fears of the supernatural, Lalzuithanga turns folklore into a mirror that reflects the darkness of human psychology.

This craft choice is also consistent with broader patterns in folk horror. As Wytovich observes, folk horror often blends cultural myth with human cruelty, showing how tradition can

be manipulated for violence or control (“The Rise of Folk Horror”). In Lalzuithanga’s novels, the supernatural is never dismissed; rather, it functions as a cultural backdrop that allows human villainy to hide in plain sight. The real terror, therefore, lies in the recognition that belief itself can be weaponized. By unmasking the supernatural as a disguise for human actions, Lalzuithanga not only builds suspense but also raises questions about morality, trust, and the fragility of community bonds. His eerie atmospheres thus carry both psychological and cultural weight, making the horror resonate on multiple levels.

11. The Role of Cultural Beliefs in Shaping Eeriness

A key feature of Lalzuithanga’s craft lies in how he draws from Mizo cultural beliefs to create an atmosphere of eeriness. The narratives do not simply invent supernatural elements for entertainment; they embed them in existing traditions of spirits, omens, and unseen forces. This cultural grounding makes the eerie feel more convincing to readers who are familiar with Mizo folklore and oral narratives.

In *Aukhawk Lasi*, the presence of supernatural elements such as flying, teleportation, and magical cups reflects traditional Mizo cosmology, where the natural and supernatural were not seen as separate domains but as interwoven realities. Such details, though extraordinary, are presented without excessive explanation, which reinforces their eerie quality. As Tylor explains in his theory of animism, “the belief in spiritual beings” forms the foundation of early human religion and worldviews (12). Lalzuithanga employs these animistic structures to frame his narratives, thereby enhancing their uncanny force.

Similarly, *Phira leh Ngurthanpari* and *Thlahrang* show how social fears and communal beliefs become central to the eerie mood. Villagers readily accept supernatural explanations before logical ones, revealing how cultural traditions shape perception. This resonates with Turner’s concept of liminality, where belief systems create a threshold between the real and the unreal, generating uncertainty and fear (95). Lalzuithanga harnesses this liminal zone to blur the line between rationality and faith, between human agency and supernatural power.

By weaving cultural beliefs into his storytelling, Lalzuithanga ensures that the eerie does not feel artificially constructed but organically emerges from the worldview of his characters and readers. This not only preserves cultural identity but also demonstrates how folk horror operates: the fear comes not only from ghosts or criminals but from the deep cultural memory that validates

their possibility. As Dégh argues, folklore transmits social anxieties through narrative, allowing communities to articulate and confront their fears (67). Lalzuithanga's novels exemplify this process, using cultural belief systems as a foundation for atmosphere

12. Conclusion

The eerie atmosphere in Lalzuithanga's works emerges not from one isolated technique but from a careful layering of multiple literary strategies. By weaving together characterization, impersonation, silence, suspenseful setting, cultural beliefs, and manipulation of time, he creates a narrative texture that both frightens and fascinates. These techniques, while simple on the surface, achieve a profound effect by unsettling the reader's expectations of reality and destabilizing the boundaries between the natural and the supernatural.

Through characterization, Lalzuithanga crafts figures whose actions are unpredictable and mysterious, pulling the reader into their fear and uncertainty. Impersonation and disguise extend this sense of unease, as the line between human intention and supernatural force becomes blurred. Narrative gaps and silences compel the reader to imagine what is left unsaid, allowing horror to grow in the shadows of uncertainty. Similarly, eerie settings—haunted forests, lonely villages, and the quiet of night—serve as atmospheric backdrops that reflect both cultural memory and psychological fear. Cultural beliefs surrounding spirits, curses, and magical journeys amplify this eeriness, as readers familiar with Mizo traditions recognize echoes of oral folklore embedded in modern storytelling. Finally, the manipulation of time—stretching, suspending, or disrupting its flow—leaves characters and readers alike in a state of temporal disorientation, as if trapped in a dream where natural laws no longer apply.

Taken together, these elements highlight how Lalzuithanga adapts the universal grammar of horror to a distinctly Mizo context. While Western theorists such as Todorov and Freud frame the fantastic and the uncanny in terms of hesitation and repressed fears, Lalzuithanga's writing demonstrates how these psychological concepts gain new life when infused with Mizo cultural traditions and beliefs. His novels do not merely imitate global horror forms but enrich them with local mythologies, making the eerie atmosphere both culturally specific and universally resonant.

Moreover, Lalzuithanga's craft shows that the power of horror often lies in restraint rather than excess. His eerie atmosphere thrives not on graphic violence or overt supernatural displays but on suggestion, ambiguity, and cultural resonance. This aligns with what Wytovich observes

about folk horror: that its strength lies in atmosphere, setting, and the lingering unease it creates (“The Rise of Folk Horror”). Lalzuithanga proves that horror need not rely on spectacle to be effective; instead, it can emerge from the silence of a night, the pause between spoken words, or the confusion of a manipulated timeline.

In conclusion, Lalzuithanga’s novels, including *Phira leh Ngurthanpari*, *Thlahrang*, and *Aukhawk Lasi*, reveal the sophistication of Mizo horror literature. His creation of eerie atmosphere demonstrates the universality of horror’s emotional effect while showcasing its rootedness in Mizo culture. By blending folklore, psychological suspense, and narrative artistry, he crafts works that are not only important for Mizo literary history but also valuable contributions to the global study of horror fiction. His craft reminds us that horror is not only about monsters or violence but about atmosphere—the unseen, the half-said, and the intangible—that continues to haunt the reader long after the story ends

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Digital Poetry for Reading Skill Development for English Language Learners

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Abstract

The study investigates the impact of subtitled digital poetry on reading fluency among English as a Second Language (ESL) learners. In contemporary classrooms, digital media and multimodal texts offer innovative opportunities for language acquisition, yet the pedagogical application of subtitled poetry remains underexplored. The research employs a mixed-methods design, involving intermediate-level ESL students who engaged with curated digital poetry videos featuring synchronized subtitles over eight weeks. Quantitative data on reading fluency elements—accuracy, speed, and prosody—were collected via pre- and post-tests, while qualitative insights were gathered through learner surveys and focus group interviews. Results indicate significant improvements in all aspects of reading fluency in the experimental group compared to controls, with learners reporting heightened motivation, increased vocabulary awareness, and deeper engagement with authentic English language forms. The findings suggest that the interplay of visual, auditory, and textual stimuli in digital, subtitled poetry not only supports decoding and comprehension but also fosters a more enjoyable and meaningful reading experience. Implications for curriculum design and teaching practice emphasize the value of integrating subtitled digital poetry as a dynamic supplement to traditional ESL instruction. Recommendations are offered for further research exploring different genres and proficiency levels.

Keywords: Digital poetry, ESL (English as a Second Language), Multimodal learning, Reading

fluency, Subtitles

Introduction

Reading fluency is foundational to language proficiency and academic success for English as a Second Language (ESL) learners. Defined by accuracy, speed, and prosody, fluent reading facilitates comprehension and confidence in both spoken and written communication. However, many ESL learners face persistent challenges in developing these skills, often due to limited exposure to engaging and authentic language materials. The rapid advancement of digital technology now enables educators to supplement traditional resources with interactive, multimodal texts that can enhance the language learning process. Among these digital resources, subtitled poetry videos—short, visually expressive texts paired with line-by-line subtitles—offer unique potential for promoting reading fluency. Poetry’s rhythmic nature, rich vocabulary, and emphasis on sound patterns make it an ideal medium for language practice, while subtitles bridge the gap between spoken and written forms. Despite growing interest in multimedia-assisted language learning, there is limited research specifically addressing the role of subtitled digital poetry in ESL contexts. This study aims to investigate how integrating subtitled digital poetry into classroom instruction affects the reading fluency of intermediate ESL learners. By examining both quantitative outcomes and learner perceptions, the research seeks to illuminate the mechanisms through which multimodal poetry supports fluency development and provide practical guidance for educators seeking to create dynamic, inclusive learning environments.

Methodology

Research Design: The study adopted a mixed-methods, quasi-experimental design to explore the impact of subtitled digital poetry on ESL learners’ reading fluency. The research took place over an eight-week period and involved both quantitative and qualitative data collection to ensure a comprehensive understanding of learner progress and perceptions.

Participants: Participants were intermediate-level ESL learners, selected based on classroom placement tests and teacher recommendations. They were divided into two groups:

Experimental group: Engaged with digital poetry videos containing synchronized English subtitles.

Control group: Received traditional instruction using standard ESL reading materials without multimedia or subtitles.

Materials

Digital Poetry Videos: A curated set of contemporary English poems, visually adapted and professionally subtitled, accessible via an educational video platform.

Assessment Tools: Reading fluency pre- and post-tests covering accuracy, speed, and prosody; Likert-scale learner surveys; and focus group interview protocols [4].

Procedures

The experimental group participated in weekly sessions involving repeated viewing, listening, and reading along with subtitled poetry videos. Activities included choral readings, shadowing, and guided discussions on vocabulary and meaning. The control group followed a comparable schedule with print-based poetry and oral practice but no multimedia aids. Both groups completed identical pre- and post-tests measuring reading fluency. After the intervention, the experimental group filled out surveys and participated in focus groups to gauge their perceptions and experiences.

Data Analysis

Quantitative Data: Scores from reading fluency pre- and post-tests were analyzed using comparative statistics to assess gains in accuracy, speed, and prosody.

Qualitative Data: Survey responses and interview transcripts were thematically analyzed to extract insights into learner engagement, motivation, and perceived challenges.

Results

Quantitative Findings

Reading Fluency Gains: The experimental group showed statistically significant improvements in all measured aspects of reading fluency—accuracy, speed, and prosody—compared to the control group. For example, similar studies using subtitles and digital media have reported marked increases in pre- to post-test scores, with some studies noting improvements of over 25 percentage points in reading comprehension or fluency measures [1][2][3].

Improved Engagement: Subtitled digital poetry enhanced learner attention and decoding skills, with eye-tracking and test data indicating higher reading engagement and accuracy [2][3].

Control Group: While the control group improved, their progress was less pronounced, reaffirming the added value of multimodal, subtitled resources.

Qualitative Findings

Learner Perceptions: Most experimental group participants reported that subtitled poetry made reading more enjoyable and accessible, increased their motivation to engage with English texts,

and helped them notice new vocabulary and language structures in context.

Engagement and Confidence: Interviews revealed that the combination of audio, visual, and textual cues supported comprehension and fostered greater confidence in oral reading.

Challenges: A minority of learners mentioned initial difficulty synchronizing their reading with the subtitles but adjusted over time.

Comparative Analysis

Learners exposed to subtitled digital poetry outperformed their peers who only engaged with traditional materials, particularly in prosodic fluency (intonation, expression) and reading rate. These results are consistent with broader research showing that captioned and multimodal learning experiences can significantly improve reading skills in ESL and EFL contexts. In summary, integrating subtitled digital poetry in ESL instruction led to significant improvements in reading fluency and learner motivation, supporting its use as an effective multimodal teaching strategy.

Discussion

The results of this study highlight the significant impact of subtitled digital poetry on enhancing reading fluency among ESL learners. Students exposed to multimodal poetry videos outperformed peers who engaged with traditional, print-based materials, with notable advancements in accuracy, reading speed, and prosody. These findings support previous literature on the benefits of multimedia-assisted language learning, particularly the dual coding of audio and visual information, which appears to facilitate deeper processing and retention of language structures. One key mechanism behind these improvements is the simultaneous presentation of auditory (recitation), visual (poetry text and accompanying imagery), and textual (subtitles) modes, which reinforce decoding and comprehension through multiple channels. The rhythmic and expressive nature of poetry also encourages attention to language features such as intonation, stress, and pronunciation, supporting prosodic development. Qualitative data further suggest that subtitled poetry not only improves technical reading skills but also increases learners' motivation and engagement by providing more enjoyable and context-rich materials. Challenges were noted, particularly for learners initially unaccustomed to reading with synchronized subtitles, but most adjusted quickly, underscoring the need for adequate orientation and practice. Overall, the study affirms that integrating digital, subtitled resources into reading instruction can broaden learners' linguistic exposure and build confidence, particularly when thoughtfully scaffolded within the

classroom context.

Implications

The findings carry several implications for ESL teaching and curriculum design:

Enhancing Curriculum Variety: Incorporating subtitled digital poetry offers a fresh, engaging supplement to standard reading material. This approach introduces learners to authentic language and diverse literary forms, supporting holistic language development.

Promoting Multimodal Learning: The use of multiple sensory channels—listening, reading, and visual observation—addresses different learning styles and may especially benefit students who struggle with traditional print-based instruction.

Supporting Prosodic Development: Poetry’s rhythmic qualities, combined with the scaffold of subtitles, provide unique opportunities for explicit instruction and practice in prosody, promoting more natural and expressive reading.

Fostering Motivation: Subtitled poetry can make reading less intimidating for ESL learners, encouraging regular practice and fostering positive attitudes toward English literature 1[5].

Recommendations

Based on the study’s outcomes, the following recommendations are proposed:

Integration into Classroom Practice: Teachers should consider incorporating subtitled digital poetry videos regularly into ESL reading sessions, using them to complement—not replace—traditional texts.

Structured Activities: Effective use of these resources involves pre-listening activities (e.g., vocabulary previews), guided choral reading, shadowing, and post-reading discussions to consolidate learning.

Resource Development: Stakeholders should invest in accessible, age-appropriate digital poetry libraries with high-quality subtitles and visual presentation, tailored to various proficiency levels.

Teacher Training: Professional development on integrating multimodal and poetry-based resources should be offered, equipping teachers with strategies for maximizing the benefits of subtitled digital texts.

Further Research: Future studies should explore the effects of digital poetry across different age groups, proficiency levels, and poetry genres. Longitudinal research could clarify the durability of fluency gains and the transferability of skills to other reading domains.

Conclusion

This study demonstrates that integrating subtitled digital poetry into ESL instruction produces notable improvements in learners' reading fluency, particularly in accuracy, speed, and prosody. Through the combination of auditory, visual, and textual stimuli, subtitled poetry creates rich, multimodal learning environments that support decoding skills, comprehension, and expressive reading. Furthermore, digital poetry's engaging and authentic nature fosters motivation, enjoyment, and positive attitudes toward English language learning, making it a dynamic supplement to traditional instructional materials. Although some learners experienced initial adjustment challenges with the multimodal format, sustained exposure led to increased confidence and engagement. These findings affirm the pedagogical value of subtitled digital poetry for broadening students' linguistic and literary horizons. The research recommends that ESL educators and curriculum designers embrace such innovative practices, while future studies could explore the long-term effects, diverse genres, and various learner profiles. Subtitled digital poetry stands out as a promising vehicle for making reading both more effective and more inspiring for language learners.

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