Phonological, Grammatical and Lexical Interference in Adult Multilingual Speakers

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Aim of the Study

To analyze the different types of language interference (Phonological, Grammatical and Lexical) in multi lingual adult speakers.

Language Interference

Language interference is the alternative use by bilinguals of two or more languages in the same conversation. The ability to switch linguistic codes, particularly within single utterances, requires a great deal of linguistic competence. Language interference is a linguistic practice constrained by grammatical principles and shaped by environmental, social and personal influences including age, length of time in a country, educational background and social networks.

Language interference is a practice constrained by grammatical principles and shaped by environmental, social and personal influences (Milroy and Wei, 1995).

Interference of L1 on L2 on Various Levels of Language

Interference of L1 on L2 occurs in many components levels like phonological, lexical, grammatical, etc.

Berthold et. al, (1997) define phonological interference as items including foreign accent such as stress, rhythm, intonation and speech sounds from the first language influencing the second.

Grammatical interference is defined as the first language influencing the second in terms of word order, use of pronouns and determinants, tense and mood. Interference at a lexical level provides for the borrowing of words from one language and converting them to sound more natural in another and orthographic interference includes the spelling of one language altering another.

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Transfer may be conscious or unconscious. Consciously, learners or unskilled translators may sometimes guess when producing speech or text in a second language because they have not learned or have forgotten its proper usage. Unconsciously, they may not realize that the structures and internal rules of the languages in question are different. Such users could also be aware of both the structures and internal rules, yet be insufficiently skilled to put them into practice, and consequently often fall back on their first language.

A Brief Review of Literature

Ellis (1997) studied L1 influence on L2, where he considered 108 bilingual subjects in the age range of 8 to 18 years. He refers interference as 'transfer', which he says is the influence that the learner's L1 exerts over the acquisition of an L2. He argues that transfer is governed by learners' perceptions about what is transferable and by their stage of development in L2 learning. In learning a target language, learners construct their own interim rules (Selinker, 1971, Seligar, 1988 and Ellis, 1997).

Albert and Obler (1978) considered 35 adult speakers and claimed that people show more lexical interference on similar items. So it may follow that languages with more similar structures (Eg English and French) are more susceptible to mutual interference than languages with fewer similar features (Eg English and Japanese). On the other hand, we might also expect more learning difficulties and thus more likelihood of performance interference at those points in L2 which are more distant from L1, as the learner would find it difficult to learn and understand a completely new and different usage. Hence the learner would resort to L1 structures for help (Selinker, 1979; Dulay et al, 1982; Blum-Kulka & Levenston, 1983; Faerch & Kasper, 1983, Bialystok, 1990 and Dordick, 1996).

Carroll (1964) studied 53 young children that L2 requires the L2 learner to often preclude the L1 structures from the L2 learning process, if the structures of the two languages are distinctly different the circumstances of learning a second language are like those of a mother tongue. Sometimes there are interferences and occasionally responses from one language system will intrude into speech in the other language.

Beardsmore (1982) studied 168 bilingual subjects in the range of 20- 30 years of age. He suggested that many of the difficulties a second language learner has with the phonology, vocabulary and grammar of L2 are due to the interference of habits from L1. The formal elements of L1 are used within the context of L2, resulting in errors in L2, as the structures of the languages, L1 and L2 are different.

Ecke and Herwig (2001) studied multilinguals in adult speakers and concluded that the multilingual subjects tend to rely on linguistic information from nonnative languages that are typologically close to the target language, as psycho typology would predict.

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Rivers, 1979; Schmidt & Frota, 1986, concluded that multilinguals rely on nonnative languages typologically more distant from the target language, despite having knowledge of nonnative languages typologically close to the target language.

Poulisse & Bongaerts, 1994, studied bilingual speech production in regard to the use of L1 content or function words in L2 speech as a form of borrowing that speakers employ in order to compensate for their lack of knowledge in the target language. The use of L1 forms in speech is regarded as a compensatory strategy the general argument being that the use of L1 forms occurs because the L2 system is not highly developed and automatized as the native language system.

Method

The method was designed to uncover something of the complexity of language use in a particular sample of language learners and so it had an explicit descriptive purpose.

Subject Selection

20 multilingual subjects were considered in the age range of 21- 22 years of age. Among which 10 subjects were native Kannada speakers and the other 10 subjects were non native Kannada speakers (Malayalam, English and Kannada). No rigid distinction was made between childhood multilinguals and those who had become multilingual later in life. The criteria for selection were a high degree of fluency in both languages; that subjects should use both their languages on a regular, although not necessarily daily basis. Two were childhood multilinguals, who had acquired the languages before the age of five; the others had begun learning the languages at college and had attained a high level of fluency in adulthood.

Procedure

3 tasks were considered

1. Conversation: the subjects were involved in a conversation related to the field of Speech & Hearing.

2. Narration: the subjects were asked to explain about their college life.

3. Picture description: all the subjects were presented with a picture, taken from the standardized test (BDAE – Boston Diagnostic Aphasia Examination Test, Malayalam Version – Given by Mohan, 1996), and were asked to describe it.

The above mentioned tasks were carried out in Kannada for both the groups (Native & Non Native Speakers).

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Method for Data Analysis

The data were transcribed verbatim, with verification for accuracy. To prepare the transcribed data for analysis, repetitions, false starts and irrelevant speech were deleted. The basic unit for segmenting the data was the T unit, defined as one independent clause plus the dependent modifiers of that clause (Hunt, 1965).

The narrative and picture description discourse tasks in the study were analyzed in terms of sentential grammar, discourse grammar and subjective quality. Variables dealing with sentential level characteristics included:

1. Length of clause as measured by mean number of words and morphemes.

2. Complexity of language as measured by amount of embedding (expressed in number of clauses per T Unit.)

Variables and analyses pertaining to discourse grammar consisted of:

1. Length of discourse as measured by number of T units.

2. Amount of evaluation as measured by number of clauses containing evaluation on all narrative tasks.

And rate of speech of the subjects in terms of words per minute were calculated.
From the audio cassettes containing the narrative tasks with subjects randomized, three graduate students of speech and hearing unfamiliar with the subjects, rated the discourse.

Results and Discussion

Analysis was done in 2 steps, analysis of content and analysis of complexity.

Analysis of Content

Table 1: Analysis of Content for both native and non-native speakers.

	CONVERSATION		NARRATION		PIC DESCRIPTION	
MEASURES	**NS**	**NNS**	**NS**	**NNS**	**NS**	**NNS**
PHONOLOGICAL						
1. Stress	Ap	NAp	Ap	NAp	Ap	Nap
2. Accent	K	O	K	O	K	O
GRAMMATICAL						
1. Use of F W	Ad	L	Ad	L	Ad	L
2. G D	P	NP	P	NP	P	NP
LEXICAL						

1. Borrowing (from Eng) Words/ Sentence	1	3 - 4	1-2	4-5	1-2	4-5

(NS: Native Speakers; NNS : Non Native Speakers; Ap : Appropriate; NAp : Not Appropriate; Ad: Adequate; K : Kannada; O : Other Language; L : Limited; FW : Functional Words; GD: Gender Difference).

The analysis of content was grouped under 3 measures, Phonological, Grammatical and Lexical interference.

Under the Phonological measure, 2 domains were considered, Stress and Accent. Stress is analyzed as appropriate or non appropriate, pertaining to the context. And Accent was analyzed as either the accent of Kannada or the influence of accent of any other language.

The same type of analysis was done for both the groups for each of the tasks mentioned above. Stress was appropriate in all the native speakers of the language and was not appropriate in the non native speakers of language.

Typical Kannada accent was seen in all the native speakers, whereas Malayalam accent was seen in non native speakers. This has been supported by Berthold et al, 1997 who suggested that phonological interference can be in terms of foreign accent such as stress, rhythm, intonation and speech sounds from the first language influencing the second language.

Under the grammatical measure, the use of Functional words and Gender Difference were considered. Use of functional words was rated as adequate or limited for each of the tasks. And the ability to differentiate gender was rated as present or not present. The same type of analysis was done for both the groups for each of the tasks mentioned above. The usage of functional words was adequate in native speakers of the language and it was limited in the non native speakers of the language. The gender difference is seen in native speakers and is not seen in non native speakers of the language.

Under lexical measure, borrowing of words from other languages was analyzed. Also termed as code mixing which is the borrowing of features from another language which can be manifested at the levels of phonology, semantics and syntax (Milroy and Wei 1995). And they were rated as the number of words borrowed from the languages (English or Malayalam).

Borrowing of words from English was seen in both the groups. It was relatively more in the non native speakers in comparison with the native speakers of language. Analysis of content is been depicted in Table 1.

Analysis of Complexity

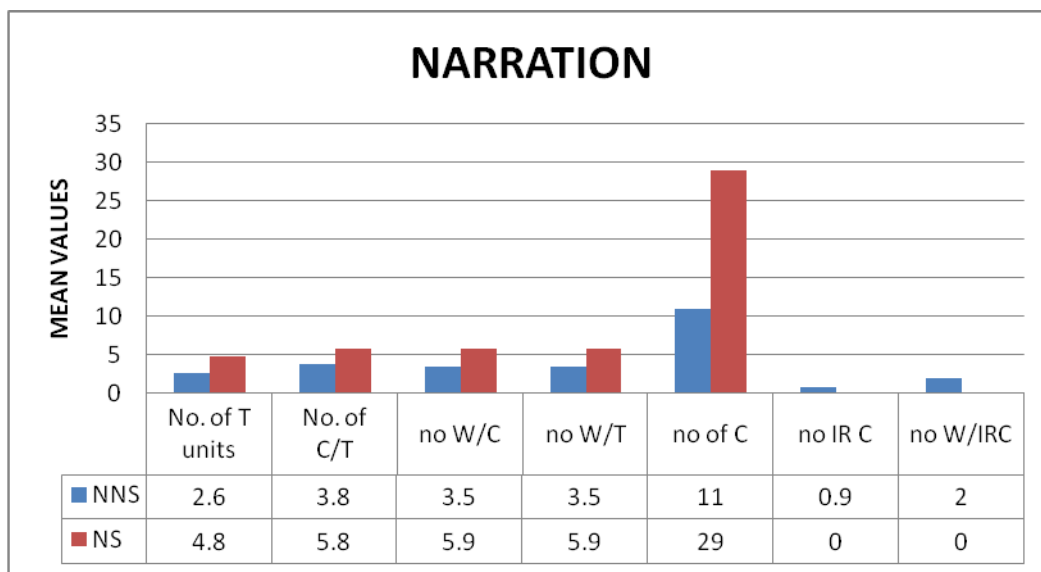Language in India www.languageinindia.com
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The analysis was done by using T unit based analysis. To depict relationship between the scores of native and non native Kannada speakers, paired comparison statistical t test was carried out for Narration and Picture Description tasks.

The statistical analysis indicated that highly significant difference was found in all the measures considered. The results of each of the category considered and the explanation of it is depicted in Graph 1, Graph 2, Table 2 and Table 3.

Graph 1 :Mean values of T unit based analysis in Narration task for both native and non-native speakers.

NARRATION

	No. of T units	No. of C/T	no W/C	no W/T	no of C	no IR C	no W/IRC
NNS	2.6	3.8	3.5	3.5	11	0.9	2
NS	4.8	5.8	5.9	5.9	29	0	0

(C/T : Clauses/T unit; W/C : Words/Clauses; W/T: Words/T unit; C : Clauses, IR C: Irrelevant Clauses; W/IR C: Words/ Irrelevant Clauses)

The means of the native and non native Kannada speakers in Narration task is depicted in graph 1. There was significant statistical difference between the two groups considered, in terms of number of T units, number of Clauses / T unit, number of words/clause, number of words/ T unit, number of Clauses, number of Irrelevant clauses and number of words/ irrelevant clauses. Greater discrepancy was seen in the number of Clauses. The number of Irrelevant Clauses and the number of words/ irrelevant clauses was seen only in non native speakers.

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Graph 2 : Mean values of T unit based analysis in Picture Description task for both native and non-native speakers.
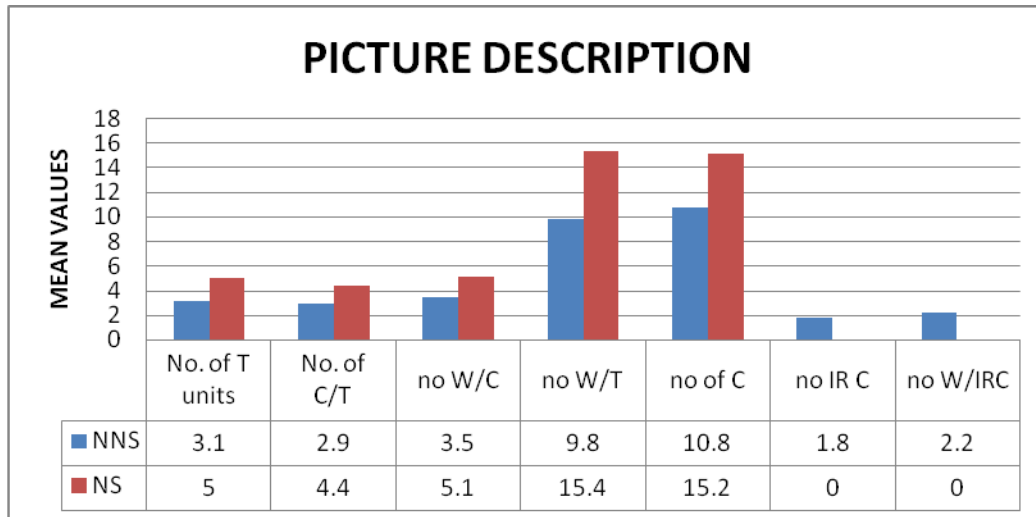
(C/T : Clauses/T unit; W/C : Words/Clauses; W/T: Words/T unit; C : Clauses, IR C: Irrelevant Clauses; W/IR C: Words/ Irrelevant Clauses)

Table 2: Depicting the Mean, Standard Deviation, t – value and Significance in the Narration task.

MEASURES	MEAN	SD	t – VALUE	SIGNIFICANCE (2 TAILED)
No. of T Units	NNS: 2.600 NS: 0.4.800	NNS: 0.6992 NS:0.7888	-6.128	.000 **
No. of C/T	NNS :3.800 NS: 5.800	NNS: 0.7888 NS : 0.6325	-6.708	.000**
No. of W/C	NNS:3.500 NS: 5.900	NNS: 1.0801 NS: 0.7379	-7.060	.000**
No. of W/T	NNS: 12.800 NS: 18.000	NNS:2.2509 NS: 1.4907	- 7.305	.000**
No. of C	NNS: 11.000 NS: 29.000	NNS: 1.6997 NS: 2.5386	-16.586	.000**
No. of IR C	NNS: 0.9000 NS: 0.000	NNS: 0.5676 NS: 0.000	5.014	.001**
No. of W/IRC	NNS: 2.000 NS: 0.000	NNS :1.1547 NS: 0.000	5.477	.000**

(SD = Standard Deviation; ** = highly significant; C/T : Clauses/T unit; W/C : Words/Clauses; W/T: Words/T unit; C : Clauses, IR C: Irrelevant Clauses; W/IR C: Words/ Irrelevant Clauses)

The results are indicative of, the content and complexity seen in the non native speakers is distinctively different from the native speakers. And the interference is explained in the content part of the study and the phrase length, compleixity of utterance which is the reflect of the kanguage proficiency is explained in terms of the T units.

The means of the native and non native Kannada speakers in Picture Description task is depicted in the graph 2. There was significant statistical difference between the two groups considered, in terms of number of T units, number of Clauses / T unit, number of words/clause, number of words/ T unit, number of Clauses, number of Irrelevant clauses and number of words/ irrelevant clauses. Greater discrepancy was seen in Number of words/T unit and number of Clauses in comparison with the first three measures. The number of Irrelevant Clauses and the number of words/ irrelevant clauses was seen only in non native speakers. As supported by Woe & Nodon, 1997 who studied the phrase length and mean length of utterances in second language of Spanish children and found that phrase length and mean length of utterance would be considerably less in Spanish speakers.

Table 3: Depicting the Mean, Standard Deviation, t – value and Significance in the Picture Description task.

MEASURES	MEAN	SD	t – VALUE	SIGNIFICANCE (2 TAILED)
No. of T Units	NNS: 3.100 NS: 5.000	NNS:0.7379 NS:0.8165	-4.385	.002*
No. of C/T	NNS:2.900 NS: 4.400	NNS:0.5676 NS: 0.6992	-5.582	.000**
No. of W/C	NNS: 3.500 NS: 5.100	NNS:0.5270 NS:0.9944	-3.748	.005*
No. of W/T	NNS:9.800 NS:15.400	NNS:2.3476 NS:2.1187	-5.925	.000**
No. of C	NNS:10.800 NS:15.200	NNS:1.1353 NS:2.2509	-6.264	.000**
No. of IR C	NNS:1.800 NS:0.000	NNS:1.0328 NS:0.000	5.511	.000**
No. of W/IRC	NNS:2.200 NS:0.000	NNS:0.9189 NS:0.000	7.571	.000**

(SD = Standard Deviation; ** = highly significant; * = Significant; C/T : Clauses/T unit; W/C : Words/Clauses; W/T: Words/T unit; C : Clauses, IR C: Irrelevant Clauses; W/IR C: Words/ Irrelevant Clauses)

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Conclusion

The study aimed at assessing the qualitative and quantitative differences in the non-native speakers of the language, their proficiency of language and the different types of influence or transfer of the dominant language to the non native language. The results for analysis were done on content and complexity of language.

In content analysis, Phonological, Grammatical and Lexical interference were analysed. T unit analysis was used to measure the complexity of language. Content and complexity of non native speakers were distinctly different from those of native speakers. Differences in terms of phrase length, usage of functional words and gender markers were seen.

Results also indicated that there will be considerable influence or borrowing of features from a language that is learnt earlier or used more excessively in one's social context. In the present study, the phonological, grammatical and lexical interference were studied. Further the study can be extended by studying the influence of both L1 and L2 on L3 separately, analysing stress, rhythm, intonation of the non native language can be done objectively and can be compared with the native language, and studying more complex structures of grammar of non native language.

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