



# Forward and Backward Translation Abilities in Balanced and Dominant Bilinguals

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## Abstract

Bilingualism refers to the use of two languages on day to day basis, bilingualism can be classified based on several parameters and the proficiency is the key factor based on which bilingualism is classified. On the basis of proficiency held in L1 and L2, bilingualism can be classified as dominant and balanced bilingualism. The current study investigated forward and backward translational abilities in balanced and dominant bilinguals. A total of 45 participants were recruited for the study and the proficiency in L2 was the grouping variable. Words, phrases and sentences were used as stimuli and the participants were asked to translate these linguistic units to the other language (translate to L2, if stimulus was presented in L1; translate to L1 if the stimulus was presented in L1). It was observed that there was no significant difference between balanced and dominant bilinguals for words and phrases while there was a significant difference between these two groups for sentences. The result showed the significant role of linguistic complexity in determining the performance of translational abilities.

**Keywords:** Translation; Performance; Proficiency; Linguistic Complexity

## Introduction

The ability to use two languages in day-to-day life is referred to as bilingualism [1]. Bilingualism emerges because of either conscious or unconscious processes. It can be classified based on the difference between degree of fluency, competency of the spoken language, language acquisition manner, age, and language representation [2]. Depending on the experiences of one's life, the linguistic organization and state of bilingualism can vary. Hence, Bilingualism can have different degrees with two extremes where in one the people will have a native-like control over the two languages

whereas in the other extreme people might have started acquiring a second language [3]. Adult bilinguals typically have a dominating proficiency in one of their languages where the competencies in both languages can be generally different [4]. Language competence in skills such as reading, writing, listening, and speaking are rarely competent equal to bilinguals Depending on how a bilingual person's proficiency and fluency in each language relate to each other, bilinguals can be classified as Balanced and Dominant. Balanced bilinguals are those who achieve the same degree of proficiency in both languages, while those who master higher-level proficiency in one language in comparison with

the other are defined as Dominant bilinguals. In comparison to balanced bilinguals, Dominant bilinguals have higher competency and proficiency in one of their two languages, whereas a balanced bilingual will have a more or less equal proficiency and competency in both languages [5]. Balanced bilinguals do not have the same proficiency as the two monolingual speakers of the languages they have acquired. Language organization can be distinguished based on three representational levels. Namely, the semantic representation level comes first, followed by the orthographic representation level, followed by the third level, which is termed as the phonological representational level. According to studies, it is stated that when a word in one language is processed there will be bilingual activation of both languages [6]. While speaking bilinguals can make a separation between both of their languages, which allows them to speak equally fluent in both languages [7,8]. Bilinguals select words from both their L1 and L2 lexicons while speaking. Due to their everyday exposure to L2, some have more proficiency in L2 than L1 and thus they can have equal control over both languages and can automatically switch between them.

A study by Wei L [9] stated that to speak one language than the other (L1 over L2), the words in L1 should be selected and activated. The selection process depends more on the suppression of L2 words and partially on the activation of the L1 lexicon. L2 output can be suppressed in two ways either through internal suppression where the system itself suppresses L2 or through external suppression where the L1 system suppresses the L2 word activation. In internal suppression, the word sound retrieval from L2 will be restricted whereas external suppression inhibits the activation of L2 words during the assembly stage, as demonstrated by an inhibitory link to the L2 output at the phonological assembly stage. In the case of translation, a more form of complex regulation is required. When translating from L2 to L1 there is a requirement of both language systems and suppression of L2 lexicon, which can be achieved either internally or externally. When translating into L1 speaker doesn't repeat the same message in L2, instead, it is stated that L2 will be suppressed internally just like that of a monolingual who tries to avoid repeating a word or phrase that he has heard, thus while speaking external suppression of L2 is done and in translation internal suppression of L2 is done. Thus, to express the same meaning a bilingual has more than one lexical representation.

A recent study [10] investigated the lexical activation speed in bilinguals using forward and backward translation tasks. Bilingual Arabic-English speakers were taken as participants and were divided into two groups namely the high proficient and low proficient bilinguals. A total of 100 words were given, where 50 were in Arabic and 50 in English. In the forward

translation task, the participant was given the word visually in L1 and was instructed to translate it into L2 as soon as possible. While in the backward translation task participant was instructed to translate from L2 to L1. The response time and accuracy were calculated for both groups. Results indicated that, in both forward and backward translation tasks there was a significant difference between both groups, where the high proficient bilinguals had a lower response time and better accuracy than that of the low proficient bilinguals. These differences in responses can be attributed to the difference in proficiency level. High proficient bilinguals have more practice which helps them to strengthen the connection between word and mental representation in L2, which was initially poor. Studies have indicated that compared to words in the lexicons of dominant bilinguals, balanced bilinguals have more direct lexical access and activation in both language lexicons. However, it was noticed that limited studies were done in the Indian context and the bilingualism in Indian context is vivid as the manner of question and the proficiency levels vary on person to person basis. This led to the current study.

### Aim of the Study

To compare forward and backward translational abilities in balanced and dominant bilinguals.

### Materials and Method

The study involved between group comparisons, as it compared the translational abilities of balanced and dominant bilinguals on different linguistic units (words, phrases and sentences). A total of 45 participants in the age range of 18-30 years were considered for the study and convenient sampling was followed for the recruitment of participants. No sample size calculation formula was used and the sample size was based on the availability of participants within a time frame of 90 days. As a part of inclusionary criterion, it was ensured that the participants did not have any history of cognitive, sensory or communication problems. After screening this, the participants were recruited after signing the informed consent, which included details of the task and the average time to be devoted for the task and participants were informed that they had complete rights to refrain participation.

As aforementioned, all the participants were bilinguals with Malayalam as their L1 and English as L2. LEAP Q was administered to determine their bilingual history and language usage. Participants having a difference of two points among the L1 and L2 proficiency in the understanding and speaking domains were characterized as balanced bilinguals and participants with a difference greater than two were

considered dominant bilinguals. By applying this criterion, the participants were grouped into groups (group 1: balanced bilinguals, n=20 and group 2: dominant bilinguals n=25, here after).

### Stimulus

The stimulus included for the current study included 20 words, 20 phrases, and 20 sentences in L1 and L2. These linguistic units were presented across two conditions (forward and backward translation conditions), the stimulus was further not subjected to content validity as three out of the four investigators were Malayalam-English Bilinguals. The stimulus was presented in audio-visual mode, where the stimulus was presented in visual mode using the PPT's, this was synchronised with auditory stimulus which was recorded by a neutral Malayalam-English bilingual speaker.

### Procedure

The participants were instructed to translate each of the stimuli from L1 to L2 and from L2 to L1 within 5 seconds. Responses were recorded and transcribed for the purpose of analysis. A trail block comprising of 1 linguistic unit was presented to the participants to habituate them to the task, as the participants were neuro-typical, this was adequate

for the participants to understand the nature of the task and the average time for completion of whole task took 15-20 minutes per participant.

### Scoring and Analysis

Responses were categorized as correct responses, incorrect responses, and no responses. While the correct response was given a score of 1, no response and incorrect response was given a score of 0. The maximum score for words, phrases and sentences for forward translation condition was 30 (10 each for each of the linguistic unit) and the maximum score for backward translation condition was also 30.

### Results

The aim of the study was to compare forward and backward translational abilities in balanced and dominant bilinguals. 20 Linguistic units each (words, phrases and sentences) were used and these linguistic units were distributed across forward and backward translation conditions. The maximum score for each of the linguistic unit for the forward and backward translation conditions was 10. These scores were tabulated and compared across the dominant and balanced bilinguals.

	Forward Translation			Backward Translation		
	Word	Phrases	Sentences	Word	Phrases	Sentences
Group 1 (Balanced bilinguals)	9	8	9	9	8	9
Group 2 (Dominant Bilinguals)	8	7	5	5	5	3

**Table 1:** Comparison across the two groups.

As seen in Table 1, group 1 participants performed better compared to group 2 participants on forward as well as backward translation conditions. The scores were higher for word, followed by phrases and sentences. For group 1, the scores were almost same for forward and backward translation while the scores were higher for forward translation compared to backward translation condition. In order to verify if there was any significant difference between the two groups, statistical analysis was carried. The data was subjected to test of normality using Shapiro-Wilk's test of normality and the p score was obtained was less than 0.05 showing that data was non-parametric. In order to verify if there was any significant difference between the balanced bilinguals (group 1) and dominant bilinguals (group 2) on the two conditions, Mann Whitney U test was used. For forward translation condition, Z score obtained was 1.22, 1.35 and 2.72 for words, phrases and sentences while the Z score obtained for backward translation condition was 1.15, 1.63 and 2.84. The corresponding p values showed significant difference between the two groups only or sentences. Within

group analysis was carried using Friedman's test and the X2 obtained was 1.14 for group 1 and 2.34 ( $p < 0.05$ ) for group 2, the corresponding p value showed significant difference only for group 2 i.e. dominant bilinguals.

### Discussion

The current study aimed to compare forward and backward translational abilities in balanced and dominant bilinguals. The study used different linguistic units like words, phrases and sentences. Balanced bilinguals claimed to have equal proficiency across L1 and L2, while dominant bilinguals reported relatively higher proficiency in one the languages (mostly L1). In order to perform well on translational tasks, the participants are expected to translate the given stimulus from one language to other. This requires the suppression of lexical nodes from the language not in use. The dominant bilinguals performed well on forward and translational tasks as evident on Friedman's test, while the balanced bilinguals performed better on task where the bearing was on L1

(proficient language) compared to backward translation which relied on L2. Mann Whitney U test showed significant difference between the two groups for only sentences, as per the studies [7,8] there is clear distinction between L1 and L2, however this difference was evident only for sentences, showing that the role of linguistic complexity. In other words, the clear distinction between dominant bilinguals and balanced bilinguals was clear only for sentences. The main limitation of the study was that it was carried out on limited number of participants and the number of samples is to be increased for enhancing the generality.

## Conclusion

The current study was carried out with the aim of investigating translational abilities between dominant and balanced bilinguals on forward and backward translation tasks. A total of 45 participants (20 balanced and 25 dominant bilinguals) were considered for the study. 20 words, 20 phrases and 20 sentences were used and this stimulus was presented across the forward and backward translation conditions. Between groups analysis revealed a significant difference between the two groups only for sentences signifying the role of linguistic complexity in determining the performance on translational tasks. Within group analysis showed a significant difference for dominant bilinguals on forward and backward translation showing the role of language proficiency in determining the direction of translation.

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