

Bilinguality: An enhancement or a hindrance?

Nasrin Bahrainy

University of Tehran, Faculty of Foreign Languages

e-mail: n_bahrainy@yahoo.com

Abstract

The main concern of the present study was to probe the probable differences between Iranian bilingual / monolingual learners of English regarding their lexical and syntactic knowledge. It was an attempt to investigate whether bilingual / monolingual learners of English differ significantly in learning lexical and syntactic knowledge. To achieve this end, an ex post facto design was employed. A total of 150 female subjects at three pre-university centers of Tehran were randomly selected from among two groups of Turkish-Persian bilinguals and Persian monolinguals. One general English proficiency test, two questionnaires, and a grammaticality judgment test along with a correction task were administered to both groups. The results revealed significant differences between the two groups; that is, monolinguals outperformed bilinguals in both areas: vocabulary and syntax. The findings have some implications for teacher training centers, methodologists, syllabus designers and curriculum developers.

Key Words: monolinguals, bilinguals, lexical knowledge, syntactic knowledge, learning.

1. Introduction

It has often been argued whether knowing more than one language enhances learning additional languages or not. In addition, it has been hypothesized that early bilingualism helps the child analyze distinctive structural properties of alternative language systems (Klein,1995). Over the past three decades, there has been an accelerating and considerable amount of studies into the impact of bilinguality on third language acquisition. From 1970 onward studies on the phenomenon of bilingualism aroused considerable interest and controversy and led to more follow-up studies. The startling feature of these studies was their contradictory and mixed findings and results. On the one hand, some of these investigations reported bilingualism as an advantage over monolingualism and regarded it as an enhancement to learning a third language, for example, studies conducted by Bialystock (1986) ; Eisenstein (1980); and Thomas (1988). On the other hand, studies such as those conducted by Zobl (1992); and Nayak et al. (1990) reported mixed results with negative or neutral effect of bilingualism on learning a subsequent language.

2. Literature review

In surveys of third language acquisition (L₃A) research, the phenomenon of other known languages plays an important role in the acquisition of a subsequent language. Mixed results and findings demonstrate that there is no consensus among the researchers regarding the advantages and/or disadvantages of multilingualism. On the one hand, most of the earlier studies (Jespersen, 1922; Saer, 1923) and some of the later studies (Darcy, 1953; Mattes and Omark,1984) suggested that bilingualism was associated with negative consequences. These studies supported the idea that bilingual children suffered from academic retardation, had a lower IQ and were socially maladjusted as compared with monolingual children. Pintner and

Keller (1922) reported a *linguistic handicap* in bilingual children. Jespersen (1922) believed that bilinguality had a negative effect on intelligence by stating that a bilingual child hardly learns either of the two languages as perfect as he would have done if he were a monolingual, and also his brain diminishes his power of learning other things which ought to be learnt due to effort he makes to acquire the two languages. Saer (1923) spoke of *mental confusion* to describe the bilinguals' cognitive functioning. Mattes and Omark (1984) claimed that bilingual children are more prone to stuttering.

In contrary to these findings, some studies comparing monolinguals and bilinguals showed that the latter group have enhanced awareness of the arbitrary relationship between words and their referents, heightened metalinguistic skills, and a less conservative learning procedure. The findings of these studies suggest that bilinguality is associated with positive cognitive consequences.

On the basis of several studies, Bialystock (1986) hypothesized that bilingual children have an advantage over monolinguals in their control of the linguistic processing needed for metalinguistic problems in particular. Eisenstein (1980) found that childhood bilinguality had a positive effect on adult aptitude for learning a foreign language. Thomas (1988) compared the acquisition of college French by English monolinguals and English / Spanish bilinguals. Her study yielded striking differences between the two groups, with the bilinguals outperforming the monolinguals. Thomas (1988: 240) concluded: "Bilinguals learning a third language seem to have developed a sensitivity to language as a system which helps them perform better on those activities usually associated with formal language learning than monolinguals learning a foreign language for the first time."

Mixing results of the studies on the consequences of bilinguality caused some scholars to conduct experiments with more controlled variables. The findings of some of these studies led to a neutral attitude toward

bilingualism. In their studies, Barik and Swain (1976) experimented larger samples controlled for sex and age, and found no significant difference between monolinguals and bilinguals in terms of their intelligence, mental developments and school achievements. Nayak et al. (1990), comparing monolinguals', bilinguals' and multilinguals' acquisition of an artificial grammar, reported that although the multilinguals showed superior performance under certain conditions, they generally showed "no clear evidence that they were superior in language learning abilities". Diaz (1985) criticized the very attempt to compare bilingual and monolingual subjects, arguing that many variables, other than the number of languages known, made it difficult to draw conclusions. Therefore, rather than to search for general effects of bilingualism on cognition, researchers made an attempt to address the particular circumstances under which bilingualism affected cognition (Nanez et al., 1992). Factors such as social acceptance of the languages, level of proficiency in both languages, socioeconomic status, and language acquisition patterns were identified as variables. Not all studies report a cognitive advantage of bilinguality. Some researchers believe that bilingualism has no major effect-either positive or negative - on cognition development. Romaine (1995) believes that positive or negative consequences of bilinguality are more related to external variables like age, sex, educational opportunities, the context of acquisition, etc. Klein (1993,1995), in an effort to compare monolinguals' versus bilinguals' lexical and syntactic knowledge, found that bilinguals outperformed monolinguals, suggesting that qualities attributed to multilinguals, that is, heightened metalinguistic skills (J. Thomas, 1988, 1992), enhanced lexical knowledge (J. Thomas, 1988), and a less conservative learning procedure (Zobl, 1992), all help to trigger the setting of Universal Grammar parameters. However, Klein (1995) stated that the question of whether multilinguals were actually better at setting the parameters than were the monolinguals must be

answered with a cautious "no". Klein repeatedly emphasizes that there are not enough data to warrant any conclusion and that further studies with larger groups of participants and more test tokens are necessary to confirm this finding.

In sum, the fact that there is no firm resolution in regard to the role of previous language experience in L2 / L3 acquisition indicates that there is still an ocean of topics to be investigated in this area and a larger body of data is required to enable scholars to establish a firm belief on the positive, negative, or neutral effects of bilingualism.

In the present study, the impact of bilinguality on third language acquisition was investigated. An attempt was made to find whether lexical knowledge and syntactic knowledge were exhibited by monolinguals and bilinguals differently. In lexical part subcategorization knowledge of verbs for their preposition complements were examined. Subcategorization knowledge is that part of our lexical knowledge which concerns the selection properties of lexical items. This *category selection* (C-selection) knowledge, is the ability to determine the type of complement that the lexical item may have. For example, the verb **ask** can have both a question clause and an NP as its complement:

Mary asked [what the time was].

Mary asked [the time].

C-selection is represented in the lexicon in terms of a subcategorization frame:

ask [-CP/NP]

In syntax part two structures were examined: preposition stranding and pied-piping. In English wh-questions (and relative clauses), when the wh-element involves a prepositional phrase (PP) there are two choices. In one case only the object of preposition is extracted, resulting in *preposition stranding* (PS), as in the example below:

[What_i] are the boys waiting [pp for [t_i]]

In the second case the entire PP is extracted and fronted, creating what is generally known as *pied piping*, as in the example below:

[For what_i] are the boys waiting [pp t_i]

Stranding, which is generally preferred in English, is very rare in many other languages. It is limited to some Indo-European languages, particularly English, Dutch, and the Scandinavian languages. It has been argued to be relatively marked because of its syntactic complexity.

As it was mentioned before the present study was an attempt to find whether lexical knowledge (subcategorization knowledge of verbs for their preposition complements, from now on known as SUBCAT knowledge) and syntactic knowledge (of preposition stranding and pied-piping) were exhibited by monolinguals and bilinguals differently. In this regard, the following research question was proposed:

Are there any significant differences between monolingual and bilingual learners of English regarding their SUBCAT and stranding knowledge?

3. Method

Participants

A total of 150 students at three pre-university centers from three different educational districts of Tehran (districts 8, 12, and 16) with the age range of 16 to 18 were initially asked to participate in the study. They comprised 72 Persian speakers and 78 Turkish-Persian speakers. Both bilinguals and monolinguals attended public schools. Since the educational system is centralized in Iran, textbooks as well as methodology for teaching English as a foreign language are the same (sanctioned by the Ministry of Education) for all students in the same level. It is worth mentioning that Turkish / Persian bilinguals do not receive any Turkish literacy in their

schooling. Like other Iranian students they start learning Persian literacy skills (reading and writing) at the age of seven and continue till their diploma. During all their schooling years, Persian is the medium of instruction.

Instrumentation

The following instrumentations were utilized in this study:

- 1- A standard general English proficiency test (the Nelson Test), the purpose of which was determining the participant's level of proficiency in English and ensuring their homogeneity.
- 2- A background questionnaire which was used to elicit some personal information about participants' backgrounds.
- 3- A self-report proficiency questionnaire in order to measure the degree of bilinguality in bilinguals and to determine the suitable participants.
- 4- A grammaticality judgment test (GJT) along with a correction task to examine the participants' lexical and syntactic knowledge.

The participants were asked to judge whether a given sentence was grammatical or ungrammatical in English. The correction task required subjects to correct those sentences which were judged to be ungrammatical in English. The purpose of the correction task was to ensure that subjects were rejecting sentences for the right reasons.

Procedure

After doing sampling procedure and choosing subjects randomly, 150 students were initially asked to participate in the study. As the second stage of the research, the Nelson Test was administered. In this stage participants received some instructions to respond to 50 items in the test. It is important to mention that prior to the administration of the Nelson Test it was piloted

with 20 students of the same grade with similar characteristics to those of subjects of this study and it was found to be appropriate for the subjects' proficiency level.

Afterwards, the two questionnaires were administered. In this stage the participants were assured that the elicited information would be kept in full secrecy.

The questionnaires were carefully examined and the incomplete ones and those which were carelessly filled out were discarded. Then on the basis of subjects' scores on the general proficiency test, those subjects whose score fell between the mean (\bar{X}) and 1.5 standard deviation above it were selected to participate in the next stage of the project. The rationale behind such a decision was to select those subjects who were proficient enough to participate in the main stage of the study, the GJ test. The test comprised 36 English sentences containing prepositional verbs with their obligatory prepositions omitted, 12 of which served as distracters. The participants were asked to judge whether given sentences such as examples 1 and 2 were acceptable in English or not:

- 1.*¹ The young boy waited the school bus yesterday.
- 2.* Which bus did the young boy wait yesterday?

In case of unacceptable sentences, the subjects were required to correct them by adding a preposition (the correction task).

After the data was collected and examined carefully, 26 of subjects were discarded from the data since they did not complete the task. In this way the results of the remaining 77 subjects (38 monolinguals and 39 bilinguals) were tabulated and codified for the data analysis. Then they were analyzed in several ways in order to determine the degree to which monolinguals versus bilinguals differ in their lexical and syntactic knowledge.

1- Asterisk (*) indicates ungrammaticality.

4. Results and Discussions

The reliability and concurrent validity of the instruments used in this study were estimated through employing some statistical analyses. The reliability of the Nelson Test, estimated by Kuder – Richardson formula 21 (KR-21) appeared to be .67, which is a strong index. Besides, for purpose of measuring the concurrent validity of this test, it was correlated with an achievement test developed by the Ministry of Education for pre – university centers. The correlation coefficient calculated between the achievement test and the Nelson Test appeared to be .59. Hence the Nelson Test was found to be appropriate for the participants' proficiency level. To measure the internal consistency of the questionnaire, Cronbach alpha was utilized as the most appropriate reliability index (Oxford and Burrystock, 1995). It appeared to be reliable with a mean coefficient of .66. Regarding the psychometric qualities of the grammaticality judgment test and in order to determine whether it was suitable for data collection, it was evaluated through a trial administration. The test was administered to a group of 20 students in pre-university level with similar characteristics to those of participants of the present project. Moreover, for the purpose of measuring the concurrent validity of the test, it was correlated with an achievement test developed by the Ministry of Education for pre-university centers. The correlation coefficients calculated between the trial test and the achievement test appeared to be significant with a mean coefficient of .56. Hence, the test was found to be suitable for the participants' proficiency level.

The descriptive statistics on the self-report proficiency scale in Turkish and Persian languages by bilingual participants revealed that except for speaking in Turkish, all other skills had mean scores higher in Persian than Turkish. Table 1 displays the descriptive statistics for self rating proficiency in Turkish and Persian by bilingual participants.

Table 1. Mean scores of bilinguals' proficiency in Turkish and Persian

Proficiency	Turkish	Persian
Grammar	3.52	4.12
Vocabulary	4.20	4.46
Reading	3.07	4.01
Writing	2.23	3.45
Speaking	4.17	4.01
Listening	4.06	4.08

In some cases the differences were more remarkable than others. For example, the mean scores on reading and writing in Persian were much higher than the mean scores of these skills in Turkish. As indicated previously, lack of Turkish education in academic subjects in educational systems in Iran might have led to such results.

To address the research question two sets of statistical analyses were performed on the data. First the mean percentages of accurate responses for SUBCAT and stranding or piping across the two groups were tabulated. Table 2 illustrates these means.

Table 2. Mean Percentages of Responses for Monolinguals vs. Bilinguals

Participants	SUBCATs		Pied piping (PiP)		Stranding (PS)	
	n	%	n	%	n	%
Mls (N=39)	116	75*	1	0.86	86	74*
Bls (N=38)	86	57*	0	0	42	49*

As Table 2 shows, monolinguals exhibited greater knowledge of SUBCAT than did bilinguals: 75% vs. 57%. Similarly monolinguals showed greater stranding knowledge than did bilinguals: 74% vs. 49%. The Fisher test showed significant difference between the two groups: $p < .05$ in both

areas of SUBCAT and stranding. Thus, as with SUBCAT, monolinguals showed greater knowledge of the stranding construction in English than did bilinguals.

The second set of statistical analysis was carried out over the data to be more assured of the results. Therefore, a multi-variate analysis of variance (MANOVA) was run. Table 3 displays the results of this MANOVA.

Table 3. Test of Between Subjects Effects

Source of Variation	Sum of Squares	DF	Mean Square	F Observed	F Critical
Linguistic Background	34.35	1	34.35	16.81	4
Within Cells	153.28	75	2.04		

As Table 3 shows, the F-observed value for the effect of the linguistic background, 16.81 at 1 and 75 degrees of freedom is much greater than the critical value of F, i.e.4. Thus it can be concluded that the linguistic background has a significant impact on the performance of the subjects.

Following the significant F-values obtained for the linguistic background of the subjects, it was necessary to run the post-hoc Scheffe's tests to compare the individual mean scores and to see exactly where the differences occur. Table 4 illustrates the results of the post-hoc Scheffe test.

Table 4. The Post-hoc Scheffe Test Results for the Two Groups' Mean Scores on SUBCAT and Stranding.

Comparisons			Differences	
			Observed	Critical
Mls – SUB $\bar{X} = 2.97$	vs.	Bls – Str $\bar{X} = 1.10$	1.81	.76*
Mls – SUB $\bar{X} = 2.97$	vs.	Bls – SUB $\bar{X} = 2.21$.76	.76*
Mls – Str $\bar{X} = 2.23$	vs.	Bls – Str $\bar{X} = 1.10$	1.31	.76*
Bls – SUB $\bar{X} = 2.21$	vs.	Bls – Str $\bar{X} = 1.10$	1.11	.76*
Mls – SUB $\bar{X} = 2.97$	vs.	Mls – Str $\bar{X} = 2.23$.74	.75
Mls – Str $\bar{X} = 2.23$	vs.	Bls – SUB $\bar{X} = 2.21$.02	.76

As it is displayed in Table 4, the following conclusions can be made:

The monolingual participants outperformed bilingual participants on SUBCAT test. The monolinguals' mean score on this type of test was 2.97, whereas that of bilinguals was 2.21. As we can see from Table 4, this difference is significant at the .05 level.

The monolingual participants on the stranding test ($\bar{X}=2.23$) performed better than the bilingual participants on the same test ($\bar{X}=1.10$). This difference is statistically significant.

5. Conclusion

The findings of this study suggest that in the areas of lexical acquisition and related syntactic constructions monolinguals showed significantly

greater knowledge than bilinguals. Perhaps the most important reason for such unexpected finding is that Turkish / Persian subjects had learned their L1 only orally in a naturalistic setting. They did not receive schooling in Turkish and their academic language was Persian, the native language of the majority linguistic group. So it can be argued that Persian is the more dominant language among the bilinguals. This finding is in line with M.Thomas' (1990) study in which she argues that language dominance is a crucial factor in her unexpected results. Ebrahimi (2002) found that except for grammar and speaking in Armenian, all other skills had higher mean scores in Persian monolinguals than bilinguals. The finding of this phase of the present study also supports *the developmental interdependence hypothesis* developed by Skutnabb-Kangas and Toukomaa (1976), which was elaborated later on by Cummins (1979). They argue that because bilingual participants have not acquired literacy skills of reading and writing in their L1, they suffer from “*age appropriate*” skills in L2 and therefore cannot cope up with monolingual participants.

The second probable reason for such an unexpected finding may be that Persian and English belong to the Indo - European family of languages; whereas, Turkish belongs to Altaic family, with no resemblance to English and Persian. This supports Swain et al.'s (1990) claim that the typology of the languages involved should be considered as a variable since it might account for differences in the result of research on the impact of bilingualism on L3A.

The other probable reason for the unexpected findings of this study roots in personal, cultural, social, and attitudinal factors. The receptivity of the participants and their families towards bilingualism and multilingualism is an important factor affecting the outcome of any attempt to carry out a research on these subjects.

Attitudes of the extended family, friends, the school, and society at large

are also important. There is also peer pressure. Students do not want to appear to be different from their friends. Some of the Turkish / Persian bilinguals participating in the present project informed the researcher secretly that they did not want to be introduced as Turkish amongst their peers. Some others even refrained to participate in this study merely because of the fear of being introduced as Turkish. Negative attitudes towards aspects of bilingual development are shared by some teachers. Some of the participants in the present study informed the researcher that some of their teachers despised them and regarded them as failures in academic achievements, and with a low level of intelligence. It must be borne in mind that social, cultural, and attitudinal factors are intervening variables whose influence on language learning are undeniable and need to be specified.

In sum, although the concept of bilingualism seems at first sight a non-problematic, simple area, rather it is a complex, multi-dimensional phenomenon (Hamers and Blanc, 1989; Romaine, 1995). The fact that there is no firm resolution in regard to the role of previous language experience in L2 / L3 acquisition / learning indicates that there is still an ocean of topics to be dived in this area.

This study has some theoretical and practical implications for syllabus designers, material and curriculum developers and teacher training centers. The findings of this study revealed that language teachers need to revise their attitudes with regard to the status and value of bilingualism. Teachers' receptivity and reaction towards bilingualism are important factors affecting the outcome of any attempt to carry out a research on bilingual learners. An enlightened and informed approach to language teaching would foster a tolerant and relativistic attitude. EFL teachers need to be familiarized with the differences between monolingual and bilingual learners of English as well as factors such as social acceptance of the languages, level of proficiency in both languages, and language acquisition patterns. They must

acknowledge that some bilingual students come to class with different linguistic problems, certain attitudes and expectations that may actually prove harmful to their success in the class. So the weighty responsibility upon the EFL teachers' shoulders necessitates aiding bilingual students to overcome these blocks to language learning. Also these teachers need to realize that each class is a unique educational setting with its own peculiar circumstance. Teachers must have training relevant to their own instructional situations and particular circumstances. Besides, the multilingual / bilingual research paradigm needs to be incorporated into such core courses as methods and materials for teaching English, the structure of English, contrastive linguistics, and language testing. In addition, it would be suitable to introduce a required course in sociolinguistics – a largely neglected area in LT courses-for teacher trainees.

Syllabus designers should be careful of the double problems of bilinguals. Extra English classes could be established for these learners. Even though in the present study there was not any trace of language transfer, because neither Persian nor Turkish permits preposition stranding, in other areas and constructions, a contrastive analysis and an error analysis might be fruitful to find out the problematic areas especially in syntax. On the basis of such analyses material developers can add special sections to English books to be emphasized and taught voluntarily by the instructors, to overcome some of the bilinguals' problems.

References

- Barik, H.C. & Swain, M. (1976) A longitudinal study of bilingual and cognitive development. *International Journal of Psychology*, vol. 11, 251-63.
- Bialystock, E. (1986) Children's concept of word. *Journal of Psycholinguistic Research*, vol. 15, 13 – 32.
- Cummins, J. (1979) Linguistic interdependence and the educational development of

bilingual children. *Review of Educational Research*, vol. 49, 222-51.

Darcy, N.T. (1953) A review of the literature on the effects of bilingualism upon the measurement of intelligence. *Journal of Genetic Psychology*, vol. 82, 21-57.

Diaz, R. M. (1985) Bilingual cognitive development: Addressing three gaps in current research. *Child Development*, vol. 56, 1356-78.

Ebrahimi, A. (2002) *A comparative study of language learning strategies employed by bilinguals and monolinguals with reference to attitudes and motivation*. Unpublished MA. Thesis. Teacher Training University.

Eisenstein, M. (1980) Childhood bilingualism and adult language learning aptitude. *International Review of Applied Psychology*, vol. 29, 159-172.

Hamers, J. & Blanc, M. (1989) *Bilinguality and Bilingualism*. Cambridge: Cambridge University Press.

Jespersen, O. (1922) *Language*. London: George Allen and Unwin.

Klein, E. (1993a) A problem for UG in L₂ acquisition. *Issues in Applied Linguistics*, vol.2, 33-56.

——— (1995) Second versus third language acquisition: Is there a difference? *Language Learning*, vol. 45, no.3, 419-65.

Lanza, E. (1997) *Language mixing in infant bilingualism: A sociolinguistic Perspective*. Oxford: Clarendon Press.

Mattes, L. J. and Omark, D. R., (1984) *Speech and Language Assessment for the Bilingual Handicapped*. San Diego : College Hill Press.

Nanez, J. E., Padilla, R. V. and Lopez – Maez, B., (1992) Bilinguality, intelligence, and cognitive information processing. In R. V. Padilla, and A. H. Benavides (eds.), *Critical Perspectives on bilingual education research*. Tempe, AZ : Bilingual Press.

Nayak, H., Hansen, N., Krueger, N., & McLaughlin, B. (1990) Language learning strategies in monolingual and multilingual adults. *Language Learning*, vol. 40, 221-244.

Oxford. R. L. and Burry – Stock, J. A. (1995) Assessing the use of language

learning strategies worldwide with the ESL/EFL version of the Strategy Inventory for Language Learning (SILL), *System*, vol. 23, 1-23.

Pintner, R., and Keller, R. (1922) Intelligence Tests for foreign children. *Journal of Educational Psychology*, vol. 13, 214-22.

Romaine, S. (1995) *Bilingualism*. Blackwell publishers Ltd.

Saer, O, J. (1923) The effect of bilingualism on intelligence . *British Journal of Psychology*, vol. 14, 25-8.

Skutnabb – Kangas, T. and Toukomaa, P. (1976) Teaching Migrant Children's Mother Tongue and Learning the Language of the Host Country in the Context of the Sociocultural Situation of the Migrant Family. Helsinki.

Swain, M. Lapkin, S., Rowen, N., and Hart, D. (1990) The role of mother tongue literacy in third language learning. *Language, Culture and Curriculum*, vol. 3, no. 1, 65-81.

Thomas, J. (1988) The role played by metalinguistic awareness in second and third language learning. *Journal of Multilingual and Multicultural Development*, vol. 9, 235-47.

———, (1992) Metalinguistic awareness in L₂ & L₃ learning. In R.J. Harris (ed.), *Cognitive Processing in bilinguals*, 531-545.

———, (1990) M., Acquisition of the Japanese reflexive *zibun* by unilingual & multilingual learners. In H. Burmeister & P. Rounds (eds.), *Variability in SLA: Proceedings of the Tenth Meeting of the SL Research Forum* (pp. 701-718). Eugene: University of Oregon.

Zobl, H. (1992) Prior linguistic knowledge & the conservation of the learning procedure: Grammaticality judgment of unilingual & multilingual learners. In S.M. Gass & L. Selinkers (eds.). *Language Transfer in Language Learning* (pp. 176-196). Amsterdam: John Benjamins.

