

Some Psychological Perspectives on
Bilingualism and Second Language Teaching

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In Quebec, most educators agree that everybody should acquire a high level of competence in both French and English. The achievement of this goal will facilitate communication not only in everyday life but will lead as well to an understanding and appreciation of the values and aspirations of each cultural group. Perhaps a decrease in tension and hostility between the groups would also result from widespread bilingualism. Some groups of immigrants aside, the acquisition of English or French involves for most people the learning of a second language.

While it would seem that the most effective way to achieve widespread bilingualism in Quebec is through the development of compulsory second-language programs in the school systems, the results of such programs have generally been disappointing in that English-speaking children do not learn French well in school, nor do French-speaking children learn English there. Indeed, highly skilled bilinguals normally explain their success as the result of early and constant exposure to the second language in the streets or in the home. The lack of success of the schools' language programs has been attributed to a number of things, such as ill-trained teachers who are non-native speakers of the language they teach, large

classes, bad texts, the wrong emphases (reading/writing vs. hearing/speaking), and not enough time. For the past ten years, educators in the area have tried to improve second-language acquisition through the use of materials which are based on linguistically sound analyses of English and French. Naturally enough, better analyses have given somewhat better results. However, the linguists' strong emphasis on contrastive analysis and interference from the native language has tended to obscure those factors other than interference which hinder the acquisition of satisfactory bilingual behaviour.¹

In this paper, I would like to discuss some of the findings of psychologically oriented studies of bilingual communities and individuals and to suggest how some of these findings might be used in the preparation of effective second-language programs in schools.

Bilingualism and Intelligence

A great deal of controversy exists over the relationship between bilingualism and intelligence. Some investigators have concluded that bilingualism has adverse effects on intelligence, both verbal and non-verbal, while others have found that enhancement of intelligence results from bilingualism. No teacher or parent wants to discourage the full development of children, and the fears that second-language programs may do just that are certainly understandable, given the contradictory experimental results. The following studies of the relationship of bilingualism to intelligence may allay such fears.

Einar Haugen has provided an excellent summary of many of the experiments conducted in the United States up to 1954.² He accounts for the contradictory conclusions drawn by the investigators as ". . . due largely to confusion over the meaning of the words *intelligence* and *bilingualism*, as well as the use of testing instruments which make insufficient distinction between various kinds of linguistic behavior."³ Haugen further notes that if intelligence is defined as the innate ability to learn, most intelligence tests are really performance tests designed to test skills thought to be related to the ability to succeed in a given culture. The person with linguistic and cultural backgrounds different from the ones tested cannot be expected to achieve satisfactory test results. When non-

verbal performance tests were administered to many groups of bilingual and monolingual children in the United States, it was found that there were no significant differences in the scores achieved by the bilingual and monolingual groups. Haugen remarks that the handicaps that bilingual children show when measured by verbal tests of intelligence probably result from two factors. First, most of the children tested had no exposure to the second language, English, until they started school, so that they did not have as much experience with English as their monolingual peers. Moreover, they used their languages in different areas — one at home and one at school. Secondly, most of the bilingual children tested were from the lower socio-economic brackets, and as the socio-economic brackets became more similar, so did the test scores.

Another finding was that by the time bilinguals reached college age, their verbal intelligence test scores showed no differences from those of monolinguals, and that, in any case, at no time was the handicap “. . . more than a year or two in mental age.”⁴ From the studies described by Haugen, it appears that non-verbal intelligence is not affected by knowing two languages. Furthermore, the verbal intelligence of bilinguals is retarded at most by two years at any point, and disappears by the time bilinguals reach university age.

A more recent study by Elizabeth Peal and Wallace E. Lambert, which was conducted on ten year old bilinguals and monolinguals in Montreal, showed that the 89 bilingual children tested performed much better than the 75 monolinguals on both verbal and non-verbal intelligence tests.⁵ This beautifully designed and executed experiment should provide ample evidence to second-language teachers that they need worry no longer about retarding their students' intellectual development, especially since the study has particular relevance to Quebec.

Language Aptitude

Teachers and administrators are interested in determining the potential ability of individuals to learn a second language. Even in an area where second language instruction is compulsory, such knowledge may make it possible to achieve homogeneous grouping and to create different programs for students with different needs.

John B. Carroll has isolated four factors involved in language aptitude in connection with the development of the *Modern Language Aptitude Test*.⁶ The first is the ability to identify, recall and reproduce phonetic sequences over a significant period of time. Carroll states that a person who cannot do this adequately will have difficulty in imitating speech sounds and in remembering phonetic sequences. The second is the ability to manipulate the lexical items and the sentence patterns of language. The third is the ability to memorize foreign language sequences quickly by rote, through association. The fourth factor isolated by Carroll is the ability to make generalizations from new language material with little guidance.⁷ While only the first three factors have been incorporated in the *Modern Language Aptitude Test*, the success that this test has had in predicting the achievement of English speakers in learning foreign languages indicates that language aptitude, as Carroll has analyzed it, is certainly an important variable in successful second-language learning.

In a situation where all students must study a second language, it should be possible to increase the achievement levels of less gifted students through concentration on the four aspects of language aptitude described by Carroll. And if second-language instruction should become optional in Quebec, the test could be used to determine which students should study a second language, as well as for grouping.

Motivation

Teachers and students both consider lack of motivation a most important reason for failure to achieve satisfactory bilingual behaviour. Teachers often feel that whatever interest students may have had at the beginning of second-language courses, it is soon extinguished by the unimaginative materials in the textbooks. The humdrum lives of students' French or English counterparts, for example, are unlikely to cause more than a flicker of interest from teenagers. And topics which do interest them are likely to be taboo, at least in today's schoolrooms. Teachers who are aware of motivational differences may be able to shape existing motivations and to reinforce them through the creation of more exciting classroom materials.

A student who is motivated by the thought that another language will help him get a better job, that it will make him better educated or that it will help him achieve greater success in life, is said to have an *instrumental motivation* toward learning the language. A student who wants to understand the other culture and who may want to identify himself as a member of that culture as well as his own or to change his cultural identity entirely in favor of the norms of the other culture, is said to have an *integrative motivation* toward learning the language. In a study by Gardner and Lambert,⁸ language aptitude and motivation were isolated as separate variables, and good results were achieved in the second language if the students had either high language aptitude or an integrative motivation. Those who had an integrative motivation achieved greater success than those who had an instrumental motivation. This and other studies indicate that a favorable attitude toward the second-language cultural group is an important variable in the prediction of successful second-language learning. An integrative motivation, combined with a desire to become bicultural, may lead to a rewarding expansion of the student's cultural horizons. On the other hand, as the student progresses in the language and becomes more bicultural, he may experience *anomie*, a lack of cultural identification with either group, or rootlessness, and remorse at leaving one cultural group along with fear of joining another.

The second-language teacher wants his students to achieve competence in the language as quickly and painlessly as possible. Under some circumstances, he may wish to encourage an integrative motivation. In a Puerto Rican university, for example, the level of English achievement was consistently low at the first year level, even though the students had to take first year courses in which English was the medium of instruction. Furthermore, for most specializations, the medium of instruction for a great many upper division courses was English. The students certainly should have had a strong instrumental motivation for acquiring a high level of proficiency in English. But most of them had consciously hostile attitudes to American cultural values, partially as a result of the power of United States business concerns in Puerto Rico and their relatives' experiences with prejudice in the United States. If their English teachers had been able to reshape the students' unfavorable attitudes toward American culture, their English language achievement might have improved noticeably.

In other cases, the teacher may feel bound to stress instrumental factors with certain students because he perceives they are about to undergo the highly disturbing experience of *anomie*. In any event, while the language teacher may use his awareness of motivational aspects to achieve better results in the second language, he also has the enormous responsibility to use this awareness wisely.

Bilingual Skill Levels

The evaluation of the relative proficiency a bilingual individual has in each of his languages is a concern of both linguists and psychologists. While linguists try to estimate differences in the language skills of bilinguals on the basis of interference,⁹ psychologists have attempted to measure the relative skills of bilinguals according to their speed of response to stimuli in each of their languages. If a bilingual shows equal reaction times in both of the languages, he is a balanced bilingual. If the reaction times differ significantly, one language is dominant over the other. In a study conducted by Lambert,¹⁰ it was assumed that greater exposure to French instruction would lead to a decrease in reaction time to French stimuli. Undergraduate and graduate students who were majoring in French as well as native speakers of French were tested. The results of the experiment showed that reaction times to directions in French decreased with increasing amounts of French instruction. Ten of the undergraduate students had significantly faster reaction times to English stimuli and it was suggested that English was their dominant language, while four of them were considered balanced bilinguals. The graduate students reacted faster to French stimuli than the undergraduates. Seven of them were dominant in English, six were balanced, and one (a non-native speaker of French) was dominant in French. It was thought that this individual was particularly dissatisfied with English and North American culture. Ten of the native French speakers were balanced bilinguals, and four were dominant in French. The reaction time results were also positively related to measures of the individuals' knowledge of French vocabulary.

It would appear that reaction times in each of the bilingual's languages provide a good measure of relative skill in each language and that proficiency scales could be developed fairly easily using

devices similar to those employed in the experiment. If proficiency tests such as these can be developed, in such a way that they correlate with overall linguistic competence as well as with vocabulary, the second-language teacher might be liberated from much of the time-consuming testing and grading that is currently his lot and still have a pretty good idea of his students' progress. In addition, the determination of the language dominance or balance of his students has important implications for the content of the second language program itself. To take only one example, some non-native speakers of French may wish to do university studies in French literature. The secondary school program in French as a second language could be designed on a multi-track basis so that those individuals would have every opportunity to become dominant in French, at least in those areas where it would favor their future development.

Stages of Bilingual Development

The determination of the stages through which individuals pass as they become bilingual is another area psychologists have investigated. Teachers may find that the results of an experiment conducted by Lambert¹¹ suggest changes in second-language course organization.

In formal study situations at least, Lambert found that students of a second language must master increasingly more difficult levels of skill if they wish to achieve native-like control over the second language. Vocabulary and grammatical manipulation are the easiest of the skills to acquire. The next most difficult skill to develop is how to react automatically to utterances in the second language. The third and most difficult hurdle is the development of the skill to respond to the second language in terms of the cultural concepts of that language. At the stage where the students strove to achieve native-like control of the second language, native pronunciation was also acquired.

The results of this study could have far-reaching effects on the organization of material presentation in second-language courses. They suggest that certain kinds of material should be emphasized at successive stages in the course of study — perhaps in order of increasing difficulty of skill development. But it is probably just as important to include materials which encourage the de-

velopment of all the skills necessary for high achievement from the beginning, concomitantly with the major emphasis. In this way, it may be possible to bring the remaining skills up to the levels necessary for overall high achievement when the emphases are changed. The results of the study suggest in particular that the concentration on pronunciation skills, so common in elementary level courses, might better be transferred to a course at a more advanced level, by which time the students may have acquired the necessary skills to develop a good accent.

Compound and Coordinate Models of Bilingualism

The second-language teacher is concerned to have his students speak French or English, but not "Franglais." Psychologists and linguists are also interested in how bilinguals manage to keep their languages separate and relatively free from interference.

In 1953, Uriel Weinreich proposed, as a partial explanation, what are now known as the compound and coordinate models of bilingualism.¹² The compound model posits that the bilingual makes interlingual identifications in such a way that he has two modes of expressing the same meaning. If he is bilingual in French and English, he expresses the single concept 'milk-lait' in two ways, / mIlk and / le /. If he learns French with the help of English, he may not equate French / le / with the concept 'milk-lait' at all, but only with the English form / mIlk /. The coordinate model supposes that the modes of expression and the meaning concepts of each language are separate, so that French / le / is associated with the concept 'lait,' and English / mIlk / is associated with a different concept 'milk.' Weinreich suggests that most bilinguals have partially compound systems and partially coordinate systems, and that where systems are compound, interference is to be expected, while coordinate systems inhibit interference.

Ervin and Osgood state that a compound system is likely to develop when second languages are learned in school, or when a child learns the two languages in the same environments from the same people and under the same circumstances.¹³ While a coordinate bilingual increases his linguistic burden by having two systems of referents, it is presumably easier for him to keep his languages separ-

ate than for the compound bilingual, who has only one set of referents.

A number of studies have investigated various aspects of the compound and coordinate models of bilingualism. In one of these, Lambert, Havelka and Crosby tested the effects of the contexts of learning on bilingualism.¹⁴ It was first determined whether the subjects learned their two languages in separated or in fused contexts. It was assumed, in accordance with the compound and coordinate hypotheses, that language acquisition in separated contexts increases the bilingual's ability to keep his languages apart.

It was found that experience in separated contexts comparatively increases the associative independence of translated equivalents in the bilingual's two languages. If the bilingual has learned his two languages in culturally distinct contexts, the semantic differences between translated equivalents are comparatively increased.¹⁵

This and other studies indicate that the compound and coordinate models of bilingualism have some validity. At first blush, it might seem that the way for the second-language teacher to overcome interference is to enhance the development of coordinate bilingualism in his students, either by providing separated contexts of learning or by using the direct method. But another study conducted at McGill¹⁶ shows that advanced students in a six-week intensive French course achieved better grades if they mixed the semantic systems of their two languages than those students who kept the semantic systems separate, even though the direct method was used in the course. It may be that the French and English semantic systems resemble each other closely enough so that it is advantageous for students not to have separate systems. It would be interesting to conduct a similar study where the languages in question were not genetically related, and where the cultural outlooks differed greatly. Until more is known about compound and coordinate systems, teachers should proceed cautiously.¹⁷

Conclusion

Psychologists have not confined their investigations of bilingualism to the areas which have been discussed in this article. I

have tried to choose those investigations the results of which have relevance to second-language teaching, insofar as they might affect the learners, the teachers, and the materials used. I hope that educators, psychologists and linguists will be able to use together the insights they have gained separately toward the development of more effective second-language programs. If they can, they will be communicating not only among themselves, but the results of their labors will eventually open the avenues of communication between the two major language and culture groups in Canada.



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15. *Ibid.*, p. 414.
16. W. E. Lambert, R. C. Gardner, H. C. Barik, and K. Tunstall, "Attitudinal and Cognitive Aspects of Intensive Study of a Second Language," *Journal of Abnormal and Social Psychology*, LXVI (1963), pp. 358-368.
17. Karl Diller has rejected the compound and coordinate models of bilingualism as a "conceptual artifact" in talks given at the Collège Militaire Royale de Saint-Jean and at a recent meeting of the Linguistic Society of America. In the sense that there are probably no bilingual individuals who have totally compound or totally coordinate systems, he has some grounds for the rejection. (Most bilinguals seem to have a system which is partially compound and partially coordinate.) However, the work done by Lambert and his associates demonstrates the utility of such models. The determination of the theoretical status of the models must necessarily await the development of a theory of bilingualism, and Diller's rejection of the models on theoretical grounds would seem premature.