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ABSTRACT

A discussion of research on the cognitive, personal, and social correlates of bilingualism focuses on those consequences for individuals who are "caused" to become bilingual by their participation in innovative language education programs such as immersion, bilingual immersion, interlocking, or two-way bilingual programs. The purpose of this paper is to counter-balance the negatively-charged debate surrounding a proposed amendment to the United States Constitution declaring English to be the sole and official language of the country. Fuel for the controversy is seen as hinging on misunderstanding of issues related to bilingual education. The changing language education needs of language minority and language majority children are discussed, an innovative approach to language education designed to foster additive bilingualism is described, and the likely correlates of such bilingualism are identified, based on a review of relevant research literature.  
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# Cognitive and Social Correlates of Bilinguality

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Much of the early educational literature suggested negative cognitive, personal, and social consequences of bilinguality (cf., Hakuta, 1986; Macnamara, 1966). However, a reexamination of much of the early literature revealed serious methodological flaws in the research. The work by Peal and Lambert (1962) suggested quite different, and much more positive, correlates of bilinguality. In this paper, I will describe briefly the likely cognitive and social correlates and consequences for individuals who are "caused" to become bilingual by their participation in innovative language education programs such as immersion, bilingual immersion, interlocking, or two-way bilingual programs. My reason for doing so is to provide a positive counterbalance to the negatively-charged debate surrounding the continuing discussions about amending the U.S. Constitution to declare English to be the sole and official language of the country (see, for example, Crawford, 1989; Nunberg, 1989). In part, fuel for the controversy over an official language policy for the United States hinges around misunderstanding of issues related to one important aspect of language (education) policy -- namely that of bilingual education. Proponents of an "English Only" viewpoint misrepresent or misunderstand the accumulated research literature concerning the consequences and correlates of bilinguality. Supporters of "official" English appear to imply that an individual caused to become bilingual will suffer irreparable cognitive and social harm and that this individual will become an alienated and non-contributing member of our society. Consequently the fabric of society will begin to disintegrate. In this paper, I wish to sketch the changing (language) educational needs of language minority and language majority youngsters; describe an innovative approach to language education designed to foster additive bilingualism; and identify the likely correlates of such bilingualism on the basis of a review of recent relevant research literature.

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Demographic Changes. Despite the fact that the school-aged population of the United States is decreasing in absolute terms, the number of language minority students is increasing dramatically. In 1981, the percentage of minority students in California, New Mexico, and Texas had exceeded 35% while the percentage in Florida, Illinois, and New York was nearing 35%. Moreover, the national percentage is projected by the Education Department to increase to 38.4% by the year 2000. Due to a combination of migration patterns and family size, the fastest growing population in the United States is the language-minority population. In addition, almost one million refugees entered the United States between 1975 and 1985. Added to these numbers are the several million undocumented aliens who arrived from Central America and the Caribbean. Moreover, both racial and ethnic minority families, particularly Black and Hispanic, are characteristically larger than those of the American majority population. If current trends continue, we can expect that 53 of the major American cities will have language minority youngsters as a majority of the school-aged population by the year 2000. In many parts of the country, such students now -- or shortly will -- constitute a majority of the pupils in Local Educational Agencies (LEAs). In many instances, these students enter school with little or no proficiency whatsoever in English. In other instances, language minority students who seem -- at least to all outward appearances -- proficient in social language skills have difficulty in acquiring the cognitive academic language skills which they need for success in their mathematics, science, social studies, or other academic subjects.

Unfortunately, academic achievement and school completion rates for many minority students -- particularly Hispanic students, who are the largest minority and the fastest growing sector of our population -- are woefully low. In the Southwest, Rendon (1983) reports that 40% of the Hispanic students drop out by the 10th grade, and that an additional 10% drop out before completing high school. A recent study by Cardenas, Robledo, and Waggoner (1988) suggests that unfortunately these already high estimates might be woefully low. Of those students who do graduate from high school, only a small percentage attend college and the majority of those who do choose community colleges. Of those who attend four-year colleges, the majority study education, business, or social science. Fewer than 3% of the science, math, and technical majors are

Hispanic. By the year 2000, the nation will have a smaller pool of potential workers and college students, and the people in this pool will be less prepared for work and college study due to circumstances such as poverty, unstable homes, and lack of English language skills (Johnston, 1987). While these statistics document a problem for all minority groups -- particularly Hispanic and Black children -- language minorities (those for whom English is not the native language) are notably at risk.

The purpose of this paper is not to reenter the debate on the optimal educational strategy for such youngsters; others have done that (e.g., Hakuta, 1986; Willig, 1985). Rather, I intend to describe an emerging educational practice that seems to offer great promise for such students, and then to examine the likely cognitive and social correlates of the children's participation in such programs.

With respect to language majority students, the situation is slightly different. For these youngsters the problem is one of depressingly low foreign or second language proficiency. Language majority children often participate in sequences of foreign language study at the elementary or secondary level without ever developing any meaningful proficiency in their language of study. A nationwide survey of foreign language enrollments conducted by CAL staff (Oxford and Rhodes, 1988) revealed that approximately 22% of our nation's elementary schools and 87% of our secondary schools offered programs of foreign language instruction. However, the best guess that we can make from the data based on a 5% sample survey of all public and private elementary and secondary schools in the country is that fewer than 1% of the students who are enrolled in such programs -- already a relatively small number of youngsters -- participate in programs in which the development of bilingual proficiency is either an attainable objective or even a demonstrable program goal.

That is, the average English-speaking youngster enrolled has virtually no chance whatsoever to acquire bilingual proficiency by following the sequence of foreign language courses typically offered in either our public or private school system. Although this statement holds true for the commonly taught languages such as French, German and Spanish, the situation is even more discouraging for the so-called less commonly taught languages (e.g., Arabic, Chinese, Japanese, Indonesian, Swahili) which for all practical purposes are not even offered as subjects for study. In

fact far fewer than 1% of our youngsters have the opportunity to study languages which in the aggregate are spoken as primary or secondary languages by more than 90% of the world's population.

Is it realistic for language majority children to acquire bilingual proficiency by participating in foreign language programs within our public school system? What are the likely correlates of such participation? Again, the purpose is not to examine here the broad array of methods and approaches used to deliver foreign language instruction or to evaluate their efficacy (cf., Larsen-Freeman, 1986; Richards and Rodgers, 1986), but rather to describe an educational practice that holds great promise for improving the quality of foreign language instruction, and concomitantly the degree of proficiency attained for all youngsters.

An Alternative Educational Model. For a number of years, many of us have been flirting with a special kind of innovative language education program -- one which integrates the teaching of language and content to the fullest degree possible. Previously, I had written about the potential value of an "enrichment model" (Tucker, 1986) or a program which could be designed to capitalize on the fact that language-minority students and language-majority students can participate meaningfully and effectively in shared or cooperative education. An approach which maximizes the integration of language and content instruction for members of major language contact groups simultaneously would seem to hold great promise for building and for sustaining valuable natural language resources within the United States which now are either allowed to decay or are never sufficiently developed.

As noted on several occasions (Tucker and Crandall, 1989; Crandall and Tucker in press) there is an emerging awareness, particularly in the United States, of the possibilities, the power, and the promise of bilingual immersion programs. Let me operationally define an exemplary bilingual immersion program. Let us suppose, for example, that in a typical grade one class comprising 28 youngsters, 14 are Hispanic, Spanish-speaking youngsters and 14 are Anglo or English mother-tongue youngsters. These youngsters would be placed together in a combined class (which would usually have been assembled on a voluntary basis) in which some portion of their day typically would be devoted to English language arts (for the Anglos), English as a second language (for the Hispanics), Spanish language arts (for the Hispanics), Spanish as a second

language (for the Anglos), and the teaching of selected content material -- let us say mathematics -- in English, and other content material -- let us say history -- in Spanish. Over the course of several years, the idea would be to offer a program of bilingual instruction in which children from both of the ethnolinguistic groups would have an opportunity to develop and to sharpen their literacy skills while simultaneously developing the fullest possible academic language proficiency in each of their two languages. Care would be taken to insure that children had an opportunity to study all of the content subjects in both of the languages during the course of their school experience. This would be done to facilitate the development of the appropriate academic "registers" for mathematics, science, social studies, etc. in each of the two languages. The daily instruction would be offered within a bilingual ambiance in which the teachers as well as the students would be available to provide good language models and to maximize the opportunity for cooperative learning, peer group tutoring, etc. (Optimally, instruction in each language would be provided by separate teachers with native proficiency in the respective language.) In many ways, such an approach resembles the early French immersion programs begun in Montreal in the mid 1960's (cf., Lambert and Tucker, 1972; Genesee, 1987); but with a notable exception. In the early immersion programs, only language majority children were involved -- there were no children whatsoever from the target language group. There were no youngsters available to act as peer models who could assist the English speakers in acquiring both the social as well as the academic register of the target language. As noted previously (Tucker, in press), we had worried a good deal about what we referred to as the "absent peer group," but political, religious, and other social factors prevented us from developing and implementing a fully integrated or two-way bilingual model. Nevertheless such an idealized model was always in the back of our minds.

Exemplary Bilingual Immersion Programs. Under the federally funded Center for Language Education and Research (CLEAR), Lindholm (1987) compiled a list of extant preschool through secondary school bilingual immersion programs. At the present time, with additions which have occurred during the past two years, there are more than 100 such programs in California, Florida, Illinois, Massachusetts, Michigan, New York, Virginia, and Washington, D.C. The most prevalent languages used are English and Spanish although there are programs involving English and other languages such as Arabic and Greek as well. Lindholm discussed the rationale for

bilingual immersion education and presented a theoretically-motivated operational definition of such programs. She described existing programs in some detail and delineated criteria which she believed to be essential for successful bilingual immersion programs:

1. The instructional treatment should be provided for at least four to six years (note the difference from the typical "early exit" transitional bilingual education program which usually provides only one or two years of bilingual treatment);
2. There should be a focus on the regular academic curriculum as well as on language development (that is, care must be taken to insure that the regular curricular objectives for mathematics, science, social studies, etc. are covered);
3. There should be the fullest possible integration of language arts within the total content curriculum;
4. Dual language input should be provided through communicatively-sensitive language instruction and subject-matter presentation (this requires careful and dynamic collaboration between all of the teachers, resource specialists and administrators concerned with the child's educational development);
5. There should be ample opportunity and demand for language output (that is, the child should be required to utilize the language productively as well as receptively); and
6. Instruction should be carried out in what Lambert (1980) has referred to as an "additive" bilingual environment.

The identified-set of criteria are fully compatible with those described by Snow, Met and Genesee (1989), Short, Crandall and Christian (1969), Crandall and Tucker (in press) as well as with the earlier theoretical construct of Mohan (1986).

In an earlier paper (Tucker and Crandall, 1989), I described briefly two exemplary bilingual immersion programs -- one in Arlington, Virginia, and the other in Santa Monica, California -- which were chosen because they were implemented under quite different social and ethnolinguistic circumstances in two widely-separated parts of the country, and because each had been and continues to be the subject of careful research attention. The results of the various available evaluations can be summarized as follows. Bilingual immersion education proved to be a powerful vehicle to promote the development of bilingual language competence in these early elementary

school-aged youngsters. The children mastered receptive and productive language skills in their two languages and mastered content material at a level appropriate to their grade and peer-group controls as well. They developed positive attitudes toward the program, the target language, and its speakers. This innovation represents a "special case" of the fullest possible integration of language and content instruction. Apparently its success rests on the teachers' ability to foster the development of solid building blocks in both languages which can lead to the development of social as well as academic language skills (or what others such as Snow (1984) have called the development of contextualized and decontextualized language abilities).

Critical attributes appear to include a sensitivity by teachers to the language needs and the inherent abilities of the children; to the fact that material which is inherently interesting and appealing for children (such as science, mathematics, and social studies) can be a conceptual peg upon which to build the development of language and higher order thinking skills; and that students who work collaboratively across language boundaries -- in these examples Mexican-American or Central American youngsters and Anglo youngsters -- can serve to reinforce, to extend, and to solidify their respective language skills. Thus we noted that teachers working within an ambiance conducive to the promotion of "additive" bilingualism can utilize the natural resources which both groups of students bring naturally to the learning environment. These abilities can be nurtured and can be extended by careful planning and by creative and sensitive teaching; but the children themselves play a key role in fostering and facilitating this cross-language development.

In conclusion, it appears that despite the generally poor performance of language minority youngsters who are mainstreamed or submerged in typical American classrooms, and despite the poor second or foreign language proficiency attained by most language majority youngsters there exists an educational alternative which can facilitate the development of bilingual competence and subject matter mastery for such youngsters. What, then, might we expect to be the correlates or consequences for children who participate in such an innovative educational program?

Correlates of Bilinguality. This paper began with a brief consideration of the changing demography of the enrollment patterns in American public education as well as with several summary statements concerning the generally poor academic performance by language minority

youngsters coupled with the poor level of foreign language competence typically achieved by language majority youngsters. I then described a slightly different type of program known as bilingual immersion which is gaining in popularity in the United States. This approach takes as its explicit goal the development of bilingual language proficiency and content subject mastery on the part of all participating youngsters. To date, the majority of such programs have been implemented at the elementary school level, and the research which has been conducted -- where it is longitudinal in nature -- has followed children through the first several years of their elementary schooling. Although it has not yet been possible to track children throughout their entire scholastic career, on the basis of the earlier immersion literature (see, for example, Lambert and Tucker, 1972; Genesee, 1987; Swain, 1984), it seems safe to conclude that the gains observed during the first several years of bilingual immersion will continue and persist throughout elementary and indeed secondary schooling.

In addition to the abundant literature reviewed by Hakuta (1986) and by Hakuta and Suben (1985), there are a number of other relevant recent studies which offer strong support for the existence of a positive relationship between bilingualism and cognitive development. Thus, for example, Diaz (1985) and Hakuta (1987) working with Puerto Rican, English and Spanish bilingual, youngsters found that the degree of bilingualism is positively related to cognitive abilities. Diaz further noted that the degree of bilingualism appeared to be a causal factor affecting children's cognitive abilities. That is, youngsters with a high degree of bilingual proficiency exhibited enhanced flexibility, creativity and divergent problem-solving abilities compared to their monolingual counterparts. Likewise, Secada (1989) in his examination of the degree of bilingualism and performance on problem solving tasks noted a positive relationship between language proficiency and problem solving and found that cognitive benefits appeared in bilingual students' study of academic subjects. The accrued benefits were dependant upon the extent to which students had developed decontextualized or academic language proficiency. In addition, Cleghorn, Merritt and Abagi (1989) found in a very different (African) setting, that the phenomenon of bilingual language development had definite (positive) cognitive implications particularly since the process of language shift and mixed language utilization "caused" the students

whom they studied to focus on and better clarify lesson material which in turn seemed to enhance their development of cognitive language proficiency, divergent thinking abilities, and creativity in general. Most recently, Bamford and Mizokawa (1989) found a significant increase over time on nonverbal measures of divergent thinking for youngsters participating in immersion programs.

Thus, there seems to exist a variety of research evidence from quite disparate settings which cumulatively suggests that youngsters who have been "caused" to become bilingual and who concomitantly develop a high degree of cognitive academic language proficiency or of decontextualized language abilities in both of their languages will also develop a more diversified and flexible set of problem-solving strategies or of cognitive abilities than their monolingual peers. This present emphasis of course is also consistent with earlier evidence reported by Lambert and Tucker (1972), Genesee (1987) and Swain (1984).

Additionally, there are a number of studies which suggest that bilingualism may have positive or facilitating effects on social development. For example, Bamford and Mizokawa (1989) report that incipient bilingual children develop a more diversified and positive cross cultural attitudinal inventory than their monolingual counterparts. This research is consistent with earlier work by Lambert and Tucker (1972), and by Genesee (1987) where children who have been "caused" to become bilingual have developed generally more positive, charitable, and open views toward members of other ethnolinguistic groups than their monolingual counterparts. It should be pointed out, in all fairness, that the social psychological changes that have been reported in the literature may be more transient -- at least based upon the results of the so called immersion studies -- than many would hope to be the case. The results are certainly consistent with results reported by Gardner (1983) who noted that positive attitudes toward the second language community may be an outcome or byproduct of the second language learning process and that therefore one might expect those who become more proficient in the second language to develop more positive and charitable views toward diverse others. In the case of immersion programs, the lack of available continuing role models which leads to sharply reduced contact between members of the groups may come over time to result in a diminution of the positive attitudes and affect toward diverse other ethnolinguistic groups. However, one would certainly expect that long-term participation in

bilingual immersion programs would provide the most supportive ambience for the development of positive attitudes toward members of the contact ethnolinguistic groups and that the enhanced continuing contact would promote over time tolerance and acceptance for a culturally diverse society.

In conclusion. In this brief paper I have tried to argue that there exist innovative educational programs for both language minority and language majority youngsters known as bilingual immersion programs which can result in the development of bilingual proficiency and academic content mastery. I argue further that extant research results suggest that participating youngsters who continue in such programs for a substantial period of time (cf., Collier, 1989) will develop cognitive and possibly social advantages when compared with their monolingually educated counterparts. The net result should be a culturally rich, competent, and socially sensitive society, rather than a divisive and fragmented society as predicted by those who advocate "English only." According to the present optimistic view the encouragement of personal bilingualism through participation in innovative educational programs should be accorded a high social priority.

References

- Barnford, K.W. & Mizokawa, D.T. (1989). Cognitive and attitudinal outcomes of an additive bilingual program. Paper presented at American Educational Research Association meeting, San Francisco, CA.
- Cardenas, J.A., Robledo, M. & Waggoner, D. (1988). The Undereducation of American Youth. San Antonio, TX: Intercultural Development Research Association.
- Cleghorn, A., Merritt, M.W. & Abagi, J.D. (1989). Language policy and science instruction in Kenyan primary schools. Comparative Education Review, 33, 21-39.
- Collier, V.P. (1989). How long? A synthesis of research on academic achievement in a second language. TESOL Quarterly, 23, 3, 509-531.
- Crandall, J.A. & Tucker, G.R. (in press). Content-based language instruction in second and foreign languages. In Proceedings of the RELC Seminar on Language Teaching Methodologies for the Nineties. Singapore: Regional Language Center.
- Crawford, J. (1989). Bilingual Education: History, Politics, Theory and Practice. Trenton, NJ: Crane.
- Diaz, R.M. (1985). Bilingual cognitive development: Addressing three gaps in current research. Child Development, 56, 1376-1388.
- Genesee, F. (1987). Learning through Two Languages: Studies of Immersion and Bilingual Education. Cambridge, MA: Newbury House.
- Hakuta, K. (1986). Mirror of Language: The Debate on Bilingualism. New York: Basic Books.
- Hakuta, K. (1987). Degree of bilingualism and cognitive ability in mainland Puerto Rican children. Child Development, 58, 1372-1388.
- Hakuta, K. & Suben, J. (1985). Bilingualism and cognitive development. In R.B. Kaplan (Ed.) Annual Review of Applied Linguistics, 6, 35-45.
- Johnston, W.B. (1987). Workforce 2000: Work and Workers for the 21st Century. Indianapolis, IN: Hudson Institute.
- Lambert, W.E. (1980). The two faces of bilingual education. NCBE Forum, 3.
- Lambert, W.E. & Tucker, G.R. (1972). The Bilingual Education of Children. Rowley, MA: Newbury House.
- Larsen-Freeman, D. (1986). Techniques and Principles in Language Teaching. New York: Oxford University Press.
- Lindholm, K.J. (1987). Directory of bilingual immersion programs: two-way bilingual education for language minority and majority students. (Educational Report No. 8). Los Angeles: University of California, Center for Language Education and Research.
- Macnamara, J. (1966). Bilingualism and Primary Education. Edinburgh: University of Edinburgh Press.

- Mohan, B.A. (1986). Language and Content. Reading, MA: Addison-Wesley.
- Nunberg, G. (1989). Linguists and the official language movement. Language, 65, 579-587.
- Oxford, R. & Rhodes, N.C. (1988). Foreign language in elementary and secondary schools: Results of a national survey. Foreign Language Annals, 21.
- Peal, E. & Lambert, W.E. (1962). The relation of bilingualism to intelligence. Psychological Monographs, 76 (27, whole No. 546).
- Rendon, L.I. (1983). Mathematics education for Hispanic students in the Border College Consortium. Report on the Math Intervention Project. Laredo, TX: The Border College Consortium.
- Richards, J.C. & Rodgers, T.S. (1986). Approaches and Methods in Language Teaching: A Description and Analysis. Cambridge: Cambridge University Press.
- Short, D.J., Crandall, J. & Christian, D. (1989). How to integrate language and content instruction: a training manual. (Educational Report No. 15). Los Angeles: University of California, Center for Language Education and Research.
- Secada, W.G. (1989). The relationship between degree of bilingualism and arithmetic problem-solving performance in first-grade Hispanic children. Paper presented at American Educational Research Association meeting, San Francisco, CA.
- Snow, C.E. (1984). Beyond conversation: second language learners' acquisition of description and explanation. Paper presented at Delaware Symposium on Language Studies.
- Snow, M.A., Met, M. & Genesee, F. (1989). A conceptual framework for the integration of language and content in second/foreign language instruction. TESOL Quarterly, 23, 201-217.
- Swain, M. (1984). A review of immersion education in Canada: research and evaluation studies. In P. Allen & M. Swain (Eds.) Language Issues and Education Policies. Oxford: Pergamon.
- Tucker, G.R. (1986). Developing a language-competent American society. In D. Tannen (Ed.) Georgetown University Round Table on Languages and Linguistics, 1985. Washington, D.C.: Georgetown University Press.
- Tucker, G.R. (in press). Developing a language competent American society: the role of language planning. In A. Reynolds (Ed.) Proceedings of the McGill Conference on Bilingualism: A Tribute to Wallace E. Lambert. Hillsdale, NJ: Lawrence Erlbaum.
- Tucker, G.R. & Crandall, J.A. (1989). The integration of language and content instruction for language minority and language majority students. In Georgetown University Round Table on Languages and Linguistics, 1989. Washington, D.C.: Georgetown University Press, 39-50.
- Willig, A.C. (1985). A meta-analysis of selected studies on the effectiveness of bilingual education. Review of Educational Research, 55, 269-317.