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MORE HASTE LESS SPEED: TIME AND TIMING FOR LANGUAGE PROGRAMS IN NORTHERN TERRITORY ABORIGINAL BILINGUAL EDUCATION

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For an innovative educational enterprise to prosper a number of contributing and mutually dependent factors have to operate simultaneously. In the case of the Northern Territory Bilingual Education Program these major factors or inputs are: sufficient appropriately *trained staff* to fill the specialist tasks both in the schools and head office, sufficient *financial* resources to provide consumables (software) and wages for Aboriginal writers, and a *sound philosophy* about such matters as the interrelationships between cognitive development, first language development, second language development and academic growth, and the importance of timing to achieve the optimum results from these interrelationships.

In the Northern Territory the Commonwealth Government, and more recently the N.T. Government, has provided adequate specialist staffing and financial resources for the fifteen schools in which the program currently operates. One of the ironies of the history of bilingual education both here and overseas is that the provisions of more resources for its implementation has not necessarily been paralleled by an increasingly wise philosophy or educational model under which the program could be implemented. This paper will focus on a discussion of various research findings and educational principles which should influence the development of our understanding about the relationship between first and second language development and cognitive and academic growth, and more particularly the effect of *timing* in these matters.

Before getting into the body of this paper the provision of a brief history of the theoretical background to its major theme might be helpful. In one sense bilingual education has passed through two phases of understanding and is now entering a third phase. The first phase is represented by the UNESCO (1953) statement - "It is axiomatic that the best medium for teaching a child is his mother tongue". We could call this phase the *language explanation* for the academic

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success or failure of minority language children. The Indians and Australian Aborigines performed poorly at school because they were not taught first in their mother language.

The second phase could be represented by the publication of Lambert and Tucker's (1972) report of the French-English bilingual experiment in St Lambert, Montreal. Students from English speaking homes received nearly all their primary schooling in French and performed very well. The debate which followed these results could be called the *socio-economic explanation* for the academic success or failure of children receiving school instruction in a language other than their mother tongue. The Indians and Aborigines performed poorly in a second language at school partly because, unlike the St Lambert children, they did not come from upper middle class and highly literate homes, where another prestigious language was spoken. It became clear that it was important to link the "language explanation" with the "socio-economic explanation" to come to the understanding that the lower in socio-economic status a minority group is, and the less prestigious their language is, the more important it becomes (if effective school learning is to take place) at least to begin schooling in their mother tongue.

The third phase, about which some major exponents are James Cummins and Skutnabb-Kangas and Toukomaa, might be called the *two language interaction* explanation for success and failure in second language learning and academic performance of minority language group children. This *two language interaction* phase is summarised by two hypotheses:

a) *The threshold hypothesis*. (Cummins 1978 and 1979). This states that

there may be threshold levels of linguistic competence which bilingual children must attain both in order to avoid cognitive deficits, and to allow the potentially beneficial aspects of bilingualism to influence their cognitive growth.

In very basic and possibly over-simplified form this hypothesis could be restated to say that in terms of thinking ability a child with two languages known less than very well is worse off than a child with one language known very well. This hypothesis suggests that the Indians and Aborigines might do relatively poorly in school because insufficient conscious importance is attached to *either* their first, *or both* their first and second languages by parents and teachers. The St Lambert children did very well at school because between home and school both their first and second languages were thought of as important by both parents and teachers and they learned their first, and then both languages very well.

b) The *developmental interdependence* hypothesis (Cummins 1978 and 1979). This states that

the level of second language competence which a bilingual child attains is partially a function of the type of competence the child has developed in [his] first language at the time when intensive exposure to the second language begins.

A very basic and again possibly oversimplified restatement of this hypothesis would suggest that if we want children to develop a high level of competence in a second language one way to assist this is to make sure their mother language is strongly developed first. This hypothesis suggests that if the Indians and Aborigines are to become strong speakers of English they need every opportunity (from either outside or inside school) to become strong speakers of their mother tongue before they are taught English intensively.¹

What I have called here a third phase of understanding about bilingual education is not meant to supersede the earlier phases of understanding but to complement them so that, together, these principles about the relationship between language and learning might be more clearly seen and allow us more accurately to define what kind of first and second language teaching program is most appropriate for the particular combination of social circumstances, linguistic circumstances and school programming opportunities in Aboriginal communities. In the remainder of this paper the combined effect of these three principles is discussed, with more attention being given to the newer insights contained in Cummin's hypotheses.

1. THE RELATIONSHIP BETWEEN FIRST LANGUAGE DEVELOPMENT AND INTELLIGENCE

Although a great deal more research is needed in this field and although linguists do not like the idea of less than mature first language development (because of the well established fact that all languages are full languages and can potentially meet any communicative need of their speakers) more linguists are beginning to observe cases of people who have never developed a mature competence in their first language or in their second language. For example, Sarah Gudschinsky recorded the following observation:

¹ This is the extreme form of the hypothesis as held by the Finnish researchers Skutnabb-Kangas and Toukomaa.

I have seen Mazatec (an Amerindian language of Mexico) children in a Mazatec village who were forbidden by their parents to speak Mazatec and forced to use only Spanish in all contacts. Where the parental edict has been strong enough the children fail to learn enough Mazatec to function successfully in a Mazatec environment. However, they do not have enough Spanish contact to learn an effective control of Spanish. The result is a lack of useful language sufficient probably to stunt all intellectual growth...If our attempts to force non-English speakers to abandon their mother tongue were more efficient, we would be in danger of producing an increasing population that could not use effectively any language.

(Gudschinsky, 1970, p.80)

In another observation of Crow Indian children in Montana, USA, those children who had either been encouraged by their Crow speaking parents to speak English, or whose parents communicated with each other in a sub-standard English, (because they came from different Indian tribes), did significantly poorer on verbal and non-verbal intelligence tests than Indian children from either strong English-speaking or strong Crow-speaking homes. The testers concluded: "...that at least one strong language is an essential prerequisite for normal intelligence development." (Personal communication, S. Cheserick, Internal Evaluator, Bilingual Education Project, Crow Agency, Montana, August 1971). In a more recent case in Sweden (Skutnabb-Kangas and Toukomaa, 1976, p.75) it was observed that 7-8 year old Finnish children who moved to Sweden just as school was beginning, had their learning of Finnish disrupted and the timing of the move had a detrimental effect on their learning Swedish. The writers conclude that "in this group...the risk of becoming semi-lingual² is greatest."

One should not be alarmist about this kind of thing happening in N.T. Aboriginal communities because it is thought that language deprivation must be fairly extreme before there is any harmful effect on the young language learner. Aborigines are very verbal people and Aboriginal children normally get exposed (if we include other children's language of the same age) to lots of Aboriginal language outside school hours. But the principle should be kept in mind that in order for normal intellectual potential to be reached a child must have

² This is an ambiguous term, which means reaching less than full potential. It does not mean that part or half of a language is known.

sufficient exposure to any one language (it does not matter what language, even English will do!) and become a mature speaker of that language. A fairly mature control of a first language is normally achieved somewhere around about 10 years of age³ or say 10-12 to be a bit safer. (The fact that it is not carefully defined what is meant by "mature" and that an English speaking child, for example, does not have complete adult syntax by about 10, should not be allowed to side-track the reader from the fundamental importance of this argument). In thinking about the N.T. Aboriginal situation the following facts should be borne in mind: (a) Aboriginal children probably do have less time of exposure to mature adult speakers of their first language than they did in more traditional times (either because they are in school learning English or because they spend more time in peer groups or because their parents are playing cards, or watching English language movies in the evenings). (b) Loss of facility in a person's mother tongue does not guarantee or promote gaining facility in English. The brain is not some kind of fixed volume apparatus where less of the first language makes more room for the second. Holm (1975) observes that those American Indian groups who have lost their Indian language do not appear to be stronger in English than other groups who maintain their Indian language.

³ This estimate of about 10 years of age as being approximately the age of first language maturity has been reached through statements such as those from Ervin-Tripp (1976, p.201-202) as follows: "For most people the prime activation of phonology learning is in the first five years and the optimal learning stage might be around seven or eight", and, "For most people the prime period for learning of syntax may be from two to ten or so and children well into their teens may still be good learners of syntax", and "For all of us vocabulary learning goes on throughout life...". Furthermore, several well qualified linguists have told me in personal communication that they would opt for about a 12-13 age for first language maturity. Some other linguists argue strongly that 18 is a more reasonable age to expect language maturity. Apparently complete mastery of, say, English grammatical structures in native speakers takes place at about the age of 18 years. Another influence on the choice of the 10 years of age estimate for first language maturity was the Finnish study mentioned above, where Finnish children who moved to Sweden at age 7-8 suffered from the move when 10 year olds did not. It should be admitted, however, that it is difficult to establish a precise age for first language maturity because it is such a complex matter and because of individual differences and issues such as the close relationship between language and culture. Could language in a broad sense be mature before cultural knowledge is fairly mature? However, in spite of the difficulties which arise because the what and when of language maturity is debatable, instructional policy has to be based on the best compromise that can be thought of in the light of the current state of knowledge and practical constraints.

James Cummins (1979) in his recent summary of relevant research on this matter defined the importance of first language learning to cognition, in the context of exposure to two languages, as follows:

taken together...these recent studies...suggest that under some conditions, access to two languages in early childhood can accelerate aspects of cognitive growth. (p.229)

The main "condition" referred to here by Cummins is that there be no danger of the first language being replaced by the second language. He points out that in many cases where learning the second language has been *added* to a strongly maintained first language there are positive cognitive gains, but in many other cases where learning the second language has involved *loss* of the first language "many bilinguals may be characterised by less than nativelike levels in both languages". (p.229)

How sound is our balance of first and second language teaching in bilingual programs in the N.T.? Although our methods of teaching English as a Second Language in the N.T. (more than our materials) need to be improved, there is little danger of us losing sight of the importance of E.S.L. instruction in Aboriginal schools here. But first language growth must be fostered as well:

- a) because it should be relatively easy to foster, and
- b) because there is a danger that the level of language maturity necessary to normal cognitive growth may not otherwise be reached in *either* language. Cummins states the position like this:

...there may be threshold levels of linguistic competence which bilingual children must attain both in order to avoid cognitive deficits, and to allow the potentially beneficial aspects of bilingualism to influence their cognitive growth. (p.229. See also Cummins 1978). And ...It is clear that in minority language situations a prerequisite for attaining a higher threshold level in bilingual competence is maintenance of first language skills. (p.232)

What all this suggests in terms of time and timing is that, for the sake of promoting concept development and overall⁴ cognitive

⁴ The discussion in this section has focussed on the role of the first language in promoting cognitive maturation. Another slightly different but related matter is that becoming bilingual can influence the *quality* of cognition. For example, Lambert (1979) states: (Footnote ⁴ continued next page).

development, we should be interested in putting time and careful preparation not only into E.S.L. lessons but also into oral vernacular language development beyond the point where the first language is treated merely as a useful means of initial instruction and initial literacy skills. Just because literacy has been gained in the mother tongue and students have bridged to English literacy we should not assume that this is logically the time to drop further instruction in the mother tongue and further literacy in the mother tongue. If this happens when the student has not yet got a firm grasp of English, we make it harder for the student to be *thinking* at abstract levels. Being barely able to read English does not guarantee that a lot of disembedded and non-concrete *thought* is taking place. A student will only grow cognitively if he/she is thinking, and a person needs a fairly good control of any language before he is able to spend time verbalising his thoughts. To cut off work in the mother tongue⁵ in school just because bridging to English literacy has taken place, leaves the child in at least some thought vacuum during school hours, which does not allow for continued optimum development of cognitive ability.

2. MENTAL MATURITY AND THE TIMING OF THE BEGINNING OF FORMAL SCHOOLING

During 1979, in the N.T. Education system, there was a lot of discussion about a proposed Transition period between Pre-school and

⁴ cont. "There is an impressive array of evidence accumulating (from Singapore, South Africa, Switzerland, Israel, the U.S.A. and Canada) that argues plainly against the common sense notion that becoming bilingual...naturally divides a person's cognitive resources and reduces his efficiency of thought. Instead we can now put forth a very persuasive argument that there is a definite cognitive advantage enjoyed by bilingual children in the domains of cognitive flexibility." (p.4)

⁵ One way to "kill two birds with one stone" here, would be to use the mother tongue, for one or two school subjects, as a means of promoting the learning of English. If the lesson content were first taught in the mother tongue to create understanding and a meaningful learning context, then (after a time gap to avoid possible linguistic interference) the same material was taught in English, the students would have a better chance of learning the English, and even more thoroughly learning the subject content and their first language. This is one way bilingualism can foster and reinforce conceptual development. "Reinforced conceptual development through instruction on the same topics through the two languages is one of the major advantages of bilingual education." (Dr Marta Rado, Yirrkala, June 80)

Year 1 for non-Aboriginal children. Interest in the Transition period in these urban schools developed because many teachers were judging that on readiness criteria too many students were not sufficiently mature for formal learning. Such premature exposure to formal education was apparently having its effects felt later too. For example, it was hypothesised that there was a correlation between the proportion of remedial reading problems at around 3rd year in the Northern Territory and the relatively young age at which children were entering Year 1 in the N.T. (Personal communication, Dr Les Robertson, Senior Education Adviser, Early Childhood, N.T. Department of Education, 1979). A leaflet explaining the need for a Transition period published by the N.T. Department of Education (1979) states:

Research evidence indicates that some children have experienced failures in school due to premature exposure to formal learning. Studies have also shown that even though a child may initially remain in readiness-type classes for several months he/she will ultimately surpass those children who were exposed to formal learning prematurely.

In relation to Aboriginal schools some of those who have been aware of the importance of readiness to learning have tried to promote readiness by extending pre-school downwards to include three year olds. Because cognitive maturity is partly a function of age, this is not likely to work well.

Research in Aboriginal psychology suggests that Aboriginal children are developmentally, as revealed by such as Piagetian tests, later maturing than Western children. (See Kearney, de Lacey and Davidson, 1973). While it is argued that much testing done in cross-cultural settings is of suspect validity, even if this suggested time difference is incorrect in cognitive terms it is likely to be accurate in terms of less preparation for school learning, including entry from non-reading homes and lack of a family schooling tradition etc. The point of this discussion is that if non-Aboriginal children from schooled and ambitious homes in the N.T. need their introduction to formal schooling slowed down through a Transition period, how much more do Aboriginal children need time to mature sufficiently to handle formal schooling. Recently this fact has been officially recognised by the N.T. Department of Education and a Transition Period between Pre-school and Year 1 has in fact been introduced in Aboriginal Schools.

All this supports a more gradual introduction of Aboriginal children to formal primary schooling, based on readiness principles. But there is a danger inherent in the acceptance of the need for a

more gradual introduction to formal schooling for Aboriginal children, and that is that teachers might also lower their *expectations* of how well Aboriginal students can ultimately perform. One should not be allowed to follow the other, because there are no grounds to assume that there is necessarily any relationship between them.

3. WHEN TO START THE LEARNING OF THE SECOND LANGUAGE?

Provided that (and it is an important proviso) continued learning of the first language is maintained, there is probably no age too young for a child to begin second language learning. But it does not follow necessarily that the younger a child is started on the second language the better. And it also does not necessarily follow that second language learners should start before the onset of puberty. These latter beliefs probably come from observation that migrants who arrive in their new country before puberty tend to speak with a native-like accent, and those who arrive after that age don't. Those beliefs also probably came from ideas about supposed effects of lateralisation of the brain at about the age of 12, when the left side or "language side" of the brain becomes dominant. (See Lenneberg, 1967, p.175-182).⁶ However, even traditional Aboriginal society is able to offer fairly good evidence that puberty is not a cut-off point for optimum second language learning potential. With exogamous marriage, husbands and wives tended to have different first languages and children tended to grow up speaking their mother's language first. After initiation boys would, in many cases, move to a single men's camp and spend most of their time away from their mothers' home unit and learn to speak their father's language. This teenage time of focus on second language learning does not appear to have affected the mastery of those languages.

There is also further evidence of a more objective kind which indicates that very early childhood need not be the golden age for second language teaching. For example, some research by Ervin-Tripp (1976) with a relatively small sample of English-speaking children 4-9 years of age who had moved to Geneva, Switzerland, and who went to French speaking schools, is enlightening. She discovered that the older children (i.e. 7-9 years of age) learned phonology faster than the younger children; and the same was true for morphology (or number

⁶ Genessee, (1978) provides an excellent and brief analysis of the shortcomings of these kinds of arguments. As there is disagreement about when lateralisation occurs, this matter will not be pursued further here.

and gender), and syntax. Ervin-Tripp warns that these results should perhaps not be generalised too widely because of the high degree of syntactic similarity between French and English. But her overall conclusion that, "in every respect we found that in the age range of four through nine the older children had an advantage and learned faster", (p. 205) supports her prediction that the older children would learn second languages faster than younger children. Her grounds for this prediction were:

(1) All oral languages are alike more than they are different... (2) All languages tend to have similar semantic content... (3) The older child has more efficient memory heuristics related to his greater knowledge... and (4) the older learner is smarter. The child's capacity to solve problems, to make sub-rules, and to carry in mind several principles increases with age. (p.201)

A similar kind of study was conducted by Snow and Hoefnagel-Hohle (1976) in Holland with English-speaking students who were learning Dutch, but in this case the age range was wider; from 3-5, 6-7, 8-10, 12-15 year olds and through to adults. The researchers' main purpose was an examination of the effect of age on speed of learning the various features of the second language, i.e. pronunciation, auditory discrimination, morphology, vocabulary, capacity to repeat sentences and to translate. The results for those who had been in Holland for 5 months when tested will not be reported here, (except to say that over such a short time teenagers were by far the fastest learners) and only the results for those who had been in Holland for over a year will be summarized as follows (p.338-342):

Pronunciation	- no age differences
Auditory discrimination	- no age differences
Morphology	- no age differences
Vocabulary	- teenagers learning faster than other age groups
Sentence repetition	- no significant age effect
Translation	- no significant age effect

These results are clear-cut but are perhaps open to different interpretations. In any case they add to the evidence that there is no critical age for second language learning which ends at puberty and there is little truth in "the younger the better" idea. Claydon, Knight and Rado (1977) summarise the argument against the idea of there being a critical age for second language acquisition as follows:

Language learning by and large...does not have an upper age limit...In principle anyone can learn a second language any time. Access to language instruction, which is in harmony with the learner's needs and capacities can greatly facilitate this process. This has been admirably demonstrated by a Queensland experiment in teaching German to a mixed group of men and women in the 60 to 90 age group. The results it yielded are most pleasing and fly in the face of the widely held view that successful second language learning is age dependent. (The research cited here is reported from a paper by Naylor and Harwood in *Psychology Today* No. 1, 1975, p.32).

So what really matters are the right *conditions* for language learning. These conditions include the amount and nature of exposure to the second language, the teaching method and materials, and also include learner motivation. What age the learners are when they start is not nearly so important as the conditions under which the learning takes place.

But while there is evidence that a learner of a second language is not disadvantaged by starting later than "as young as possible" there is other evidence that indicates that starting intensive formal second language instruction before the child's first language is well established can definitely be harmful. (The operative word here is intensive). There is a good deal of evidence that points to this conclusion but perhaps the clearest piece comes from a study by Skutnabb-Kangas and Toukomaa (1976) which revealed that Finnish children who immigrated to Sweden at age 10 maintained better levels of Finnish, and achieved higher levels in Swedish than a group of Finnish children who moved to Sweden when they were 7-8 years of age. Not only were the younger group not achieving well in Swedish, but there was some risk of them reaching less than full potential growth in *any* language, including their mother tongue. Skutnabb-Kangas and Toukomaa explain the difference like this:

Their skills (i.e. the 10 year old children) in the mother tongue (Finnish) have already developed to the abstract level. For this reason they reach a better level in the mastery of Swedish language concepts in a shorter time than those who moved before or at the start of school (i.e. the 7-8 year olds) and before long surpass even the (Finnish migrant) children who were born in Sweden. (p.233)

While motivational factors, as well as linguistic and cognitive factors may be part of the explanation for these results, Cummins (1979) summarises the evidence into his "developmental interdependence hypothesis" like this:

...the level of second language competence which a bilingual child attains is partially a function of the type of competence the child has developed in [his] first language at the time when intensive exposure to the second language begins. (p.233)

In using the phrase "at the time when intensive exposure to the second language begins" Cummins is implying the same distinction as is sometimes drawn between *formal* and *informal* instruction. While we do not have any research evidence about the age at which Aboriginal children achieve a reasonable level of maturity in their first language, perhaps we should assume that it will roughly be at about the same age as English speaking children - say about 10 years⁷ of age. This would suggest then that while E.S.L. could be taught through *informal* means (which does not mean unplanned means) at quite young ages, *formal* instruction in and through the mother tongue should continue through until at least towards the end of the primary years, and that *intensive formal* instruction in English should not begin until the last three or four years of primary school.

4. HOW MUCH TIME IS NEEDED TO LEARN THE SECOND LANGUAGE?

It is here that responsible educational administrators already made nervous by the previous section are likely to become skeptical because of the weight of common sense logic that leads them to conclude that there must be a direct relationship between the *amount* of time spent in learning a second language and the amount learned. However, beyond the fact that second language learning does take time, it is here that simple logic is not sufficient to produce an educationally and linguistically sound language policy for bilingual programs. The available evidence points to a number of factors which decide how well and how quickly a child will learn a second language. These include: (i) Intellectual aptitude. (ii) The strength with which the first language is taught and supported in the home. (This is why the middle class English speaking children can handle all their primary schooling in French in Montreal). Or a similar factor, where the mother tongue is not a dominant or powerful language anyway, is whether or not the intensive instruction in the second language in school is delayed until a large degree of mastery has been achieved in the first language. (iii) The attitudes the learners have towards the second language and the society it represents. (iv) The quality of the instructional method used by the teacher. Time, while obviously

⁷ See footnote 3.

an indispensable factor, (and which, therefore, could be listed as factor (v) is not the main factor. Three items of research evidence will be offered briefly to support this view:

a) The Six Year Primary Project 1970-76 in Nigeria

In this study (see Afolayan and Bamgbose 1979), rather than follow the normal Nigerian system of giving children their first three primary years all in their mother tongue and the last three years of primary schooling all in English as the language of instruction, the children in the experimental school were given nearly all their six years of primary instruction through Yoruba, including maths and science and social studies. A strand of oral English was taught during all six years by an E.S.L. specialist, but English was not used as a language of instruction. The experimental students were out-performing children from other schools on academic measures at the end of primary school and later appeared to handle high school better - especially in social terms. Obviously the experimental group children had had much less time in English than the students in the normal Nigerian system, so one or more of the other factors mentioned under (i) to (iv) above had to be responsible for their superior performance.

b) A Comparison of Two Northern Territory Schools in Creole Speaking Aboriginal Communities.

Murtagh (1979) studied two groups of Creole speaking children in the N.T., one group at Beswick Station where the school has a non-bilingual program with English as the language of instruction, and Bamyili, where the school has a bilingual program. The third year primary bilingual students performed significantly better on a number of measures of both oral English and oral Creole language production and comprehension ability, and demonstrated more positive attitudes to the English language than their Beswick Station non-bilingual counterparts. Murtagh estimated that the Bamyili bilingually taught students had had about 50% of their schooling through English and 50% through Creole, whereas the Beswick Station school children had had almost all their instruction through English, although the Aboriginal assistant teachers do give some formal instruction in Creole.⁸ Thus rather than amount of time, one of the other factors mentioned above under (i) to (iv) must explain the difference between the groups.

⁸ Incidentally, Murtagh also found that the children who had received their schooling through the bilingual approach separated the two languages better, or in other words, they spoke a significantly 'purer' form of both Creole and English than the non-bilingually taught students.

c) *A Comparison of non-Bilingual and Bilingually Taught Children at Milingimbi, N.T.*

In a study of the academic effects of bilingual education at Milingimbi (see Gale *et al* to be published), although the bilingual students had received far less time in English during their entire primary schooling experience than their mono-lingual English instruction counterparts, they performed significantly better in English towards the end of their primary years on a number of important English language measures, including English reading, English written composition, oral English production, oral English comprehension and arithmetic. Again, rather than the amount of time given to English we must look to one of the other factors mentioned above in (i) to (iv) to explain the differences between the groups.

Before leaving this discussion two compromises seem called for to avoid the appearance of adopting too extreme a position in this Section and in Section 3 above:

(1) The distinction between *formal* instruction (i.e. instruction where the student is required to perform, to give feedback to the teacher and where he can be tested by the teacher etc.) and *informal* instruction provides a means of keeping to the principles defined in Sections 3 and 4 without having to adopt an extreme position where all instruction in English is delayed until upper primary years. That is, if English were taught informally in the lower years (while the first language was still taught formally), there would be no inconsistency with principles discussed in Sections 3 and 4. With such a compromise both elements of Genesee's statement below can be taken care of, at the same time as serious notice is taken of Cummin's interdependence hypothesis. Genesee's position is this:

Thus there seems to be an advantage to late instruction in a second language: this advantage derives from the efficiency of the learning process characteristic of the older student. At the same time, there is a disadvantage to starting second language instruction late, namely the relatively reduced time period available for learning.

(1978, p.50)

Much of this earlier informal teaching time could be devoted to a variety of English language games, nursery rhymes, and non-pressure instruction in topics previously taught in the first language, and singing etc. At this stage important factors in early second language learning, such as pronunciation, accent, intonation and listening comprehension can be learned without taking too much time from the necessary stabilisation of the first language.

(2) If we allow, to keep on the safe side, that amount of time is still an important factor in second language learning, perhaps one way to give enough time during the primary years *overall* would be (without interfering with the essential stabilisation of the first language, and without ignoring the desirability of a gradual introduction of the second language) to have the students for about the last two years of primary school (when they are about 11-12 years old) more intensively exposed to English, with a *sounder TESL methodology* than has been the practice in the past. If we concentrated more on teacher expertise in TESL there would be sufficient time in intensively taught upper primary grades to achieve the desired results. With this strategy the young minority culture student would still have his first language stabilised and concept development promoted in his first language during the first four or five years of schooling. It would be necessary, of course, to maintain significant teaching time for the mother tongue, regularly, during this upper primary emphasis on the second language.

5. ATTITUDINAL INFLUENCES ON TIMING

The importance of attitudes to second language learning has been well established, for example, by Lambert and his associates (Lambert, 1972). One important aspect of the influence of motivation on second language learning is that motivation is likely to be low when the learning of the second language is regarded by the learners as a threat to their primary identity (Lambert, 1967). Although N.T. Aborigines are frequently reported to want to learn more English, it would be interesting to have a finer analysis of what kind of motivation they have, if this information could help in planning better ways to teach English to them. While many Aborigines say they want the 3R's - and perhaps especially oral English - they also say they want their children to grow up Aboriginal, and a reasonable guess would be that in most cases their motivation for ESL is directed to a felt need to be able to use English effectively for certain 'trade' type functions. A strong positive identification with *both* cultures would be likely to produce the best results in *both* languages. Positive attitudes or identification towards both cultures is a basic goal for most recent well-thought-out programs for minority language children. The basic issue in the context of this paper is what *timing* of first and second language usage in the school will be most effective in promoting positive student identification with both languages.

The timing of second language instruction must respond to *differences in the social background and differences in attitudes* of the students. For example, an extremely outgoing and sociable child whose attitudes to the second language and second language speakers

allowed him/her to spontaneously seek contact with speakers of the second language, could probably profit (because of his already established emotional and attitudinal strengths) from fairly intensive instruction in and through the second language from as early as Year 1, especially if he still received some instruction in his mother tongue.

But,

...for a child whose attitudes towards the second language speakers are more ambivalent, gradual introduction of the second language as a medium of instruction would seem to be more appropriate.

(Cummins 1979, p.244)

N.T. Aboriginal children's attitudes most likely qualify as 'ambivalent'. Thus gradual introduction of the second language is necessary, because to keep motivation high for learning a second language the child's first language/culture identity must not be threatened.

In a 1977 study several researchers at McGill University uncovered some harmful effects of subtractive bilingualism. (*Subtractive* bilingualism occurs when the mother tongue is put aside in efforts to develop competence in a second language. *Additive* bilingualism, in contrast, occurs when the second language is added under circumstances where there is little or no danger of losing the first language⁹). The McGill researchers, Taylor, Meynard and Rheault (1977) discovered that those French-Canadian university students who felt that there was a threat to their linguistic and cultural identity were affected adversely in gaining competence in English, which was the language which they associated with the threat. Lambert and associates have found that when an additive model of bilingualism is followed students can be positive to both cultures and languages. For example, when French students did not become less French when adding English their attitudes to the second language remained more positive. And the research is not confined to French-Canadians. Lambert (1979) reports two research studies which -

indicate that Spanish-American children and adolescents can learn English better and adjust more comfortably to America if their linguistic and cultural ties with the Spanish speaking world are kept alive and active from infancy on. (p.12)

⁹ Although not interchangeable terms, *additive* bilingualism is closely related to the *maintenance* model of bilingual education and *subtractive* bilingualism is closely related to the *transfer* model of bilingual education.

Lambert's reaction to this knowledge about the influence of attitudes on second language learning is one that the N.T. bilingual program would do well to adopt. He summarises it as follows:

...in bilingual communities where different prestige is accorded to the languages and to the ethnolinguistic groups involved, then attention should be placed by *both* linguistic groups on the development of skills in the language more likely to be overlooked (p.13)

and

ethnolinguistic minorities need strong educational and social experiences in their own languages and traditions before they can cope in an "all-American" (or Australian) society or before they will *want* to cope in such a society. (p.14)

Northern Territory Aboriginal children are likely to have less than strong motivation for English language learning and their personal/cultural identity could be threatened by the dominance of the majority society. To integrate knowledge about the importance of attitudes in second language learning with the discussion in earlier sections in this paper about the role of the first language in cognitive development and the timing of beginning the intensive instruction in English, it would seem that instruction in and through English should be introduced gradually and in an additive way. In other words, the use of the second language should be added to, but should not replace, the first language. Everything said earlier in this paper about time and timing of instruction in both the first and second language is consistent with the idea that positive attitudes to learning English on the part of N.T. Aboriginal children are most likely to be fostered through the *gradual* and *additive* introduction of English.

6. WHEN TO EXPECT RESULTS

One important aspect of bilingual education which is governed by a "sleeping effect"¹⁰ is the question of when the academic effects of bilingual education on student competence in English should be tested. Theoretically the pattern of bilingual education's effect on an Aboriginal student's English ability can be summarised as: "later start, stronger finish".

10

"Sleeping effects" are an important aspect of the whole matter of timing. A "sleeping effect" is a delayed-action, or a delayed-proof or a delayed-results situation.

The research results recently available for Milingimbi, an isolated community of 600-700 Aboriginal people in Arnhem Land, bear this theory out. (See Gale, Christie, McClay and Harris, to be published). Between 1976 and 1979 two sets of Years 5, 6 and 7 classes (one set being the last three monolingual English classes to begin schooling before the bilingual program started and the other set being the first three bilingual Gupapuyngu and English classes) were tested in two oral English tests, three English reading tests, one written English composition test and arithmetic tests in the four operations. Students from both sets of classes speak Gupapuyngu, an Aboriginal language, as their first language. In the five English language tests¹¹ there was, at the Year 5 level, either no significant difference between the English-only students and the bilingual students (Peabody and Story Retelling - the two oral English tests) or a significant difference in favour of the English-only students (Dolch, Schonell and Cloze - the three reading tests). At the Year 7 level - the final primary year - out of the five language tests, in three cases the bilingual students were performing significantly better than the English-only students, (Story Retelling, Dolch and Cloze - with the Cloze results being highly significant in the bilingual student's favour) and in the other two tests (Peabody and Schonell) at the Year 7 level there was no significant difference between the English-only and the bilingual students. In the four arithmetic operations (Addition, Subtraction, Multiplication and Division) the same "stronger finish" trend continues for the bilingual classes, because while the bilingual students are either the same or better than the English-only students at Year 5, by Year 7 the gap has widened significantly in favour of the bilingual students. Clearly a testing program that stopped at Year 5, or even Year 6, in circumstances where a "slower start, stronger finish" effect could be predicted, would produce quite misleading results.

Furthermore, a closer look at the Milingimbi results also shows that the sleeper effect operates more for the more demanding cognitive processes. For example, in the Peabody Picture Vocabulary test the English-only students were slightly better than the bilingual students at Year 7. This is probably so because for the fairly straight rote memory task of English vocabulary, their greater number of years in English told to the English-only students' advantage. But in the Story Retelling task and the Cloze written comprehension task - two tests which require more complex cognitive processing and a higher

¹¹ The English composition test is not relevant in this comparison between Years 5 and 7 because it was only used at Year 7, at which level the bilingual students performed significantly better than the English-only students on this test.

degree of overall competence in English - the bilingual children surpassed the monolingual English children in the later primary years even though they had had a great deal less time in English than the monolingual English children. The necessity for testing as late as practically possible in circumstances where a sleeper effect can be predicted is quite clear.

7. CONCLUSION

All the factors which would go to make up optimum language learning conditions for isolated, culturally different, minority group children such as traditionally-oriented Aboriginal children in the N.T. are not precisely known. But from what we do know from studies of bilingualism in various parts of the world it appears that the chances of these children becoming competent in English will be increased if the learning of and through their first language is promoted until the Aboriginal students are, at least, about 10 years of age: i.e. when it is likely that their first language development is reasonably mature. It is unfortunate that some people tend to react to such information about the prerequisite language conditions for cognitive growth, and of the developmental interdependence of first and second language learning, as if it is a conspiracy on the part of irresponsible liberal educators in an attempt to create "vernacular schools" and "cultural revival schools" in the place of genuine English/vernacular bilingualism and optimum learning conditions. And it is ironic that the very thing to suffer from these people's over-simplistic perceptions about language learning would be what they desire most - Aboriginal proficiency in English. But finally, what we really should be aiming for is competent bilingualism for Aboriginal students (because competent bilingualism provides the best optimum solution to their social, cognitive and educational needs both at home and in the wider world) with the gradual introduction of English, and with continued attention being paid to the vernacular. The real point is that English and the vernacular can exist side by side, with the vernacular not limiting growth in English but with the two languages complementing each other.

(The views expressed in this paper are the author's, and not necessarily those of the N.T. Department of Education, although the author believes that the ideas could be implemented within current policy.)

See Bibliography overleaf.

- Afolayan, A. and Bamgbose, A., 1979: The changing pattern of bilingualism in Nigeria. Paper delivered at the 14th Regional Seminar of the SEAMEO Regional Language Centre, Singapore. April.
- Claydon, L., Knight, T. and Rado, M., 1976 : *Curriculum and Culture: Schooling in a Pluralist Society*. Allen & Unwin, Sydney.
- Cummins, James, 1978: Educational implications of mother tongue maintenance in minority language children. In S.T. Carey (Ed.) *The Canadian Modern Language Review*, Vol. 34.
- Cummins, James, 1979: Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research*, Spring, Vol. 49, No.2.
- Ervin-Tripp, Susan, M., 1976: Is second language learning like the first? In Evelyn Hatch (Ed.): *Second Language Acquisition: A Book of Readings*. Newbury House, Rowley, Massachusetts.
- Gale, K., Christie, M., McClay, D., Harris, S. (in press): Academic achievement in the Milingimbi Bilingual Education Program.
- Genesee, Fred, 1978: Is there an optimal age for starting second language instruction? *McGill Journal of Education*, Spring, Vol. XIII, No.2.
- Gudschinsky, Sarah, 1970: In T. Anderson & M. Boyer (Eds): *Bilingual Schooling in the United States*. Southwest Educational Development Laboratory, Austin, Texas.
- Holm, Wayne, 1975: The development of reading materials: the Rock Point (Navajo) Experience. In R. Troike & N. Modiano (Eds): *Proceedings of the First Inter-American Conference on Bilingual Education*. Centre for Applied Linguistics.
- Kearney, G., de Lacey, P., and Davidson, G.R., 1973: *The Psychology of Aboriginal Australians*. John Wiley & Sons, Sydney.
- Lambert, Wallace E., 1967: A social psychology of bilingualism. *Journal of Social Issues*, Vol. 23, pp. 91-109.
- Lambert, W.E. and Tucker, G.R., 1972: *Bilingual Education of Children*. Newbury House, Rowley, Massachusetts.

- Lambert, Wallace E., 1972: Psychological aspects of motivation in language learning. In *Language, Psychology and Culture: Essays by Wallace E. Lambert*. Introduced by Anwar S. Dil, Stanford University Press, Stanford, California.
- Lambert, Wallace E., 1979: Cognitive, attitudinal and social consequences of bilingualism. Paper given at the fourteenth Regional Seminar at SEAMEO Regional Language Centre, Singapore, 16 April.
- Lenneberg, E.H., 1967: *Biological Foundations of Language*. John Wiley & Sons, New York.
- Murtagh, Edward, 1979: The use of two languages of instruction with Aboriginal Australians. Doctoral dissertation, Stanford University.
- Northern Territory Department of Education, 1979. *Early Childhood Education*. Pamphlet.
- 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 Socio-Cultural Situation of the Migrant Family*. Helsinki: The Finnish National Commission for UNESCO.
- Snow, Catherine and Hoefnagel-Hohle, Maria, 1976: Age differences in second language acquisition. In E.Hatch (Ed.): *Second Language Acquisition: A Book of Readings*. Newbury House, Rowley, Massachusetts.
- Taylor, D.M., Reynard, R., and Rheault, E., 1977: Threat to ethnic identity and second language learning. In H.Giles, (Ed.): *Language, Ethnicity and Intergroup Relations*, London, Academic Press.
- UNESCO, 1953: The use of vernacular languages in education. Monographs on Fundamental Education VIII.

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