

Educational issues

Educational research world-wide has produced results to which educationists and policy-makers generally should pay attention and which has significant educational, political, social and economic implications. Following on from the research of Peal & Lambert (1962), much has taken place within bilingual contexts in countries throughout the world. There is positive evidence of cognitive benefits relating to bilingualism / multilingualism from research carried out, for example, in Canada, the USA, the Basque Country, Catalonia and Wales which shows that bilingual children tend to perform better in tests and examinations as well as the curriculum generally.

Research carried out in early immersion-education in Canada (Swain & Lapkin, 1982) provided the following results:

- early-immersion education for second-language pupils was superior to the ‘drip-feed’ method used to teach a second language *as a subject* in mainstream schools
- the acquisition of the second language (L2) was not at the expense of development in the first (L1). First language development could even be superior to that of pupils in mainstream (L1) schools
- second language development was not at the expense of development in *other subjects*
- there were positive effects in terms of self-esteem, motivation and the ability to socialise with French-speakers.

Swain & Lapkin (1982) made the following observation on the early total-immersion provided to Canadian pupils in French-English bilingual education:

In sum, students in the early total-immersion program are able to master the content of such subjects as mathematics, history, geography and science to the extent that their peers in the regular program have. Furthermore, the total immersion experience seems to have sharpened their work-study skills and has left them with no sign of cognitive confusion. Indeed, the results suggest that the immersion students may be reaping positive benefits, not only in enhanced English-language skills..... but also in more specific intellectual skills.

In Wales, Standard Assessment Tests (SATs) were conducted at various stages of academic development across the primary and secondary sectors up until the middle of the 2000s. In SATs conducted at the end of Key-stage 1 for 7 year-old pupils who had received statutory education since the age of 5, the performance of fluent bilingual pupils was higher.

Similarly, research conducted independently by Leeds University (Shorrocks, 1992) showed that pupils fluent in Welsh had higher results in Mathematics and Science than those who were not fluent. Research conducted by the National Federation for Educational Research (NFER, 1991) also showed that the performance of pupils in Welsh-medium schools was higher in Mathematics and Science.

With regard to the results of SATs conducted at Key-stage 3 in Welsh as a first language for pupils aged 14, NFER (1992) research showed that there was very little difference between the performance of pupils from Welsh-speaking homes and those from non-Welsh-speaking homes. In other words, pupils from non-Welsh-speaking homes had suffered no disadvantage by following *first-language* programmes of study.

Based on research data in the achievements of pupils in the English language from the Assessment of Performance Unit (APU) which the British government had established in the 1970s, Thornton (1986: 61) observed:

...the mean scores for second-language speakers (all but a handful of whom were native speakers of Welsh) were fractionally higher than those for monolingual English speakers.

One can ask to what extent are these results related to the Thresholds Theory of Cummins (1976) and Toukomma-Kangas, (1977), that *balanced* bilingualism creates positive cognitive advantages?

Reference to this hypothesis has been made at various points in our discussion which were related to aspects of cognition, such as divergent thinking and metalinguistic benefits. As previously mentioned, Cummins' (1976) Thresholds Theory does not determine a *specific level* of bilingualism required. However, it *does* raise fundamental issues of a *methodological* nature with regard to developing pupils' bilingual *proficiency* which, in turn, has considerable implications for some educational systems.

Even during the early “period of detrimental effects”, the adoption of questionable methodology in ‘bilingual’ education was an issue highlighted by Smith (1923):

So far from bilingualism being an 'intellectual advantage', it seems to be exactly the reverse, *at least under the present organisation of schools in Wales*. (italics added)
(cited in Jones, 1966: 95)

The methodology currently adopted for teaching a second language within the vast majority of British schools is generally one of teaching the language concerned as a *subject* only, in the same way as Geography or Mathematics for example, rather than adopting it also as *a means of instruction* across either the whole or part of the curriculum. This “Mainstream with Foreign Language” method of teaching for short intermittent periods on a weekly or fortnightly cycle has been referred to as “drip-feeding” and is considered a ‘weak’ model resulting in very limited bilingual proficiency (Baker, 2017: 199). As this topic of discussion is a matter for a future module, ECDA-7005: Models for Bilingual Teaching, an example will suffice for clarification.

In Wales, Welsh is both taught as a first language and used as a medium of instruction to approximately 20% of all pupils in statutory education (5-16 years old) but is a second language *subject* only and not a medium of curricular instruction to approximately 80%. Furthermore, as it has also been available as a *short* course rather than a full course in external public examinations at the age of 16, it is effectively a *political* model of linguistic provision which enables the central government to be seen as providing what is alleged to be *compulsory* ‘bilingual’ education to all pupils of statutory age. Despite being acknowledged by academics, practitioners and the inspectorate as totally ineffective linguistic provision for the vast majority of children, the Welsh government has an official politico-linguistic agenda of creating a ‘bilingual’ Wales (Welsh Assembly Government, 2003). As in the case of teaching modern foreign languages in British schools generally, by not producing bilingually *balanced* and competent speakers, such linguistic educational provision is neither cost-effective in economic terms nor cognitively beneficial to pupils. According to Le Blanc (1992), this has also been the case in Canada:

We all know how much our country invests in second-language training. We are talking in terms of millions and millions of dollars...All these students are taking second-language courses and, once they have finished, should normally be able to function in the second language. But what happens in reality? (Le Blanc, 1992: 35)

However, research in the Basque region of Spain compared the linguistic effectiveness of three educational systems in terms of promoting bilingual proficiency:

- System A in which Basque was studied only as a subject
- System B in which the *curriculum* was studied bilingually
- System D (there is no C in Basque) where Spanish (being a major language) was studied as a subject and the remainder of the curriculum through the medium of Basque.

Whereas the arrangement for A was considered to be a total failure, pupils in systems Band D showed progress in *both* languages, thus indicating the superiority of these systems not only in making children bilingually proficient but also in *economic* terms by being more cost-effective than separate linguistic education.

At a time when education systems everywhere are experiencing financial restraint, economic aspects of language planning need to be taken into account. Immersion or bilingual programmes...need cost no more than [monolingual] programs but they produce dramatically better results. In other words, they are considerably more cost-effective. (E.I.F.E.2., 1989:17)

As well as not being economically cost-effective therefore, it can be argued that not providing children with an effective teaching *methodology* which enables them to become competently bilingual at a relatively early age also deprives them of the cognitive and educational benefits which bilingualism can provide.

Emanating from the Thresholds Theory are other issues related to the connection between bilingualism and cognition which have further educational implications. One cognitive factor is the transference of skills from one language to another which relates to the Common Underlying Proficiency concept or model (CUP) of bilingualism (i.e. both languages being generated by a *common* central processor system in the brain) as well as to the Thresholds Theory in relation to bilingual *development* which led to Cummins' (2000) Developmental Interdependence Hypothesis. This hypothesis suggests the greater one's proficiency in the first language, the greater the potential development of the second. Baker (2011:169-70) refers to various examples of twenty-first century research involving Catalan-Spanish and Spanish-English bilinguals which supports this view (see also Baker (2017:160-61). Moreover, also

seemingly in accordance with the transference of skills and concepts expounded by the Developmental Interdependence Hypothesis, European research shows that proficiently bilingual people also tend to find it easier to learn other languages (Cenoz, 2003).

In module ECDA-7010, reference was made to Cummins' (1979) distinction between Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP) and to "the very fine line which exists in this field of study between the *measurement of levels* of bilingual proficiency on the one hand and *the cognitive effects of those levels* of proficiency on the other" (ECDA-7010: 19-23). For a more detailed discussion of BICS and CALP, students are referred back to pages 19-24 of that module. For present purposes, the concept of BICS / CALP is discussed in relation to the *cognitive effects* of bilingualism rather than its *measurement*.

Baker (2017:160-63) shows that the cognitive development of bilinguals (as reflected in concepts such as BICS and CALP and the Developmental Interdependence Hypothesis) raises methodological issues with regard to *classroom instruction* due to the fact that proficiency at BICS level can be acquired in two years, whereas proficiency at CALP level can take between five and seven years or more (Cummins, 1979). This is a distinction, with slight variants, also highlighted by Hakuta et al. (2000) in relation to the development of English proficiency amongst Hispanics in California. As well as illustrating the difference between language proficiency at each of the two levels, Baker (2017:161) also provides examples in mathematics of the way a higher level of language proficiency (CALP) is demanded within the classroom in order to overcome both lexical and syntactical difficulties. As Baker (2011: 172) states, proficiency at BICS level can be deceptive:

Cummins' distinction between BICS and CALP explains why such children tend to fail when mainstreamed. Their cognitive academic language proficiency is not developed enough to cope with the demands of the curriculum. What Cummins regards as essential in the bilingual education of children is that the 'common underlying proficiency' is well developed. That is, a child's language-cognitive abilities need to be sufficiently well-developed to cope with the curriculum processes of the classroom. This underlying ability could be developed in the first or the second language, but also in both languages simultaneously.

The *linguistic* distinction between BICS and CALP can be further complicated by other *contextual* factors so that one can differentiate between:

- context-embedded proficiency
- context-reduced proficiency

Although they were discussed in module ECDA-7010, they are defined again for convenience:

- **Context-embedded proficiency** defines a level of communication and comprehension which is facilitated by contextual support, including the use of body language e.g. use of the hands, eyes, signs, inflection of the voice. In a classroom teaching situation, this could also involve the use of audio-visual aids or artefacts.
- **Context-reduced proficiency** reflects higher-order language skills where communication and comprehension are not dependent on external physical support or signals, and where there is, for example, a need to analyse, synthesise, hypothesise and evaluate.

Baker (2011), perhaps in a slightly misleading way, seems to suggest initially that BICS *always* occurs in context-embedded situations and CALP in context-reduced situations. However, as was shown in the earlier module ECDA-7010, that is not always the case, which is why we can present each of these dimensions on different axes, thus forming four quadrants. Again, what was illustrated in the earlier module is presented here as Figure 5 to clarify comprehension. Baker (2011, 2017) uses the terms Cognitively Undemanding Communication and Cognitively Demanding Communication respectively for BICS and CALP to which we adhere for consistency.

Placing the four quadrants on one continuum would demonstrate the complexity of an individual child's language development and proficiency *within* the two extreme points:

1st Quadrant: Context-Embedded and Cognitively Undemanding Communication

2nd Quadrant: Context-Reduced and Cognitively Undemanding Communication

3rd Quadrant: Context-Embedded and Cognitively Demanding Communication

4th Quadrant: Context-Reduced and Cognitively Demanding Communication

One would agree that the lowest level of proficiency would be demonstrated in the 1st Quadrant where the language would be cognitively undemanding (BICS) and where the communication process would be assisted by external support signals i.e. context-embedded. Similarly, the 4th Quadrant would indicate high levels of proficiency with cognitively demanding language as well as the absence of any external support signals i.e. context-reduced. However, with regard to language development *within* those two extreme points of the continuum, in which order would we place the 2nd and 3rd quadrants? The continuum would demonstrate, for example, that cognitively demanding language can be assisted by being context-embedded in the same way that cognitively undemanding language can also, on occasions, afford to be context-reduced. This, therefore, demonstrates that language development does not necessarily happen in a *linear* fashion, and that there can be many variables at work in the process.

As Cummins (2000) states (ECDA-7010, Reading 1: 165):

While cognitive demands and contextual support are distinguished in the framework, it is not being suggested that these dimensions are independent of each other. In fact, as Frederickson and Cline (1990) point out, increasing contextual support will tend to lessen the cognitive demands- in other words, make tasks easier.

Although this was mentioned in module ECDA-7010, the *cognitive* significance of this is that L2 competence in Quadrant 1 (surface fluency) can develop independently of L1 but that Quadrant 4 competence develops *interdependently* and can be promoted through the medium of one language or the other, or both interactively.

The cognitive aspect of distinguishing between BICS and CALP and the contextual aspect of context-embedded and context-reduced proficiency have major implications for educational instruction within the classroom. These dimensions are relevant to the way children are *taught* with regard to the need to adopt purposeful teaching strategies i.e. the need to consider:

- the cognitive demands of the task
- how context-embedded or reduced is the presentation / teaching
- the language proficiency of individual children.

Such dimensions are also relevant with regard to adopting suitable methods of *assessing* knowledge and competencies.

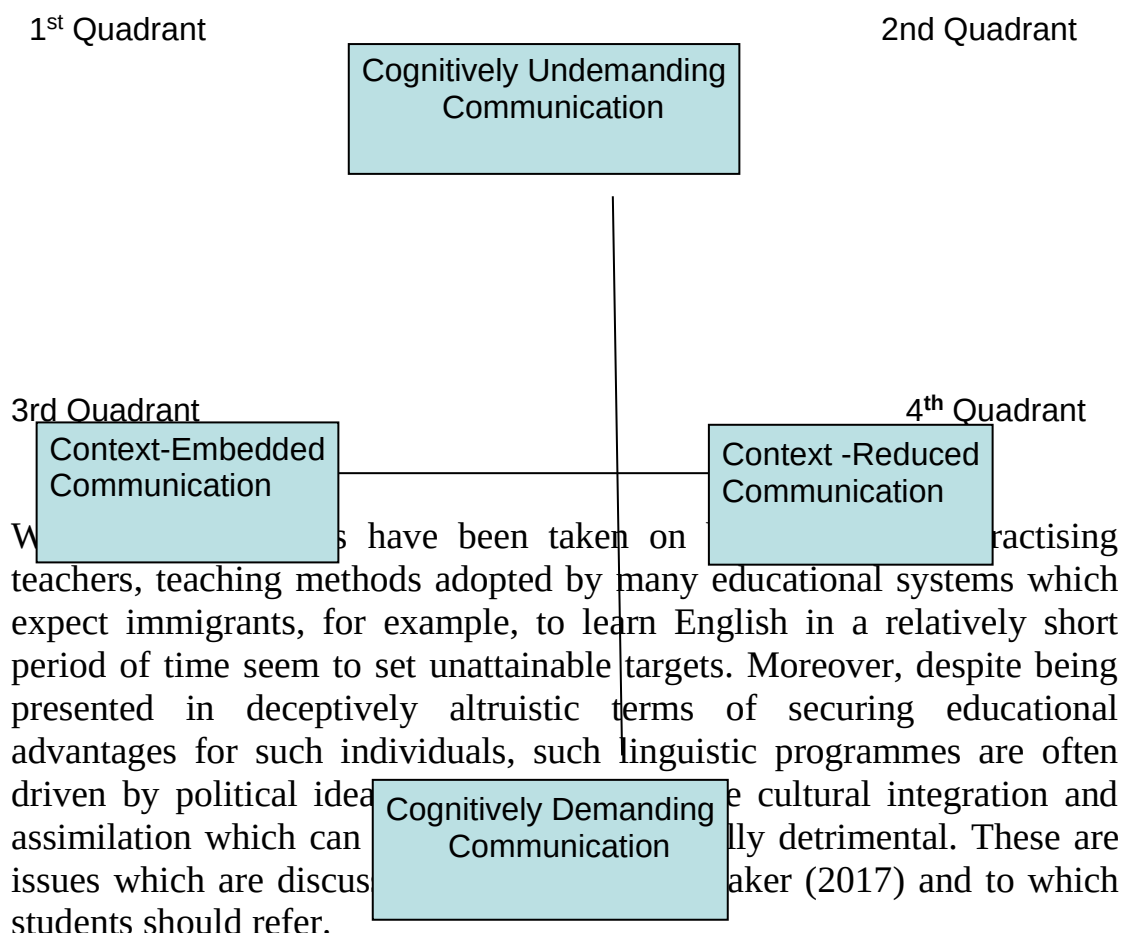
Baker (2011: 177-78) illustrates these two issues in relation to teaching measurement and the concept of height to children, also indicating how the adoption of *differentiated methods* (acknowledged as good practice) in both teaching and assessment can emanate from giving careful consideration to levels of *linguistic proficiency*. Children who perform well on the linguistic level of BICS (according to ‘fluency’) often appear, consequently, to be capable of being educated through the medium of their second language, which is helpful in explaining the results of some research:

1. Minority-language students underachieving academically after being transferred to mainstream lessons, but appearing to be capable on the basis of ‘fluency’ in their second language;
2. Some pupils in Canadian French-immersion education appearing to be behind their first-language contemporaries for a short while until their ability to deal with cognitively demanding issues allows them to catch up.
3. Research in Canada, the USA and Europe showing that, where minority-language pupils are allowed to partly use their first language for their early education, no retardation is found in academic progress or in the development of the majority language (L2). After developing cognitive skills in their first language, these are transferred to their second language also.

Thus, the theory suggests that bilingual education will be successful when children have enough first or second language proficiency to work in the context-reduced, cognitively demanding situation of the classroom.

For Cummins (1981) it often takes one or two years for a child to acquire context-embedded second language fluency, but five to seven years or more to acquire context-reduced fluency. (Baker, 1993: 140)

Figure 5



Social issues

Benefits associated with bilingualism also have *social* advantages. The ground-breaking research carried out by Peal & Lambert (1962) in Montreal also found that bilinguals showed a more positive attitude towards French-speaking communities than their monolingual counterparts (Chin & Wigglesworth, 2007: 59). Baker (2017: 149-50) discusses the alleged connection between bilingualism and communicative sensitivity. However, such sensitivity covers many aspects, some of which have social and political implications. Reference is made to an often-mentioned piece of research by Genesee et al. (1975) involving a comparison of children in bilingual and monolingual education which (as quoted in Baker (2017:149:50)) showed that children in bilingual education “may have been better able than the control children to take the role of others experiencing communicational difficulties, to perceive their needs, and consequently to respond appropriately to these needs” (Genesee et al., 1975: 1013). In terms of social interaction, bilinguals are believed to be more sensitive to the needs of others than monolinguals, being able to

know which language to speak to whom and when, and to ‘tailor’ their language to suit others as well as adapt it to various situations (which also partly relates to Sachdev & Giles’ (2006) Communication Accommodation Theory studied earlier in module ECDA-7010). As Baker (2017:150) states:

[Communicative sensitivity] links with *sociolinguistic* competence...and suggests a heightened social awareness among bilinguals of verbal and non-verbal message cues and clues in communication.

More research is needed to define precisely the characteristics and the extent of the sensitivity to communication that bilinguals may share. Research in this area is important because it connects cognition with interpersonal relationships.

It moves from questions about bilinguals’ cognitive skills to their social skills. (Baker, 2017: 150) (italics added)

Bilinguals are often said to have ‘two windows on the world’. Being able to speak two languages may, psychologically, enable them to switch and identify quite easily with an alternative ‘persona’ or to share a different perspective on a social situation. This has obvious social and political implications which, arguably, could include a less ethnocentric and more tolerant attitude towards other languages and cultures. According to Vygotsky (1962), monolinguals live in a conceptual ‘prison’ and cannot deal with cultural differences as sensitively as bilinguals. Because two languages give a person a wider cultural experience, it often leads to a greater tolerance of differences in other cultures, creeds and customs.