

Baker, Colin (1996). *Foundations of bilingual education*. Clevedon: Multilingual matters, Ltd.

## CHAPTER 9

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# Cognitive Theories of Bilingualism and the Curriculum

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### INTRODUCTION

The previous two chapters examined the relationship between bilingualism and IQ (Chapter 7) and bilingualism and cognition (Chapter 8). These chapters were primarily based on research findings and culminated in explanations of the likely positive relationship between bilingualism and thinking processes and products. This chapter extends that discussion of explanations by firstly considering a 'naive' theory of language and cognitive functioning; then, secondly, examining the development of a major and dominating theory of bilingualism and cognition. The culmination of the chapter is a discussion of how this evolved theory has direct curriculum implications.

### THE BALANCE THEORY

Previous chapters noted that initial research into bilingualism and cognitive functioning and into bilingualism and educational attainment often found bilinguals to be inferior to monolinguals. This connects with a naive theory of bilingualism which represents the two languages as existing together in a balance. The picture is of weighing scales, with a second language increasing at the expense of the first language. An alternative naive picture-theory attached to the early research is of two language balloons inside the head. The picture portrays the monolingual as having one well filled balloon. The bilingual is pictured as having two less filled or half filled balloons. As the second language balloon is pumped higher (e.g. English in the US), so the first language balloon (e.g. Spanish) diminishes in size. As one language balloon increases, the other decreases.

The balance and balloon picture theories of bilingualism and cognition appear to be held intuitively by many people. Many parents and teachers, politicians and large sections of the public appear to latently, subconsciously take the balloon picture as the one that best represents bilingual functioning. Cummins (1980a) refers to this as the Separate



**Underlying Proficiency Model of Bilingualism.** This model conceives of the two languages operating separately without transfer and with a restricted amount of 'room' for languages.

What appears logical is not always psychologically valid. While both the balance or balloon ideas are plausible, neither fits the evidence. As Chapter 8 concluded, when children become balanced bilinguals, the evidence suggests that there are cognitive advantages rather than disadvantages for being bilingual. Similarly, Chapter 11 will show that certain types of bilingual education (e.g. early total immersion and heritage language, bilingual education) appear to result in performance advantages (e.g. in two languages and in general curriculum performance) compared with submersion or monolingual education.

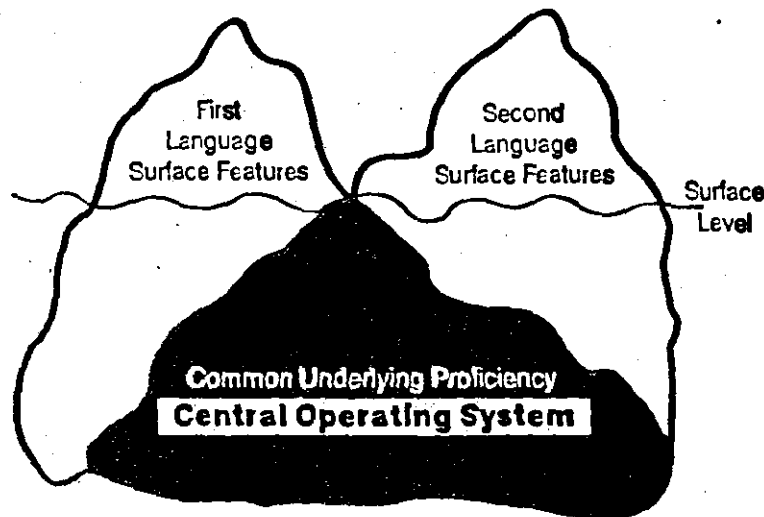
Research has also suggested that it is wrong to assume that the brain has only a limited amount of room for language skills, such that monolingualism is preferable. Evidence (see Chapters 5 and 8) suggests that there are enough cerebral living quarters not only for two languages, but for other languages as well. The picture of the weighing scales, of one language increasing at the expense the second language, does not fit the data. Other pictures, provided later in this chapter, better encapsulate research findings.

There is another fallacy with the balance or balloon theory. The assumption of the theory is that the first and second language are kept apart in two 'balloons' inside the head. The evidence suggests to the contrary, that language attributes are not apart in the cognitive system, but transfer readily and are interactive. For example, when school lessons are through the medium of Spanish, they do not solely feed a Spanish part of the brain. Or when other lessons are in English, they do not only feed the English part of the

**Brain:** Rather lessons learnt in one language can readily transfer into the other language. Teaching a child to multiply numbers in Spanish or use a dictionary in English easily transfers to multiplication or dictionary use in the other language. A child does not have to be re-taught to multiply numbers in English. A mathematical concept can be easily and immediately used in English or Spanish if those languages are sufficiently well developed. Such easy exchange leads to an alternative idea called **Common Underlying Proficiency** (Cummins, 1980a, 1981a).

### THE ICEBERG ANALOGY

Cummins' (1980a, 1981a) **Common Underlying Proficiency** model of bilingualism can be pictorially represented in the form of two icebergs (see below). The two icebergs are separate above the surface. That is, two languages are visibly different in outward conversation. Underneath the surface, the two icebergs are fused so that the two languages do not function separately. Both languages operate through the same central processing system.



A distinction can thus be made between the **Separate Underlying Proficiency (SUP)** and **Common Underlying Proficiency** models of bilingualism (CUP). The former (SUP) relates to the 'two balloon' idea presented earlier in this chapter; the latter (CUP) relates to the iceberg idea. The **Common Underlying Proficiency** model of bilingualism may be summarized in six parts:

- (1) Irrespective of the language in which a person is operating, the thoughts that accompany talking, reading, writing and listening come from the same central engine. When a person owns two or more languages, there is one integrated source of thought.

- (2) Bilingualism and multilingualism are possible because people have the capacity to store easily two or more languages. People can also function in two or more languages with relative ease.
- (3) Information processing skills and educational attainment may be developed through two languages as well as through one language. Cognitive functioning and school achievement may be fed through one monolingual channel or equally successfully through two well developed language channels. Both channels feed the same central processor.
- (4) The language the child is using in the classroom needs to be sufficiently well developed to be able to process the cognitive challenges of the classroom.
- (5) Speaking, listening, reading or writing in the first or the second language helps the whole cognitive system to develop. However, if children are made to operate in an insufficiently developed second language (e.g. in a 'submersion' classroom), the system will not function at its best. If children are made to operate in the classroom in a poorly developed second language, the quality and quantity of what they learn from complex curriculum materials and produce in oral and written form may be relatively weak and impoverished. This has been the experience of some Finns in Swedish schools who were forced to operate in Swedish (Skutnabb-Kangas & Toukoma, 1976). Such children tended to perform poorly in the curriculum in both Finnish and Swedish because both languages were insufficiently developed to cope with given curriculum material.
- (6) When one or both languages are not functioning fully (e.g. because of an unfavorable attitude to learning through the second language, pressure to replace the home language with the majority language) cognitive functioning and academic performance may be negatively affected.

The distinction between Separate Underlying Proficiency (SUP) and Common Underlying Proficiency models of bilingualism (CUP) does not fully sum up the findings from research on cognitive functioning and bilingualism. Therefore this chapter moves on to examining other more sophisticated theories.

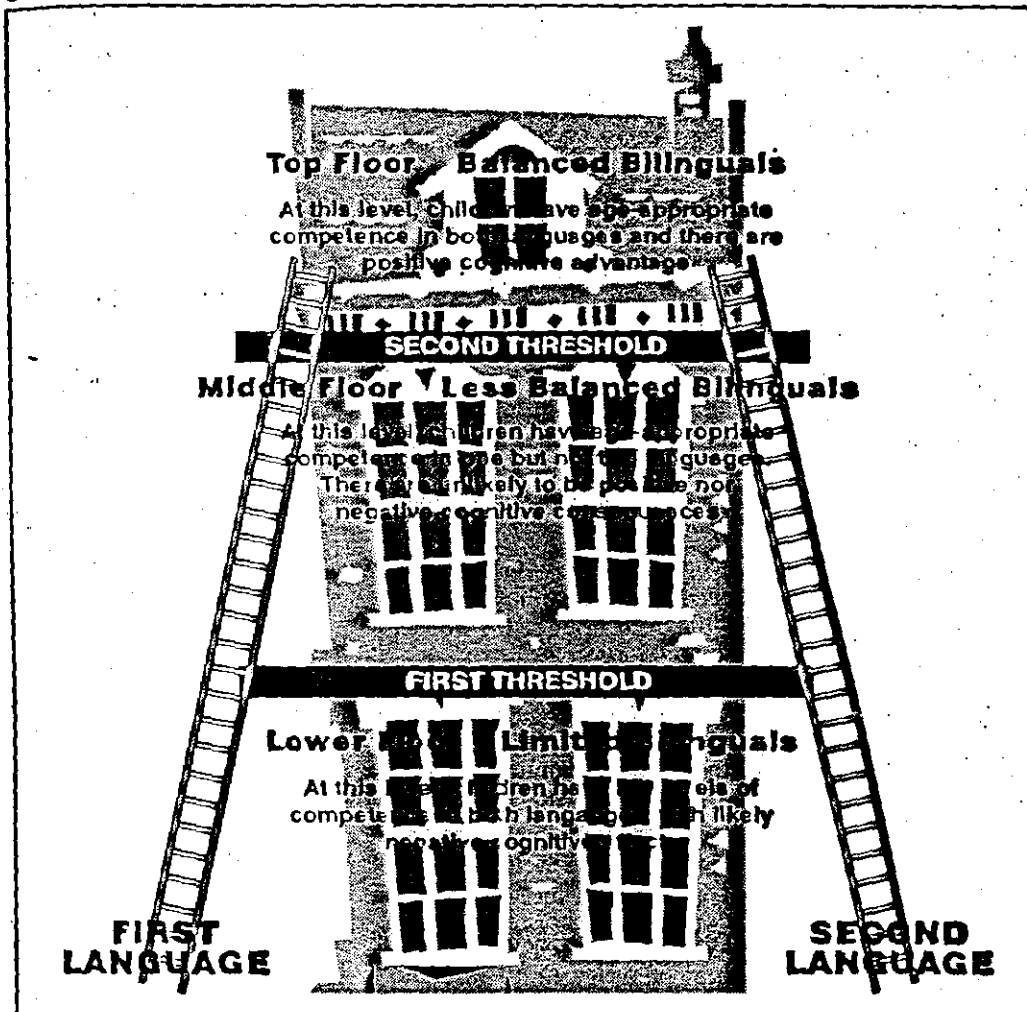
### THE THRESHOLDS THEORY

Several studies have suggested that the further the child moves towards balanced bilingualism, the greater the likelihood of cognitive advantages (e.g. Cummins & Mulcahy, 1978; Duncan & de Avila, 1979; Kessler & Quinn, 1982; Dawe, 1982, 1983; Clarkson, 1992). Thus the question has become 'Under what conditions does bilingualism have positive, neutral and negative effects on cognition?' How far does someone have to travel up the two language ladders to obtain cognitive advantages from bilingualism?

One theory that partially summarizes the relationship between cognition and degree of bilingualism is called the **Thresholds Theory**. This was first postulated by Toukoma & Skutnabb-Kangas (1977) and by Cummins (1976). They suggest that the research on cognition and bilingualism is best explained by the idea of two thresholds. Each threshold is a level of language competence that has consequences for a child. The first threshold

is a level for a child to reach to avoid the negative consequences of bilingualism. The second threshold is a level required to experience the possible positive benefits of bilingualism. Such a theory therefore limits which children will be likely to obtain cognitive benefits from bilingualism. It also suggests that there are children who may derive detrimental consequences from their bilingualism.

The Thresholds theory may be portrayed in terms of a house with three floors (see below). Up the sides of the house are placed two language ladders, indicating that a bilingual child will usually be moving upward and is not stationary on a floor. On the bottom floor of the house will be those whose current competence in both their languages is insufficiently or relatively inadequately developed, especially compared with their age group. When there is a low level of competence in both languages, there may be negative



or detrimental cognitive effects. For example, a child who is unable to cope in the classroom in either language may suffer when processing information. At the middle level, the second floor of the house, will be those with age-appropriate competence in one of their languages but not in both. For example, children who can operate in the classroom in one of their languages but not in their second language may reside in this second level. At this level, a partly-bilingual child will be little different in cognition from the monolingual child and is unlikely to have any significant positive or negative cognitive differences compared with a monolingual. At the top of the house, the third floor, there resides children who approximate 'balanced' bilinguals. At this level, children will have age-appropriate competence in two or more languages. For example, they can cope with curriculum material in either of their languages. It is at this level that the positive cognitive advantages of bilingualism may appear. When a child has age-appropriate ability in both their languages, they may have cognitive advantages over monolinguals.

Research support for the Thresholds Theory comes, for example, from Bialystok (1988), Clarkson & Galbraith (1992), Clarkson (1992) and Dawe (1983). Dawe's (1983) study examined bilingual Punjabi, Mirpuri and Jamaican children age 11 to 13. On tests of deductive mathematical reasoning, Dawe (1983) found evidence for both the lower and the higher threshold. As competency in two languages increased, so did deductive reasoning skills in mathematics. Limited competence in both languages appear to result in negative cognitive outcomes. Bialystok (1988) examined two parts to metalinguistic awareness (analysis of linguistic knowledge and control of linguistic processing) in six- to seven-year-old monolingual, partial bilingual and fluently French-English children. She found that 'the level of bilingualism is decisive in determining the effect it will have on development' (p. 567).

The Thresholds theory relates not only to cognition but also to education. With children in Immersion Education in Canada (see Chapters 10 and 11), there is usually a temporary lag in achievement when the curriculum is taught through the second language. Until the second language (French) has developed well enough to cope with curriculum material, a temporary delay may be expected. Once French is developed sufficiently to cope with the conceptual tasks of the classroom, Immersion Education is unlikely to have detrimental achievement consequences for children. Indeed, such an immersion experience seems to enable children to reach the third floor of the house, with resulting positive cognitive advantages.

The Thresholds theory also helps to summarize why minority language children taught through a second language (e.g. in-migrants in the US) sometimes fail to develop sufficient competency in their second language (e.g. English) and fail to benefit from 'weak' forms of bilingual education. Their low level of proficiency in English, for example, limits their ability to cope in the curriculum. Therefore Heritage Language Programs, that allow a child to operate in their more developed home language, can result in superior performance compared with submersion and transitional bilingual education.

The problem with the Thresholds theory is in precisely defining the level of language proficiency a child must obtain in order, firstly to avoid negative effects of bilingualism, and secondly, to obtain the positive advantages of bilingualism. At what language 'height'

the ceilings become floors is not clear. Indeed, the danger may be in constructing artificial 'critical stages' or levels, when transition is gradual and smooth. This point is returned to in the following section.

## THE DEVELOPMENT OF A THEORY

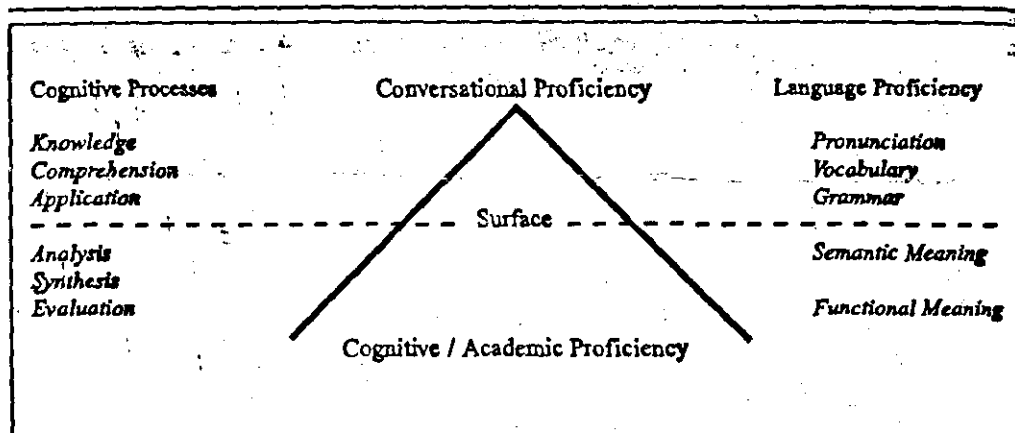
From out of the Thresholds theory developed a succession of more refined theories of bilingualism. The first evolution of the Thresholds theory considered the relationship between a bilingual's two languages. To this end, Cummins (1978) outlined the Developmental Interdependence hypothesis.

This hypothesis suggested that a child's second language competence is partly dependent on the level of competence already achieved in the first language. The more developed the first language, the easier it will be to develop the second language. When the first language is at a low stage of evolution, the more difficult the achievement of bilingualism will be.

Alongside this, in the 1970s, there developed a distinction between surface fluency and the more evolved language skills required to benefit from the education process. Simple communication skills (e.g. being able to hold a simple conversation with a shopkeeper) may hide a child's relative inadequacy in the language proficiency necessary to meet the cognitive and academic demands of the classroom. Cummins (1984a, 1984b) expressed this distinction in terms of basic interpersonal communicative skills (BICS) and cognitive/academic language proficiency (CALP). BICS is said to occur when there are contextual supports and props for language delivery. Face to face 'context embedded' situations provide, for example, non-verbal support to secure understanding. Actions with eyes and hands, instant feedback, cues and clues support verbal language. CALP, on the other hand, is said to occur in context reduced academic situations.

Where higher order thinking skills (e.g. analysis, synthesis, evaluation) are required in the curriculum, language is 'disembedded' from a meaningful, supportive context. Where language is 'disembedded', the situation is often referred to as 'context reduced'. The following example illustrates the difference at classroom level between BICS and CALP. A child is given a mathematical question such as: 'You have 20 dollars. You have 6 dollars more than me. How many dollars do I have?' At the higher CALP level, the child will conceptualize the problem correctly as 20 minus 6 equals 14. At the BICS level, the word 'more' may be taken to mean 'add-up' with the child getting the wrong answer of 26. The BICS child may think of 'more' as used in basic conversation. However, in the mathematics classroom, this illustration requires 'more' to be understood by the mathematical phrasing of the question.

The distinction between BICS and CALP has been portrayed in the image of an iceberg (see Cummins, 1984b). Above the surface are language skills such as comprehension and speaking. Underneath the surface are the skills of analysis and synthesis. Above the surface are the language skills of pronunciation, vocabulary and grammar. Below the surface are the deeper, subtle language skills of meanings and creative composition. This is illustrated on the next page.



Before leaving this BICS/CALP distinction, it is important to declare its limitations.

- (1) The distinction between BICS and CALP has intuitive appeal and does appear to fit the case of children who are seemingly fluent in their second language, yet cannot cope in the curriculum in that language. However, it only paints a two stage idea. The idea of a larger number of dimensions of language competences may be more exact. Children and adults may move forward on language dimensions in terms of sliding scales rather than in big jumps. Such development is like gradually increasing in language competence analogous to increasing gradually the volume on a television set. Harley *et al.*'s (1987, 1990) research suggests that a bilingual's language competencies are evolving, dynamic, interacting and intricate. They are not simple dichotomies, easily compartmentalized and static.
- (2) The distinction enabled an understanding and explanation of previous research (e.g. Wong Fillmore, 1979; Snow & Hoefnagel-Höhle, 1978; Cummins, 1984b). However, the distinction between BICS and CALP lacks direct empirical support. Martin-Jones & Romaine (1986) express doubts about it being possible to test the distinction. The distinction between BICS and CALP does not indicate how the two ideas may be precisely defined and accurately tested. Thus the distinction becomes difficult to operationalize in research. For example, the abilities referred to in CALP concern culture-specific types of literacy. This may be difficult to measure validly and fully.
- (3) Terms such as BICS and CALP tend to be imprecise, value-laden and become over-compartmentalized, simplified and misused. These hypothetical terms may unwittingly be regarded as real entities. The terms may over-simplify reality. Such terms may be used to label and stereotype students.
- (4) The relationship between language development and cognitive development is not unequivocal or simple. It is not simply a case of one growing as a direct result of the other. Cognitive and linguistic acquisition exist in a relationship that is influenced by various other factors (e.g. motivation, school, home and community effects). Language proficiency relates to an individual's total environment, not just to cognitive skills.

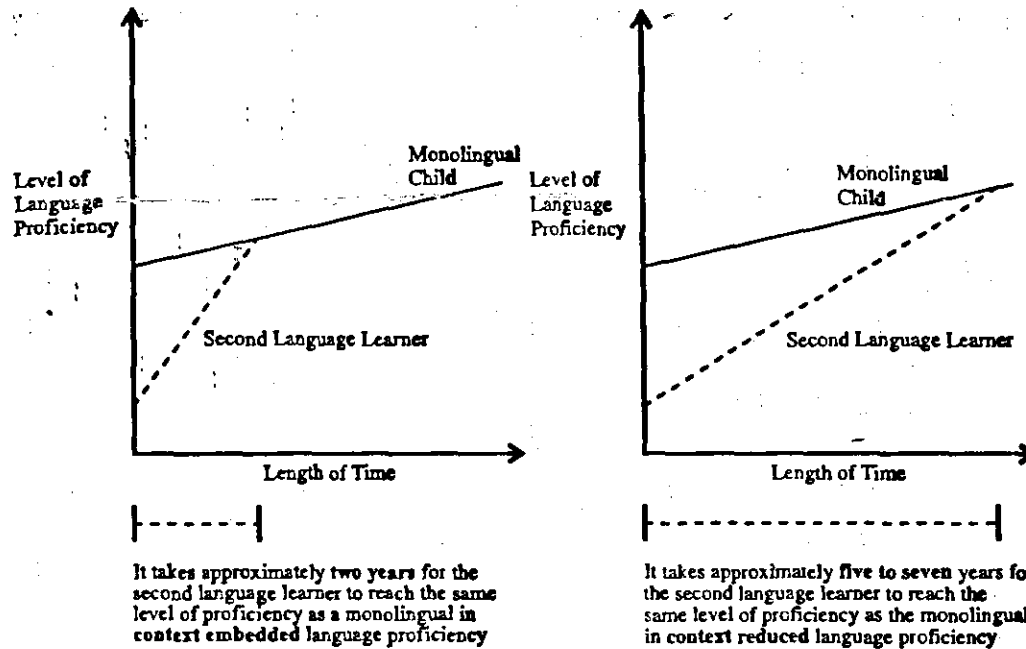
An example of context embedded communication would be when two children who are hardly able to use each other's languages seem able to communicate quite well by gestures, non-verbal reinforcements and bodily movements. It is not infrequent to see two young children of different languages playing together without difficulty. In context reduced communication there will be very few cues to the meaning that is being transmitted. The words of the sentence exist almost alone in conveying the meaning. An example of context reduced communication is often the classroom where the meaning is restricted to words, with a subtlety and precision of meanings in the vocabulary of the teacher or the book.

The second dimension is the level of cognitive demands required in communication. Cognitively demanding communication may occur in a classroom where much information at a challenging level needs processing quickly. Cognitively undemanding communication is where a person has the mastery of language skills sufficient to enable easy communication. An example would be having a conversation in the street, shop, or stadium, where the processing of information is relatively simple and straightforward.

Surface fluency or basic interpersonal communication skills will fit into the first quadrant (see diagram). That is, BICS (basic interpersonal communication skills) is context embedded, cognitively undemanding use of a language. Language that is cognitively and academically more advanced (CALP) fits into the fourth quadrant (context reduced and cognitively demanding). Cummins (1981b) theory suggests that second language competency in the first quadrant (surface fluency) develops relatively independently of first language surface fluency. In comparison, context reduced, cognitively demanding communication develops inter-dependently and can be promoted by either language or by both languages in an interactive way. 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 (1981b) 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. This is illustrated in the graphs below. Research by Hakuta & D'Andrea (1992) with Mexican-Americans found that 'English proficiency reaches asymptotic performance after about eight years. This corresponds quite well with the figures of five to seven years required for attainment of the full range of second language acquisition as estimated by Cummins (1984) based on a heterogeneous L1 population in Canada' (p. 96).

Children with some conversational ability in their second language may falsely appear ready to be taught through their second language in a classroom. Cummins (1981b) theory suggests that children operating at the context embedded level in the language of the classroom may fail to understand the content of the curriculum and fail to engage in the higher order cognitive processes of the classroom, such as synthesis, discussion, analysis, evaluation and interpretation.

This two dimensional model helps explain various research findings:



- (1) In the United States, minority language children may be transferred from transitional bilingual programs into English-only schooling when their conversational ability in English seems sufficient. Such students then frequently perform poorly in mainstream schooling. The theory suggests that this is due to their not having the developed ability in English (or their home language) to operate in an environment that is more cognitively and academically demanding.
- (2) Immersion students in Canada tend to lag behind their monolingual peers for a short period. Once they acquire second language proficiency sufficient to operate in a cognitively demanding and context reduced environment, they usually catch up with their peers.
- (3) Experiments in the United States, Canada and Europe with minority language children who are allowed to use their minority language for part or much of their elementary schooling show that such children do not experience retardation in school achievement or in majority language proficiency. Through their minority language, they develop the ability to be relatively successful in the cognitively demanding and context reduced classroom environment (Secada, 1991). This ability then transfers to the majority language when that language is well enough developed. Children learning to read in their home language, be it Welsh, Gaelic, Irish, Spanish, Frisian or whatever, are not just developing home language skills. They are also developing higher order cognitive and linguistic skills that will help with the future development of reading in the majority language as well as with general intellectual development. As Cummins (1984a) notes, 'transfer is much more likely to occur from minority to

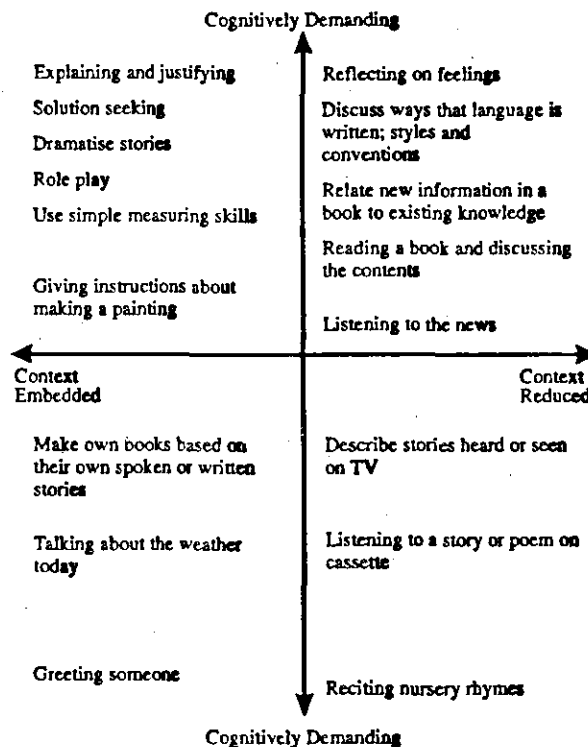
majority language because of the greater exposure to literacy in the majority language and the strong social pressure to learn it' (p. 143).

## CURRICULUM RELEVANCE

What a child brings to the classroom in terms of previous learning is a crucial starting point for the teacher. A child's reservoir of knowledge, understanding and experience can provide a meaningful context from which the teacher can build (Robson, 1995). For example, there will be occasions when a child will learn more from a story read by the teacher than listening to a language tape. When the teacher dramatizes a story by adding gestures, pictures, facial expressions and other acting skills, the story becomes more context-embedded than listening to a tape cassette. Getting a child to talk about something familiar will be cognitively less demanding than talking about something culturally or academically unfamiliar. This means that any curriculum task presented to the bilingual child needs considering for the:

- what the task requires of the child; the cognitive demands inherent in the task (as found by an individual child); the 'entry skills' that a task necessitates. This is illustrated in the table below:

The Cognitive Demands of the Classroom and Contextual Supports

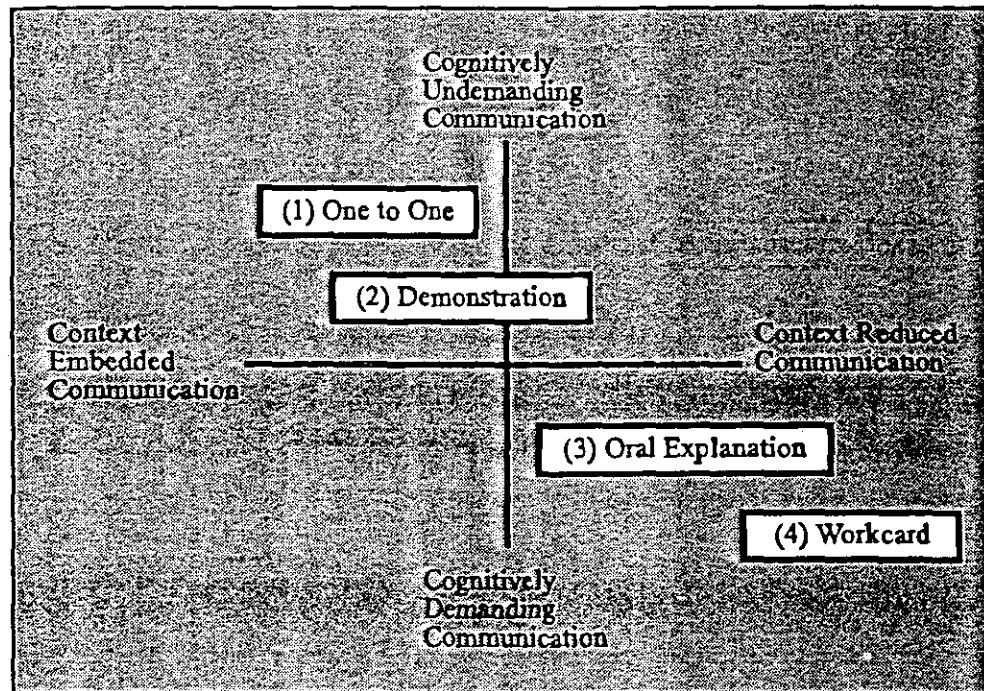


- form of presentation to the child (degree of context embeddedness or context reduction); what form of presentation will be meaningful to the child; use of visual aids, demonstration, modeling, computers, oral and written instructions; amount of teacher assistance;
- child's language proficiencies;
- child's previous cultural and educational experience and knowledge, individual learning style and learning strategies; expectations and attitudes, confidence and initiative; the child's familiarity with the type of task;
- what is acceptable as evidence that learning has successfully occurred; what constitutes mastery or a sufficient approximation; an appropriate form of 'formative' and 'summative' assessment (see Chapter 13) that may be gestural, action (e.g. building a model), drawing, oral or written (Robson, 1995);

A simple example of using the two dimensions to produce an appropriate teaching strategy is now presented (see Frederickson & Cline, 1990).

A teacher wants a group to learn how to measure height and to understand the concept of height. Listed below are a few of the teaching strategies for teaching about height. Following the list is a diagram placing the four strategies on the two dimensions:

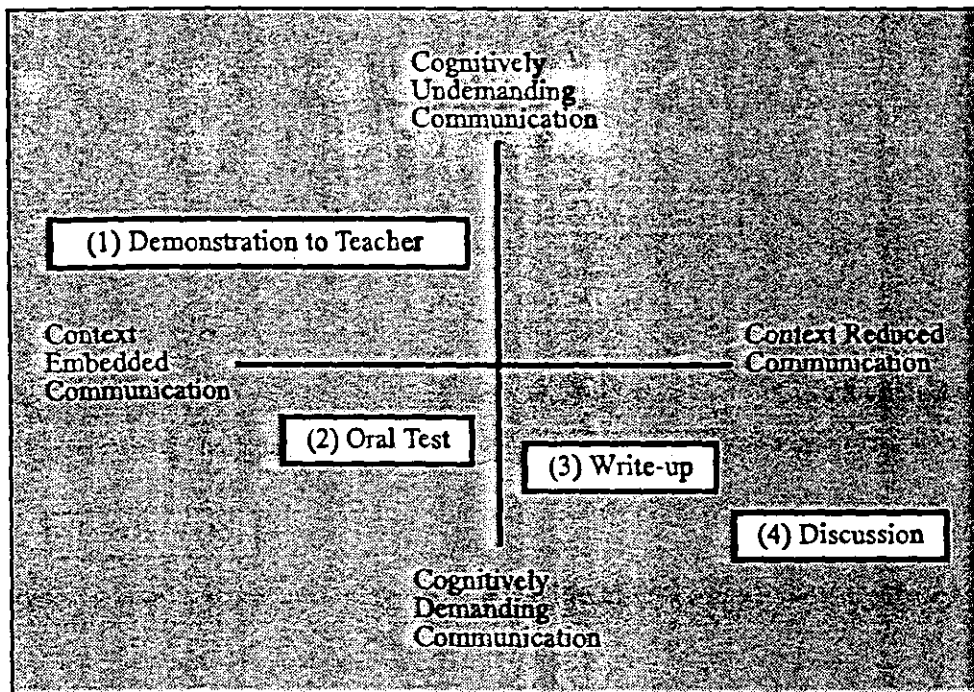
- One to one, individual teaching using various objects to measure height (1).
- A demonstration from the front of the room by the teacher using various objects (2).
- Teacher giving oral instructions without objects (3).
- Reading instructions from a work card without pictures (4).



As the above diagram indicates, the example of teaching height can be analyzed in terms of the two dimensions. One to one individual teaching will fit somewhere in the context embedded, cognitively undemanding quadrant. Using work cards may be closer to the context reduced, cognitively demanding area. Demonstrations and oral explanations appear on the diagonal from 'top left' to 'bottom right', in-between individual teaching and work cards. The exact location of teaching approaches on the graph will vary according to teacher, topic, learner and lesson. The example illustrates that the two dimensions can be a valuable way of examining teaching approaches with bilingual children. The dimensions are also useful for analyzing appropriate methods of classroom assessment. The dimensions may help focus on task-related curriculum assessment that is more fair and appropriate to bilingual children than norm referenced testing. A teacher wanting to check progress on measuring height has a choice, for example:

- observing a child measure the height of a new object (1);
- asking the child to give a commentary while measuring a new object (2);
- asking the child to provide a write-up of the process (3);
- discussing in an abstract way the concept of height (4).

In plotting these four methods of assessment (see below), placement on the graph will vary with different kinds of tasks and testing procedures. All four quadrants can be 'filled' depending on the student, teacher, topic and test. There is also value in comparing the two graphs presented above. The teaching and learning approach taken may well influence the form of assessment. That is, if a context embedded, cognitively undemanding



sometimes result in a non-meaningful context to a curriculum task. By making the task context-reduced, the learning may become more difficult rather than easier, as intended.

- (7) Attempting to achieve context embeddedness in any curriculum situation requires empathic understanding of a child's cultural background which itself is dynamic and ever evolving. A danger lies in the teacher developing self-defeating stereotyped assumptions about a child's ethnic experience which may transmit low expectations.
- (8) The theory does not make allowances for a child's cognitive strategies in learning, nor their learning style.

## CONCLUSION

Naive theories of two languages within an individual are represented by two pictures. First, two languages as a balance. Second, two languages operating as two separate balloons in the head. Such misconceptions can be replaced by pictures such as the dual iceberg and the three tiered house. Depending on language development in both languages, the cognitive functioning of an individual can be viewed as integrated, with easy transfer of concepts and knowledge between languages. Understanding and thinking will be affected by the contextual support that exists and the degree of cognitive demands in a task. Successful cognitive operations in the classroom will depend on matching curriculum tasks with language competences. Sensitivity to the need for contextual support and the cognitive demands of a classroom are important if an individual is to maximize learning in the curriculum.

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## SUGGESTED FURTHER READING

- CUMMINS, J. 1984, *Bilingualism and Special Education: Issues in Assessment and Pedagogy*. Clevedon: Multilingual Matters.
- CUMMINS, J. and SWAIN, M. 1986, *Bilingualism in Education*. New York: Longman.
- RIVERA, C. (ed.) 1984, *Language Proficiency and Academic Achievement*. Clevedon: Multilingual Matters.

## REVIEW AND STUDY QUESTIONS

- (1) Write short revision notes on the following:
  - (i) The central idea(s) of the balance theory, the iceberg analogy and the thresholds theory.
  - (ii) The distinction between BICS and CALP, the value and use of these terms and criticisms of the distinction.
  - (iii) The meaning of: context embedded communication, context reduced communication, cognitively demanding communication and cognitively undemanding communication.
- (2) What is the curriculum relevance of theories presented in this chapter? Provide examples of relevance as in the diagrams at the end of this chapter.

- (3) Define the terms used in this chapter in your own words and discuss their relevance to your own experience.

**STUDY ACTIVITY**

- (1) Observe a classroom with bilingual children. Make a 10 minute cassette tape of the discourse between the teacher and various students, and/or between students themselves. Using the framework on pp. 143 and 144, describe and discuss the language used.

# **Recommended Further Reading**

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## **AN ACCOMPANYING READER**

A Reader has been produced to accompany this book. This Reader is entitled '*Policy and Practice in Bilingual Education*' and is edited by Professor Ofelia García (City College New York) and Colin Baker. It was published by Multilingual Matters Ltd in 1995. The book contains a collection of important recent articles on policy and practices in bilingual education around the world, with particular emphasis on the United States. The readings are followed by questions and activities specifically designed for the preparation of teachers. The Reader is designed to extend and develop themes in this book, for example on teaching methodology in bilingual schools and classrooms.

The readings are divided into four sections:

Section 1: Policy and Legislation on Bilingualism in Schools and Bilingual Education.

Section 2: Implementation of Bilingual Policy in Schools: Structuring Schools

Section 3: Using Bilingualism in Instruction: Structuring Classrooms

Section 4: Using the Bilingualism of the School Community: Teachers and Parents

The Reader can be used by instructors and as an interactive text for students. The book is particularly attentive to needs in teacher education, especially in the preparation of bilingual teachers. Thus, each of the readings is followed by questions and activities that engage students in reflection and practices that may transform their own thinking, as well as the schools, classrooms and communities to which they will contribute. Whenever possible, the questions and activities reflect the content of the readings, and ask students to practice among themselves processes that will enable a contribution to their own communities and schools.

## **NATIONAL AND REGIONAL CONTEXTS**

In this book there has been an attempt to present issues that are generalizable across nations. Regional and national language situations are not usually discussed in detail due to limits of space. It is important to study such situations as an extension of this book. Sources to commence this study are given below:

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- CORSON, D. 1990, *Language Policy Across the Curriculum*. Clevedon: Multilingual Matters.
- CRAWFORD, J. 1991, *Bilingual Education: History Politics, Theory and Practice* (2nd edn). Los Angeles, CA: Bilingual Education Services.
- CUMMINS, J. and DANESI, M. 1990, *Heritage Languages. The Development and Denial of Canada's Linguistic Resources*. Toronto: Our Schools/Ourselves Education Foundation and Garamond Press.
- CUMMINS, J. and SWAIN, M. 1986, *Bilingualism in Education*. New York: Longman.
- DELGADO-GAITAN, C. and TRUEBA, H. 1991, *Crossing Cultural Borders: Education for Immigrant Families in America*. New York: Falmer.
- DEVILLAR, R.A., FALTIS, C.J. and CUMMINS, J.P. (eds) 1994, *Cultural Diversity in Schools: From Rhetoric to Practice*. Albany, NY: State University of New York Press.
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- FALTIS, C.J. 1993, *Joinfostering: Adapting Teaching Strategies for the Multilingual Classroom*. New York: Macmillan.
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- McGROARTY, M.E. and FALTIS, C. J. 1991, *Languages in School and Society: Policy and Pedagogy*. Berlin/New York: Mouton de Gruyter.
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