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El libro está basado en gran parte en la historia de amor de un joven de 76 años y su amada de 72. Florentino dice: "sólo entonces había comprendido que un hombre sabe cuando empieza a envejecer porque empieza a parecerse a su padre" (pág. 233). Fermina lo reconoció "Una noche, después de mucho eludir el pasado, llegó a la hacienda de la prima Hildebranda, y cuando la vio esperando en la puerta estuvo a punto de desfallecer; era como verse a sí misma en el espejo de la verdad. Estaba gorda y decrépita..."(pág. 347). El autor en defensa de la senectud habla de que el amor a esa edad es una dicha y no una cochinada, de quien vive en el desea, a esa edad lo continua, tirar en su destino. También nos muestra su miedo a podrirse en vida, a perder en vida, a pesar la memoria , a morir en la total ignominia y burla de los demás.

Antes de terminar, tres alegorías a la muerte llenas de gran poesía, para hablar de un tema tan difícil como penoso: A los nueve años tuvo sin darse cuenta una señal prematura de la muerte, pues estando con su padre, éste le dice: "Si yo me muero ahora apenas si te acordarás de mí cuando tengas mi edad. Lo dijo sin ningún motivo visible, y el ángel de la muerte flotó un instante en la penumbra fresca de la oficina, y volvió a salir por la ventana dejando a su paso un reguero de plumas, pero el niño no las vio. Habían pasado más de veinte años desde entonces y Juvenal Urbino iba a tener muy pronto la edad que había tenido su padre aquella tarde. Se sabía idéntico a él, y a la conciencia de serlo se había sumado ahora la conciencia sobrecogedora de ser tan mortal como él" (pág. 158 y 159).

El padre de Florentino Ariza había escrito: "Lo único que me duele de morir es que no sea de amor" (pág. 233).
El tío de Florentino Ariza, León XII, que hacía llorar a las piedras en los entierros, cuando le entregó la dirección general de la Compañía Fluvial del Caribe, concluyo: "La única frustación que me llevo de esta vida es la de haber cantado en tantos entierros, menos en el mío" (pág. 367).

Para finalizar este breve recorrido por el libro, la frase que realmente pudiera englobarlo y que es la que piensa el Capitán Samaritano: "...y es que es la vida, mas que la muerte, la que no tiene limites" (pág. 473).

BILINGUAL EDUCATION AS SUCH DOES NOT AND
CANNOT ALWAYS REPLACE SECOND LANGUAGE TEACHING
FOR THE PURPOSE OF DEVELOPING SECOND LANGUAGE SKILLS
WE SHOULD THINK OF BILINGUAL EDUCATION AND
FOREIGN OR SECOND LANGUAGE TEACHING
AS NATURAL ALLIES RATHER THAN ALTERNATIVES
(POLITZER 1977 IN MILK 1985:670)

Sara Alicia Ancira Aréchiga
Preparatoria No. 15
Coordinación de Preparatorias, Secretaría Académica, UANL

Introduction

Increasingly, due to economic, social, cultural, and academic reasons proficiency in English is becoming a must in Monterrey, México. To meet this need the *Universidad Autónoma de Nuevo León* (*UANL*) has developed different English language programs which seek to promote the mastery of English among university students. Presently, the university is offering a program at the high-school level that integrates English language instruction into academic content instruction. This means that English language is used as the medium of instruction for science - biology, chemistry, physics- mathematics and computer science which are part of the official school curriculum. English language, in this approach, becomes the vehicle for teaching and learning the specific knowledge of such academic subjects.

Many programs have been developed concerning the integration of the academic content with language instruction. Those programs meet different needs. For example some have been implemented in countries (e.g. USA) which receive immigrants and seek to integrate them into their new society. Therefore, those programs are addressed to minorities. Such programs have a lot of implications, mainly social, but also economic and cultural.

Conversely, other programs such as this high school bilingual program fit into what John Edwards (1984a in Baker 1988: 46) defines as the "maintenance or enrichment bilingual education where two languages are kept throughout all or most of schooling". That is, both languages are used in school with the aim that students develop academic achievement and proficiency in both languages. Pluralism, enrichment, and biculturalism are all involved, as Baker puts it.

Taking into account intensity, goal, and language status as variables Fishman & Lovas (1970 in Hamers and Blanc 1989: 190) would describe this program as *partial - biliterate bilingualism* in which L1 is

utilized in cultural academic subjects (e.g. history, arts, literature) and L2 is used in science (e.g. economics, biology, chemistry). According to its goal, this is an *enrichment program* designed for a majority whose aim is based on "developing an additive form of bilinguity," that is the second language does not replace the native language. Language status refers to the confrontation of major world language versus a minor language. or about language of primary importance versus language of secondary importance in education. Thus at school two languages are used in teaching, the native language, Spanish, and an international language, English, *both of equal status.*

On the other hand, due to the social context wherein the high school bilingual program of the *UANL* is developed, it belongs to what Goader (1976 in Baker 1998: 47) refers as "Élitist bilingualism". This is the type of bilingual schooling in which the proficiency of two languages are both related to cultural and economic value. To have access to economic rewards, the key factor is the "choice" that students make for having bilingual schooling. Students in these bilingual programs are expected to progress at least at the same rate as nonbilingual students.

Many bilingual programs, i.e. bilingual, immersion, and two way, are (mainly in the USA) based on Krashen's theory of second language acquisition which, broadly speaking, is stated as follows,

> Krashen suggests that a second language is most successfully acquired when the conditions are similar to those present in first language acquisition : that is, when the focus of instruction is on meaning rather than on form ; when the language input is at or just above proficiency of the learner ; and when there is sufficient opportunity to engage in meaningful use of that language in a relatively anxiety-free environment. This suggests that the focus of the second language classroom should be on something meaningful, such as academic content, and the modification of the target language facilitates language acquisition and makes academic content accessible to second language learners. Krashen suggests that a second language is most successfully acquired when the conditions are similar to those present in first language acquisition : that is, when the focus of instruction is on meaning rather than on form ; when the language input is at or just above proficiency of the learner ; and when there is sufficient opportunity to engage in meaningful use of that language in a relatively anxiety-free environment. This suggests that the focus of the second language classroom should be on something meaningful, such as academic content, and the modification of the target language facilitates language acquisition and makes academic content accessible to second language learners.
>
> (1982 Crandall 1994: 1)

Crandall (1994) mentions the benefits of integrating language and academic content instruction since English as a means of instruction promotes in students not only academic development but also English language proficiency.

Taking into account the vast literature that presents the benefits to be gained by implementing a bilingual program, with empirical as well as theoretical considerations, an economic review of integrating a second language into the academic instruction is presented in order to be aware of the implications and results that such integration convey.

Using the theoretical framework for language development proposed by Bialystok (1988, 1991) this paper was developed to elucidate the psycholinguistic nature of the bilingual program that has just begun in the *UANL* and is a brief description to give a general idea of the program, its aims and its social relevance for the community.

The description of Bialystok's model explains the acquisition and processing of knowledge, i.e. a second language. This cognitive model is embodied by two processing components named analyzed knowledge and automatic or more recently, control of processing, "that jointly function to develop proficiency in the language" (Bialystok 1994: 157).

To detect if bilingual schooling has a positive or negative effect on students' academic achievement, this study also attempts to produce empirical data that bilingual education programs encourage accelerated educational progress, that is academic achievement, and promote second language proficiency. Results from academic examinations and from the TOEFL (practice tests) at the end of an academic semester are introduced in order to present preliminary results related to the effectiveness of the program.

Of course, these are not considered definitive results. Instead, they are only a part of the whole process of evaluation that is in progress. Since the program was implemented seven months ago, only partial results are shown, but to present a congruent scenario that I consider relevant, it gives some evidence of the results of participating in this bilingual program. Needless to say, there is still much work to be done since this type of program causes controversy and raises questions without absolute answers. However, the research related to this program will continue in order to guide the decisions that will be made, since this program is considered highly relevant for the *Universidad Autónoma de Nuevo León* due to its aims of pursuing academic excellence and language proficiency.

The Bilingual Program of the Universidad Autónoma de Nuevo León -A Brief Description

> It is precisely those educators and intellectuals
> most interested in the Global Community
> who must be interested in bilingual and bicultural education
> *for all our children*, for it is only out of such education
> that the multiple-group membership can come
> that can foster such a community
> for the masses rather than for the elites.
> Monolingual and monocultural education is artificial and false,
> particularly if we have One World in mind.
> The world is not unifiable on the basis of cultural monisms.
> Indeed, such monisms are more likely to destroy the world than to save it!
> (Fishman 1976: 9)

The high school (preparatory) bilingual education program of the *Universidad Autónoma de Nuevo León*, in Monterrey, Mexico, seeks to achieve high academic levels and bilingual proficiency in the students. In this educational program, content area subjects are learned through both Spanish and English. Among the main program aims are encouragement of academic excellence and development of English language proficiency as well as the promotion of awareness of cultural diversity.

This program was launched in 1997 by the Academic Vice Presidency of *the Universidad Autónoma de Nuevo León (UANL)*, through the *Coordinación de Preparatorias* (Preparatory Academic Coordination). It was designed and its implementation is under the supervision of the author and Laura Esthela García Alvarez. It started as a pilot program with four groups of thirty students each, who are now in the second semester of the four-semester curriculum. English is used more than 50% of the instructional time. An extra ESL class, which is not part of the official curriculum, is given each semester in 8 modules of 40 hours each, as a support and complementary course to meet the need of increasing the formal knowledge of language.

The bilingual high school students attending *Preparatoria* 15-*Florida*, (located in the southeast area of Monterrey) come from middle and upper middle class families with solid professional and academic backgrounds. According to preliminary results of a follow up study -now in progress- this program could be offered to the rest of the high schools (28 schools with a 40,000 student population) by year 2000.

Hamers and Blanc (1989: 189) define bilingual education as "any system of school education in which, at a given moment in time and for a varying amount of time; simultaneously or consecutively, instruction is planned and given in at least two languages". There are many different types of bilingual education programs, e.g. immersion, submersion, two-way instruction, etc. Whatever the program be or characteristics it possess, all of them involve instruction in both languages.

In this program English is used more than 50% of the instructional time, i.e. biology, chemistry, physics, computer science, and mathematics, besides the English language courses. Spanish language, literature, social studies, arts and humanities are given in Spanish. as well as counseling, and physical education.

Most salient characteristic features of the bilingual program

- First bilingual public school program in Mexico
- Pilot program for further implementation in the rest of UANL high schools
- Systematic follow-up and evaluation
- Teacher development program: -journals, peer and self-observation and evaluation (reflective teaching)
- Innovative instructional practices, i.e. cooperative learning, task-based, project-based
- Academic achievement, not language learning, becomes the main goal and L2 acquisition results from language exposure through content
- Traditional high school curriculum plus an extra English course to support students to handle academic content in L2
- International exchange programs -teachers/students
- Adjunct enrichment activity programs, i.e. music, leadership, student newspaper, German introductory courses, history of comics strips, and drama (Ancira and García 1997).

With regard to the nature of the program, two groups of students take a "communicative" English course that seeks to help students to develop social, interpersonal communication skills (BICS). The other two groups receive "content-based" second language instruction in order to develop their cognitive academic language proficiency (CALP), a discourse distinction that has been presented and studied by Cummins (1981 in Christian *et al.* 1990: 144). The purpose of implementing different courses is to determine which of these two language course types fosters improvement of the students' English performance in the academic subject classes. When results emerge, a decision will be made about the approach of the instructional class of English in this bilingual program.

A local context

Monterrey (with a population of 2 million)is 230 km south of the Texas border and due to the city's commercial, financial, and industrial dynamism, English has an important presence. According to the Department of Economic Development of the State of Nuevo León (*Gobierno del Estado de Nuevo León* 1997), Monterrey is the country's second largest industrial center after México city. People in the top business positions usually are proficient in English.

In order to establish a context wherein this bilingual program is developed, it might be fruitful to consider how many bilingual educational programs have been implemented in Monterrey area. See the following chart:

Level	K	2-7 Elementary	8-10 Jr High-School	11-12 High-School	Commercial
Bilingual Schools	35	34	26	6	9

Source: Gobierno del Estado de Nuevo León 1997

These schools basically develop similar educational programs, the official curricula of the Ministry of Education. They present slight differences in their bilingual programs and the proportion of instructional time in each language varies among them, but they all share the aim of developing bilingual proficiency.

Most of the above schools are kindergarten and elementary schools, fewer belong to junior high-schools and only six are high-schools (preparatory). All except the one of the *UANL*, are private and expensive schools. In the light of this information it is easy to see the correlation of social class with English language proficiency as well as the status that English has in the community. According to a survey carried out by *El Colegio de la Frontera Norte* (Zúñiga 1990) in Monterrey there is a strong relation between social class and English proficiency.

Among all the benefits that a bilingual program might offer: L2 proficiency, schema flexibility, acceptance of other cultures, academic enhancement, cultural enrichment, and better professional opportunities, the major benefit would be to let more people have access to these opportunities. Thus the first commitment of this program is to benefit a wider range of the population, in order to help students to attain international standards and enable them to become informed and active citizens in the age of globality.

It is important to point out that because of its nature as a pilot program, a systematic evaluation is in progress, and depending on results, changes and adjustments will be made.

Some Reasons for Teaching-Learning Through a Second Language -Language integration versus isolation

Experiences in immersion classes illuminate the practice of second language teaching and indicate effective ways of attaining high levels of academic content mastery and target language proficiency. Evaluations of a variety of immersion programs suggests at least three elements of general relevance for second language instruction:
1) instructional approaches that integrate content and language are likely to be more effective than approaches in which language is taught in isolation;
2) an activity - centered approach that creates opportunities for extended student discourse is likely to be beneficial for second language learning; and
3) language objectives should be systematically targeted along with academic objectives in order to maximize language learning. (Integrating Language and Content: Lessons from Immersion 1995:3-4)

Content-based language instruction emerged as an approach to language learning as a response to general conditions that must be met for successful language learning. Brinton, Snow, and Wesche (1989: VII) affirm "second language is learned most effectively when used as the medium to convey informational content of interest and relevance to the learner". As a result of both empirical research and second language acquisition theory, learning in this approach is focused not on language but rather on meaning in a context wherein content becomes the principle factor for developing functional language skills in the first and second language for any age group.

When academic content is learned by a second language Cummins (1982 in Lewelling 1991: 2) points out that in order to achieve success, cognitive academic language proficiency (CALP) is needed, since this "type" of language is involved with cognitive skills and conceptual knowledge which, according to him, "can be transferred from the native language to English". Such transformation is described by Saville-Troike (1988 in Lewelling 1991: 2) as the *a priori* knowledge that can be extrapolated to second language, in other words is a "preexisting script for school". As Hakuta (1990 in Lewelling 1991:3) demonstrates, a child learning about velocity in Spanish can transfer this knowledge to English

without learning again the concept if the relevant needed vocabulary is given.

Because of the advantages of integrating content and language learning different educational programs have emerged using the second language as the medium of instruction. The main aim of immersion programs is academic achievement not language learning. The integration of second language instruction and academic content is more effective than teaching the language *per se*. Results given by immersion programs (Crandall 1994: 1) have demonstrated that:

➢ Language is acquired effectively when students are engaged in real acts of communication, and the academic content of curriculum gives the basis for that meaningful communication.

➢ Relevant academic content encourages authentic communication in the classroom, motivating students to learn the new language. There is a correlation between language and cognition as well as social awareness. Integrating language and academic instruction help to strengthen the concurrent development of these components.

➢ Each academic subject has its own discourse. Evidence has demonstrated that students develop awareness of different discourse types, i.e. the way language is used in mathematics is not the same as in the other academic subjects.

To integrate language and content, there are at least five different reasons that Brinton *et al.* (1989: 3) draw up. The first is based on English for Specific Purpose (ESP), which seeks to promote successful language learning via the uses of the target language that the learner will need, focusing, then, on language functions and forms. Second, it is related to content, taking into account that information is relevant and motivating for learners, assuming this eases learning. Third, pedagogical considerations are borne in mind since learning is based on previous knowledge that the learner possesses of the subject content area as well as of the academic context and the second language. Fourth, it refers to the teaching of language in context, focus on this approach is towards both language use and language usage. Learners, then, get in contact not only with grammar conventions but mainly with wider discourse features and interpersonal interaction patterns. Finally, they emphasize, the main argument, for content based courses, is derived from research in second language acquisition. A condition for successful language learning according to this research is that input provided to learners must be comprehensible to them, but if the purpose of this is the acquisition of language, new elements supported by contextual and verbal devices must be added to this input. The learner interacts with limited knowledge of language, his schemata and his expectations, combining language form and meaning which are the basis for language acquisition.

Taking into account the conditions of language learning one issue of concern is the distinction between acquisition and learning. Even though these terms are sometimes used interchangeably, the term acquisition is used for the process where language is acquired as a result of natural and chiefly, random exposure to language. The term language learning is used when the exposure is purposefully structured for language teaching (Wilkins 1974:26 in Ellis 1990:41). According to Ellis (1990) this is the same as informal and formal language learning contexts (see Ligtbown and Spada 1993:121-2). Conversely for Krashen & Terrel (1983: 26-7, Ellis1985: 229-30, 1990: 57) acquisition and learning might occur in both contexts since Krashen defines such distinction in process terms, i.e. the way language knowledge is internalized and stored.

What Krashen & Terrell (1983, Ellis 1985: 261-3, 1990: 56-7) label as acquisition-learning distinction has become the key feature of Krashen's theory of second language acquisition -The Monitor Model theory, wherein this dichotomy, besides of the natural order, the monitor, the input, 'and the affective filter hypotheses embodied in the Natural Approach proposed by Krashen. Language acquisition is the result of using language in real communication which is the natural manner of developing language ability. This is a subconscious process, similar to child first language acquisition, in which there is no awareness of the rules of the language. Instead, a feeling of correctness or incorrectness is perceived.

On the other hand, learning, for Krashen, is knowing about the language through formal teaching and purposeful study. This is a conscious process employing the explicit knowledge of language rules which leads to awareness of them. Besides emphasizing such distinction, Krashen argues that acquisition and learning are stored separately and that the knowledge that has been learned can not become acquired knowledge. Krashen thus makes a sharp and simple distinction.

Examining how classroom second language learning takes place Ellis (1990:1-2) states that as a starting point it is necessary to define "classroom language learning" and its opposite "naturalistic language learning" whose differences can be analyzed from sociolinguistic, psycholinguistic, and educational bases. From the psycholinguistic point of view, which is the concern of this paper, Ellis adds that the key factor is the distinction between formal and informal learning.

Formal learning is related to structured language activities which seek to teach about the language through explicit rules of grammar, i.e. the formal organization of language. On the other hand informal learning involves a spontaneous process, from exposure to an environment which

provides certain conditions for promoting participation in communication. Despite that formal learning is considered equivalent to classroom learning, and informal learning is related to nonformal settings, this does not mean that informal learning can not take place in a classroom. For example, a class which seeks to engage learners in effective communication, where meaning is emphasized rather than language structure or form, provides informal learning as is proposed by the communicative approach (Richards and Rodgers 1986). In the same way, Ellis adds, formal learning may be present in informal learning when in a natural environment the learner participates in a conversation and asks for linguistic information.

Dulay, Burt and Krashen, in their *Language two* (1982), mention the positive effects of natural exposure or communication, i.e. when the focus of the speaker is on the content not on the form, since, they affirm, this promotes the development of communication skills in a second language in foreign as well as host settings.

This argument is supported by research reported by Saegert, Scott, Perkins and Tucker (1974 in Dulay, Burt and Kashen 1982:16) who surveyed students at the American University in Cairo, Egypt and at the American University in Beirut, Lebanon. Nevertheless many of the students had attended schools wherein academic subjects were taught in English; Saegert *et al.* analyzed the students English proficiency and the number of years of formal English language instruction or whether students had academic experience through learning content subjects in English or another foreign language. As they did not find relationships between English proficiency and the number of years of formal instruction of English as a foreign language, but found conversely that English proficiency was related to the use of English as a medium of instruction in academic subjects. Consequently the study concluded that learning experiences where the academic subjects are taught (learned) in English make the difference in predicting English proficiency.

In trying to pin down the role of second language as a medium of instruction, it must be borne in mind that there are many educational programs in the context of bilingual or immersion programs whose implementation, depending on social, cultural, political, economic, linguistic, and academic factors among others, meets different needs. Useful definitions of such programs are provided by Hamers and Blanc,

- Bilingual Education Any system of education in which, at a given point in time and for a varying length of time, simultaneously or consecutively, instruction is given in two languages.
- Immersion Programs A type of bilingual education in which a group of learners is taught through the medium of a language different from their mother tongue, the latter being introduced later.

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- Early immersion Immersion program in which a second language is used exclusively as a medium of instruction in the early years of schooling.
- Late Immersion Immersion program in which a second language is introduced as a medium of instruction at a later stage.
- Partial Immersion Immersion Program in which both the first and the second language are used as media of instruction

(1989: 264, 267)

The implementation of bilingual education has to do not only with minorities acquiring the language of the host environment, but also as an alternative method for acquiring a second language (see Krashen 1983: 167-75). Among the pedagogic considerations and principles for implementing a high school bilingual program in Monterrey, are the following: second language is acquired by means of messages with the use of comprehensible input, language is developed in language rich environments, and the content areas can provide such a context. Another motive to justify a bilingual program is that of language development which, according to Rigg and Allen (1989: X), means "learning to use a language to socialize, to learn, to query, to make believe, and to wonder". For that reason students need permanent but different kinds of support in order to develop language proficiency. Bilingual education gives opportunity to this continuing full development even though most of the time is needed for academic reasons, and ESL classes support such development for a limited time (Krashen 1991: 1, Rigg and Allen 1989: X-XI).

Another factor to take into account in a bilingual program is the background knowledge of the learner, which leads to consideration of how dependent and relevant is previous cultural experience as well as first language development (Saville-Troike 1991: 2).

Similar findings are from immersion program research. Dulay *et al.*(1982) present results which corroborate the benefits of the natural environment in the acquisition of a second language, regarding such "natural environment" when in most of the classes instruction is given in the second language. Thus second language becomes a medium, instead of an end itself, as in immersion programs.

Findings are reported from immersion programs developed in Canada where French is used in instruction for English speaking children, as well as from the program implemented in Culver city, California (see Genesse 1987: 117-9) with Spanish as a medium of instruction. In both

programs, according to Dulay *et al.* (1982), children improved second language acquisition, achieved adequately in the academic subjects taught

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in the second language, and first language development did not present problems.

Stern (1983: 425-6) mentions that when the second language becomes the language of instruction or it is in the environment e.g. French and English in some countries, that second language is learned more successfully. Bilingual schooling, as the immersion program in Canada, designed to create bilingualism, tends to be "more successful than conventional language teaching as a subject because language is treated in school as a medium rather than as a subject". Although he admits that this type of program needs to be supported by bilingual contacts and international exchange programs. Widdowson (1990: 15)found that in such immersion programs language proficiency is not attained since evidence has demonstrated that after seven years in an immersion program, grammar and lexicon differences persist between students of the second language and native speakers.

Widdowson points out in *Aspects of Language Teaching* (1990) that formal language instruction cannot be replaced by acquisition in a natural exposure. Instead, it seems that they complement each other. This argument is supported by Spada (1985, 1987 cited by Widdowson 1990: 15) who points out the importance of providing practice in both form-focused and function-focused learning. The lack of either does not seem to help in the development of different language skills. Which implies therefore, even students who are in an environment which facilitates language acquisition in Krashen terms, that is to say, by means of the communicative use of the language, need to observe the form of the language. As Widdowson puts it,

> It would seem that students need something
> in the way of formal instruction
> as well as acquisition by natural exposure and engagement.
> It is not just that one supplements the other :
> effective learning would appear to be a function of
> the *relationship* between formal instructional and natural use.
> (Widdowson 1990: 15)

Taking into account that each setting, the classroom and the natural one, favors formal and informal learning respectively. It should be remembered that although there are different sorts of classrooms and a variety of natural settings, it might be possible to characterize the features of each domain. These differences, even though not complete are vital from the psycholinguistic perspective view point (Ellis 1990: 2).

Wilga Rivers (in Arnold 1994: 122-3) emphasizes that better language knowledge and language control allows learners to use a mental representation (which is very similar to that of a native speaker). This

enables them to be as accurate as possible when they are speaking a language. Rivers reference support the view of teaching grammar through activities that promote the utilization of rules which integrate with the structures to make up "a performance memory". Not taking this into account is as if you try to learn chemistry without learning the periodic table. Therefore Rivers concludes that it would seem that we are involved in the only science in the world that is afraid of principles. Grammar is the framework wherein people (children in first language acquisition and students of second language) operate, since agreement to convey meaning with the accepted forms as a medium takes place thanks to grammar.

Milk (1985: 669-70) pointed out that researchers in bilingual education (using target language as a medium of instruction) and in second language teaching (only formal instruction) mention the need for overt second language teaching where there is no contact with native speakers.

Krashen's viewpoint about the explicit-implicit dimension (learning-acquisition) is considered too narrow (Stern 1992: 332), not only because by explicit knowledge he only considers grammar and conscious learning but also because he makes a sharp distinction between both dimensions as independent entities instead of regarding them as related and complementary dimensions.

Palmer in 1922 (Stern 1992: 328) was one of the first methodologists who made a distinction between spontaneous (implicit) versus studial (explicit) learning, pointing out the need of joining them in order to achieve success in language learning.

Bialystok's Model
-Second Language Proficiency from a Psycholinguistic Perspective
-A Cognitive Learning Theory

With regard to the explicit - implicit distinction Ellen Bialystok (1978 in Stern 1992: 332) developed a model which considers sources of knowledge to be explicit and implicit. Bialystok, unlike Krashen, believes that rather than being a dichotomy, both interact with each other. Later Bialystok (Spolsky 1989: 48), in developing this theoretical model explicit - implicit distinction comes into analyzed and nonanalyzed knowledge, and automatic and nonautomatic knowledge. With these two dimensions a four way matrix is formed for describing kinds of second language. For

Bialystok (1988: 32) "Language proficiency in the present framework comprises development along two dimensions". Since, as she argues,

language is processed like other types of knowledge or information, then knowing a language implies both the mental representation of the system and organization of the target language, that is, the analyzed dimension as she names it. The procedures that permit one to have access to such target language knowledge, are those named the automatic dimension (see also Brown 1994a: 285-6).

The analyzed knowledge is the extent to which the learner is aware or makes a mental representation of the corpus of knowledge, in this case the language system. As language learning takes place, the learner advances through a continuum, starting in the nonanalyzed extreme, characteristic which is of the beginning level of second language learning where the learner is not aware of the structure or organization of the language. As the learner goes on, language awareness grows allowing the learner to understand the formal structure of the language. Control over such structure means to move towards analyzed knowledge which is the basis for using language in different situations. Since the learner controls the linguistic elements, this permits him to be creative with the language, producing a variety of constructions. In other words, the learner can use specialized language depending on the need. The learner moves from the nonanalyzed to the analyzed continuum while language development increases. (Bialystok 1994:160)

In language processing the analyzed dimension awareness is embodied by mental representations of linguistic knowledge which are in progress; changing these into "more structured, more explicit and more interconnected" (Bialystok 1991: 116), while at the same time progressive analysis leads to restructure those mental representations.

In this model such awareness does not mean that the learner is conscious of the mental representations. The analysis dimension is not involved directly at a conscious level nor is it present in an explicit way in the mind of the learner (Ellis 1990: 179). Analyzed knowledge is considered to be a propositional mental representation wherein the relationship between formal structure of language and its meaning can be identified, while the nonanalyzed knowledge is represented by mental representations, too, but the representation structure of those propositions is not evident. Hence, the information is the same represented in nonanalyzed and analyzed knowledge. The difference is that the analyzed knowledge can be characterized as a means of approaching to the structure of nonanalyzed knowledge. In these terms the learner controls the properties of the structure and the relations that rule the knowledge already known in the nonanalyzed form as it becomes analyzed knowledge (Bialystok 1988: 331).

Language structure is based on mental representations whose organization is based on forms and structures. Besides pointing out how

those forms relate to meaning, these representations are formed around "formal composed symbolic categories" instead of semantic or empirical ones (as is organized in the nonanalyzed knowledge) and "the structure of those categories is explicit". This makes possible the metalingual knowledge, whose real value is based on the fact that this language knowledge can be used by the learner and is accessible for formal education language use requirements, i.e. academic writing (Ellis 1990: 179).

Taking into account that metalingual knowledge "concerns the ability to get above or outside language, being aware of language forms and properties" Baker (1988:28) presents a review of studies whose results suggest the metalinguistic advantages for bilinguals. Malakoff and Hakuta (1991) in their paper *Translation skill and metalinguistic awareness in bilinguals* argue that metalinguistic awareness and bilingual proficiency are interrelated linguistic skills. They refer to metalinguistic awareness as,

> an awareness of the linguistic nature of language use ... allows the individual to step back from comprehension or production of an utterance in order to consider the linguistic form and structure underlying the meaning of the utterance (1991: 143)

It is in this way that the language learner restructures the language knowledge through making clear the language's formal structure. As a result of this process the new analyzed symbolic representations appear from the semantic or nonanalyzed representation (Bialystok 1991: 118).

An example of the process of analysis is given by Karmiloff-Smith (1986 in Bialystok 1991: 118) with the acquisition of the indefinite article in French (*un*). At the beginning the learner uses this form, in context wherein specific reference is not required, as well as the numeral "one" and the appelative function as suitable uses of the form. The form *un* is a representation in each of the semantic contexts without any relation among them. However in the process of development, through the continuum, the independent representations are reorganized and grouped under the formal category of indefinite article.

If language proficiency in this model is determined as "a function

of the level of development of the linguistic representation and the particular cognitive process applied to those representations" (Bialystok 1991: 116), then language proficiency is functional in terms of relation with the application of analyzed dimension, taking into account that knowledge is considered as a mental representation wherein the propositional structure is known, so that knowledge can be used in different and new contexts. Conversely nonanalyzed knowledge has limitations in its application because of aspects of language that are only to some extent analyzed. Then this knowledge is used as patterns in generating limited language uses through the generation of new grammatical constructions which leads to a restricted use of such a knowledge for new purposes (Bialystok 1988: 33-4).

The automatic dimension (later named as control of processing in Bialystok 1991, 1994 and Brown 1994a: 286), the other fundamental component of language proficiency, refers to the access or control the learner has over the knowledge without considering the degree of language analysis. This is very similar to the notion of "pragmatic competence" of Chomsky (1980 in Bialystok 1988: 36) which deals with the appropriate uses of language knowledge. Of course, there are many ways for the learner to gain information and different demands on that recovered information take place depending on the situation, the information required and the degree of control (i.e., the extent of fluency or automaticity) the learner exercises over the knowledge or information (Bialystok 1988: 36). Hence, this dimension is formed by control procedures or "retrieval" procedures. The efficiency of those procedures leads to automaticity which at the same time becomes the basis for fluency, according to Bialystok (Spolsky 1989: 49). In this dimension automaticity (fluency) is acquired as learning takes place through practice; the bridge to an easier access to information, which leads to a fluent performance (Ellis 1990: 179-180).

Automaticity is presented by Brown (1994b: 16-7) as one of the cognitive principles of language learning. He labels them cognitive because they essentially refer to mental and intellectual functions. Within this principle are included the subconscious absorption of language by means of meaningful use and the resistance to the temptation to analyze language forms.

Since the two dimensions presented in the Bialystok's model are independent, the analyzed dimension takes place independently of the development of the automatic one. In the early stage, the learner starts with unmarked knowledge, that is nonanalyzed and nonautomatic knowledge. The type of knowledge to be acquired will depend on the learning context, and the preference manifested by the learner. For example the informal learner will prefer automaticity while the formal one will emphasize language analysis.

These two independent dimensions of language proficiency of the Bialystok's model produce a framework divided into four sections (see figure 1) wherein different sorts of learners and language uses are established, taking into account that the lines do not label sharp categories but continua (Ellis 1990: 180).

With regard to the development of proficiency the unmarked forms precede the marked ones, therefore as Bialystok (1988: 37, 1991: 135) emphasizes, development includes completing both components, analyzed and automatic (control) knowledge that is already known in less specialized forms, which can be considered to be the metalinguistic dimensions of language proficiency.

The two processing components are considered to be the mechanisms by which language proficiency improves through age, experience, and instruction. They are also the mechanisms which are responsible for a language learner's ability to carry out various language functions.

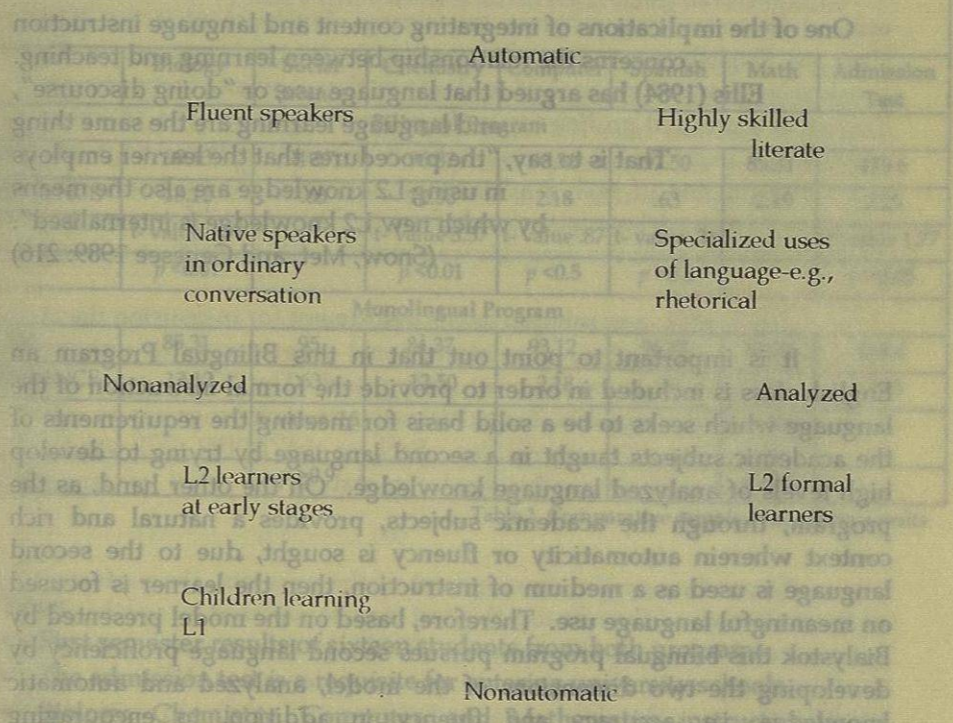|	Automatic	
Fluent speakers		Highly skilled literate
Nonanalyzed	Native speakers in ordinary conversation	Specialized uses of language-e.g., rhetorical
		Analyzed
L2 learners at early stages		L2 formal learners
Children learning L1		
	Nonautomatic	

Figure 1 Bialystok's two dimensions of language proficiency (Bialystok 1988: 37)

In this context, when language proficiency is explained in terms of these two components with their four "types" of knowledge (the analyzed-automatic dimensions), implications for language instruction arise. Differing methods and programs of language teaching seek to support the development of such processing components, considered

there as two independent continua, in order to develop different aspects of proficiency. If a program emphasizes the teaching of grammar and structure in which written work accuracy is favored, this program aims to develop analyzed language knowledge. However, if the development of oral language shills is the priority of a program, fluency and learner's ability to express meaning rather than accuracy will be encouraged. This program is focused on developing automatic language knowledge (Bialystok 1991: 135-6).

Pretending that language instruction programs fit easily in one of these two components would be naive and simplistic. An eclectic approach to develop a more integrated proficiency, i.e. accuracy and fluency, based on analyzed and automatic knowledge, would be ideally what programs should offer, as many claim, even they really do not.

Conclusion

One of the implications of integrating content and language instruction concerns the relationship between learning and teaching. Ellis (1984) has argued that language use, or "doing discourse", and language learning are the same thing That is to say, "the procedures that the learner employs in using L2 knowledge are also the means by which new L2 knowledge is internalised". (Snow, Met, and Genesee 1989: 216)

It is important to point out that in this Bilingual Program an English class is included in order to provide the formal instruction of the language which seeks to be a solid basis for meeting the requirements of the academic subjects taught in a second language by trying to develop high levels of analyzed language knowledge. On the other hand, as the program, through the academic subjects, provides a natural and rich context wherein automaticity or fluency is sought, due to the second language is used as a medium of instruction, then the learner is focused on meaningful language use. Therefore, based on the model presented by Bialystok this bilingual program pursues second language proficiency by developing the two dimensions of the model, analyzed and automatic knowledge, i.e. accuracy and fluency in addition, to encouraging successful content learning, since learners are high school students and the priority of the program is academic excellence.

As part of the evaluation of the Bilingual Program in order to measure the progress of students with regard to academic achievement, data to be examined and analyzed are taken from results of internal examinations as well as from those applied by a central department of the

university. Moreover, when students finish high school, a national examination will be applied to them and their results will be analyzed. Depending on these results, decisions about the program will be made. Although at the present students are in the second semester a sample of results given by those internal institutional examinations of academic achievement of the first semester can illuminate to some extent how students perform in learning high school content through a second language. Of course, the data presented does not pretend to be extensive nor exhaustive, since evaluation of the program is in progress, and several variables have to take into account. However to compare bilingual and monolingual program students, the most relevant variables are present (i.e., age, socioeconomic status, schooling background, "schooling" oriented parents, English learning motivation, similar grades in the admission test for entering school, among others) and results of the sample is as follow:

	Biology	Social Science	Chemistry	Computer	Spanish	Math	Admission Test
Comparative Sample of Academic Results							
Bilingual Program							
MEAN	98.43	94.37	96.87	95.31	97.50	85.31	470.6
DIFFERENCE	13.12	-.63	12.50	2.18	.63	-2.19	2.25
	t- value 3.91		t- value 3.57	t- value .87	t- value .31		t- value 1.77
	p <0.01		p <0.01	p <0.5	p >0.5		p >0.05
Monolingual Program							
MEAN	85.31	95	84.37	93.12	96.87	87.50	468.4
DIFFERENCE	-13.12	.63	-12.50	-2.18	-.63	2.19	-2.25
			t- value .16			t- value .41	
			p >0.9			p >0.5	

Table 1 Comparative sample of academic results

Note:
- First semester results of sixteen students from both programs.
- The admission test is a requisite for entering university schools.
- Biology, Chemistry, Computer, and Mathematics instruction is in English as a second language in the Bilingual Program.
- Bilingual students selected for this sample obtained a score of 477 average in the admittance TOEFL
- The only difference between both groups is the language of instruction.

As can be observed three out the four subjects taught in English show a positive difference in the final results of academic achievement.

The difference in biology and chemistry is significant, as is shown by the high t value that emerged in the comparison of both groups. In the computer class a slight positive difference is present for the bilingual group. Conversely, the monolingual group obtained better results in mathematics than their peers in the bilingual program. On the other hand, subjects taught in Spanish in both groups do not present a significant difference. Social Science presents better results in the monolingual group while results from Spanish class favor slightly the bilingual group. Such differences are not important for detecting if teaching some of the academic subjects through a second language affects those in the mother tongue. With respect to the academic subjects taught in English, according to this sample only biology and chemistry demonstrate a significant difference in favor of the bilingual group. These results are from the first semester of high school and a lot of work is still to be done as the program advances and more data is gathered in order to complete subsequent analyses.

With regard to second language proficiency, the instrument utilized for measuring progress in language development is the TOEFL (Test of English as a Foreign Language) practice tests, as well as considering the performance of students in classes whose instruction is in English as a proof of proficiency in the second language. The TOEFL was applied as a requisite for entering to the Bilingual Program, and it will be applied at the end of each academic semester in order to determine the progress in second language development. The range of scores among students who entered the program was between 400 and 600.

The TOEFL was selected as the instrument for measuring the level of proficiency due to the many international programs in the university, those from the USA being the most widespread. The TOEFL examination is the fundamental requisite, for participating in such programs as well as for attending post-graduate studies. Because the TOEFL is a valid and reliable instrument, it can be used for stating the level of language proficiency.

Depending on the development of the program, the performance of the students and their results this test may be replaced by another. This is because of the controversy that the TOEFL generates when it is argued that this test presents limitations in measuring language skills and is only useful to measure the ability to attend classes in English. In spite of that, it is the most common here in Monterrey and is the instrument which certifies the language proficiency of the high school bilingual students.

So far the TOEFL has been applied twice to students of the program, at the beginning of the course and at the end of first semester. Results from those tests are presented in table 2, where the level of advancement by each of the four groups of the Bilingual Program is

shown. It is relevant to mention that the four groups were formed according to the results from the first TOEFL, going in descending order.

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TOEFL
Level of Advancement
During the first Semester

	Increase Percentage of Students	Increase Number of Students	Decrease Number of Students	Same Number of Students	Mean of the Increase
Group 1	78%	21	6		29 Points
Group 2	89%	24	2	1	33 Points
Group 3	75%	21	6	1	43 Points
Group 4	67%	20	9	1	35 Points

Table 2 TOEFL -Level of Advancement during the First Semester

As is shown in table 2, students in general improved their results in the TOEFL, in spite of the fact that the second TOEFL was more difficult than the first one. The group in which most students improved their results is the group two. Group three presented the greatest mean improvement. Since the differences in the mean scores is significant at the p<0.01 level, (see table 3) it appears that the students are improving their English proficiency.

t-tests for Paired Samples

Variable	Number of pairs	Corr	2-tail Sig	Mean	SD	SE of Mean
TOEFL1				447.1875	46.475	4.391
	112	.837	.000			
TOEFL2				471.4107	52.154	4.928

Paired Differences

Mean	SD	SE of Mean	t-value	df	2-tail Sig
-24.2232	28.665	2.709	-8.94	111	.000

95% CI (- 29.591; -18.856)

Table 3 Difference in TOEFL results after one semester in the Bilingual Program

Program

Because the program has been underway less than a year, it is too soon to assess definitive results from its implementation. As the program develops results will emerge which will complete the corpus of research for evaluating the program. The psycholinguistic considerations based on Bialystok's model, although are not examined in detail in this paper, present a basis to develop this program. A more complete study of this issue is necessary in the future as well as the examination of the sociolinguistic and educational implications that underlie this type of program and are necessary to examine.

Even though there are many studies that present positive results from bilingual programs, some generate controversy. Results can not be generalized because each program is developed to meet certain needs in a particular context with unique social situations and with specific students. There are considerable variations in bilingual education programs and these need to be borne in mind when drawing conclusions. Hence, systematic research on bilingual education considering theory of second language acquisition is crucial for implementing a successful bilingual program.

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