BILINGUAL SCHOOL CURRICULUM OBJECTIVES: A THEORETICAL MODEL, PROGRAMMATIC DIAGNOSTIC MODULE, AND RECOMMENDATIONS

by

Raquel Speasl

A Dissertation Submitted to the Faculty of the

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In Partial Fulfillment of the Requirements
For the Degree of

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As members of the Final Examination Committee, we certify that we have read the dissertation prepared by Raquel A. Speasl

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Raquel Speasl

DEDICATION

I dedicate this dissertation to my children, Andrea and Eric, to my sister Irma, and to my husband Paul.

Raquel Speasl

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ABSTRACT

The American educational system is in need of effectively examining its curriculum in terms of bilingual education. The existing models for developing bilingual educational programs have been divergent. This study uses T. Frank Saunders' theory of model construction as an informing hypothesis to develop a model for examining and comparing bilingual education models, and for the development of programmatic application. The development of this model considered model integration issues. The basic intent was to conceptualize a model where the categories and the variables of the model were operationalized. The ideas proposed in this study account for the evaluation and the formation of a model, for the placement of operational objectives for bilingual education, and for future direction of bilingual education in American curriculum planning.

CHAPTER 1

INTRODUCTION

There is a long standing issue in education as it relates to bilingual education. The primary question of this issue asks about the relationship between bilingual education and school instructional programs. Bilingual education has, for instance, changed from a component of the school curriculum to an accepted and recognized objective for the school curriculum. There are political, instructional, and material components of bilingual education that must be translated into instructional programs.

The formats used to bring about this translation are often unclear, divergent and self defeating. By changing the issue to a methodological one, bilingual education can be seen in a different light, a light in which the focus is on the criteria for the structures or relationships which bridge and interrelate the categories identified as bilingual education.

The criteria for these structures and categories can be given clearer articulation when a created model, a design by which the variables and components of the school program can be placed in effective juxtaposition to one another, is used to explore the bilingual/instructional programs questions. These models or designs themselves can be structured,

sequenced, and formalized. They can support the development of bilingual education *bridges* in the school curriculum.

Statement of the Problem

The specific problem of the study is to develop a generic method with which to structure and sequence different models, from the literature in bilingual education, and to integrate these forms into an effective model for bilingual education, a model which meets the criteria of adequacy which this study will provide as part of its methodology.

The problem has three subsets:

1. To identify bilingual education models that may serve as bases for setting rationale in bilingual education.
2. To examine the different meanings, assumptions and philosophies associated with bilingual education program, which have emerged from different models used to develop meaningful bilingual programs. The intent is to explore these models and stipulate them as underlying structures.
3. Finally, the theoretical dimension of the problem is to develop an effective model, through which to conceptualize bilingual education, from which more effective programmatic applications can emerge in bilingual education.

Significance of the Problem

"Model" as a definition for this study emphasizes the conditions for model building and its application toward curriculum development and programmatic application.

> One of the initial assumptions in the introduction of bilingual education to the public schools was that its presence held the potential for a scientific revolution. However, the lack of a paradigm for bilingual education limited its chances of supporting this assumption. That is, ...bilingual education was not a paradigmatic response to a central body of ideas characterized by a distinct identity or a specific community sharing and promoting that identity. (Emphasis added) (Aguirre, 1980, p. 3).

The term *Bilingual Education Models* in the United States has been used to identify: 1. the delivery of instruction, 2. the programs, 3. curriculum, etc. Trueba states that in the development of bilingual education models the developers used different criteria:

> Some look at the basic intent of a program or at the language used, while others look at the relationships of a program to the surrounding schools and social environment, while some scholars continue to study the nature of the curriculum and the use of time for language and subject matter instruction, others look at the long range trends of a program, the student populations selected for the program and the ways in which the teacher must deal with it. Finally other authors look at the program control and orientation and to the outcome for the ethnic community as well as for the dominant society." (Trueba, 1969, pp. 54-55).

Aguirre concluded that since there were so many diverse models none were necessarily replicable or inherently more effective in themselves if they were taken out of their

sociocultural, economic, political and linguistic contexts. (Emphasis added). Thus, when we talk about bilingual education models, *it is imperative that criteria be formulated to discriminate between what is bilingual education from what it isn't*. (Aguirre, 1980, p. 10).

Each model identified has different definitions for bilingual education as well as categories and variables. These disparities in approaches are inadequate to the demands for educational reform in the 1990's. The schools reinforce these disparities by approaching bilingual education through organizational formats that are no longer appropriate.

National policy for bilingual education dictates the manner in which states and local districts develop bilingual education programs. The models from which policy is derived are based on compensatory notions and ideologies about the meaning of bilingual education. As Aguirre observes,

> Adding to the confusion regarding the educational mission of bilingual education was the general fact that bilingual education was the result of legislative bargaining....To facilitate its immersion into a delicate sociopolitical arena, the 'great educational experiment' was presented as the creation of a social order sensitive to cultural pluralism, and a refection of its national interest in bilingualism... its scope of application was also reduced to minority children... As a socializing element in the public schools, bilingual education came to be portrayed as a mechanism for building protective ethnic conclaves in the schools... As a legislative creation, bilingual education was a response to a

> rapidly expending social environment in which the educational inequality of language minority children was increasing in visibility. As such, bilingual education was not a paradigmatic response to a central body of ideas and a coherent tradition of scientific research. (Aguirre, 1980, pp. 4-5).

A more comprehensive approach to examine these perspectives is needed. The desire to develop a comprehensive model has been widely supported by bilingual education researchers. (Trueba, 1979; Paz, 1980; Padilla, 1980,1981).

"Theory in bilingual education has been conceptualized mostly in the social sciences and has been advanced through these disciplines; however, the problem is to insure that the theoretical foundations developed for bilingual education achieve some cohesiveness and parsimony." (Emphasis added). (Padilla, 1980, p. *x*). Concepts, theories, and methods can be compared and presented in a framework where selected categories and variables determine the way in which these concepts, theories and methods are categorized.

Our analysis of models in bilingual education will provide categories identified as bilingual education and criteria for structures that integrate the categories; thus, supporting a more comprehensive approach where the political, instructional, and materials components of bilingual education can be translated into more effective instructional programs. Some of the problems with this transition have been stated by Aguirre:

1. The lack of specificity in the elements constituting bilingual education was responsible for not developing confidence for making decisions that would outline the parameters of a general model for bilingual education.

2. Educational technology variables became a principal means for evaluating bilingual education programs. However, the lack of consistency in the presentation of these variables, the failure to account for the interactions within a conceptual framework, did not permit for the analysis of possibilities. (Aguirre, 1981, pp. 9-10).

These are still basic problems that need to be contextualized. More complex definitions and problem solving strategies need to be identified where programmatic application can be expanded and where decisions concerning the future planning of bilingual education programs can be formulated. This study will articulate, relate, and elaborate model building in bilingual education.

CHAPTER 2

THEORETICAL RATIONALE FOR THE MODEL

> "An examination of the structure and criteria by which research is designed highlights the uniformity of the patterns of inquiry." (Schlessman-Frost, 1987, p. 14).

It is the intent of this study to analyze types of models used in developing programs in bilingual education and to suggest a comprehensive model through which integrative models in bilingual education can be made effective. These models are integrative since they impose a set of categories that are more inclusive and that provide a generic structure for the discussion of issues, problems, and development.

The assumptions have been made that the development and effectiveness of bilingual education are contingent on the models constructed by proposal writers, on the deliberate specification of model construction, and on the reconstruction of bilingual education school organization models.

Thus, for the purpose of developing a generic method with which to structure and sequence bilingual education models and to integrate these forms into an effective bilingual education model, it is relevant that the theoretical rationale for the model be identified, described

and established for future analysis and substantive recommendations.

The categories *Model Design, Categories and Variables,* and *Criteria of Adequacy* as presented in this chapter served to guide the direction for this explanation and its application to bilingual education. These categories were selected because they provided a structural sequence.

Model Design

The place of theory in the sequence of model building is proposed by Decker and Saunders in *A Model for Models.* This theory-model relationship is presented in Figure 1.

This study will follow these steps for model categories and structure setting in the development of this rationale.

Assumptions

Three assumptions were established to clarify the model concept for this rationale: 1) models are informing hypotheses, 2) models are an articulation of experience types, and 3) models are syntax lines and coordinates for objectives and criteria.

Model as an Informing Hypothesis

Man's articulation with nature is based on how he thinks. (Saunders, 1967), (Dewey, 1938), (Peirce, 1955).

3. Model Categories 1. Choice for ideas or themes 2. Abduction: initiating idea assumptions--assumption sets 3. Value emergence 4. Hypothesis or hypotheses 5. Syntax form 6. Definition Type Selection
2. Structural Setting 7. Identification of discourse and appropriate categories 8. Sorting of concepts 9. Framing of terminological scheme
1. Beginning of theory construction 10. Discontinuity in explanation--at each level the discontinuity in ideas produces a different result

Figure 1. Steps in Theory Construction Toward the Formation of Theoretical Models (Decker and Saunders, 1976, p.126).

Abrams in *The Mirror and the Lamp* presents two metaphors of mind. The first one is ontologically based, where the mind is compared "...to a reflector of external objects." The second metaphor is epistemological and suggests that the thinker is like "...a radiant projector which makes a contribution to the object it perceives." (Schlessman, 1987). This position is prevalent in the studies of Saunders, 1964, 1966, 1967; Decker and Saunders, 1976; Kant, 1904 and; Lewis, 1923).

Schlessman-Frost in *A Critique of Black's 'Models and Archetypes'* critiques Black's ontological orientation for

models. That is, his insistence on models as reality based and on the isomorphism between models and their originals. (Schlessman-Frost, 1984).

Model as presented in this study is based on Saunders' *Cube of Inquiry* and Saunders' epistemological basis for model as found in the book *A Model for Models* which suggests the idea that a model directs and thus it can inform. That is,

> "Meaning is not based on man's experiences but rather, on the kinds of instruments he uses to inform his experiences.... The depth and extent of the development of educational theory in particular and theorizing in general will be extended in direct proportion to the clarity and deliberateness with which the model problem is understood. Education for the future can only me bet by a content-less formal structure wherein the ability to restructure the sequence of forms and the forms themselves present education in the very best sense." (1976, p. 13-15).

Models as an Articulation of Experience Types

John Dewey, an advocate of Pragmatism, points out "As a mode of conduct, inquiry is as accessible to objective study as are other modes of behavior." (1938, p. 102).

He defined inquiry as,

> "...the controlled and directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole." (1938, pp. 104-105).

To Dewey, situation was not a single object or event in isolation but it was in connection with a contextual whole.

Peirce, the founder of Pragmatism, stated about inquiry,

> "The irritation of doubt causes a struggle to attain a state of belief. I shall term this struggle, Inquiry, though it might be admitted that this is sometimes not a very apt designation." (Buchler, 1955, p. 10).

Peirce proposed that change from *doubt to belief* was through a method of science in which human thinking had no effect, but affected every man in terms of universal conclusions. From his explications about inquiry, Peirce concluded with the following maxim:

> "Consider what effects, that might conceivable have practical bearings, we conceive the object of our conception to have. Then our conception of these effects is the whole conception of the object." (1911, p. 321).

In addition Peirce proposed the pragmatic semiotic for the purposes of defining meaning. The pragmatic semiotic is a relational model composed of the object in view, which he named the *referent,* the word representing the object, which he named the *representamen,* and the context or values, which he named the *interpretant*. (Emphasis added). Of this model he said,

> "A sign or representamen is something which stands to somebody in some respect or capacity, It addresses somebody, that is, creates in the minds

> of that person an equivalent sign. The sign which it creates I call the interpretant of the first sign. The sign stands for something, its object." (1932, p. 135).

An example of Peirce's Triadic method is presented in Figure 2.

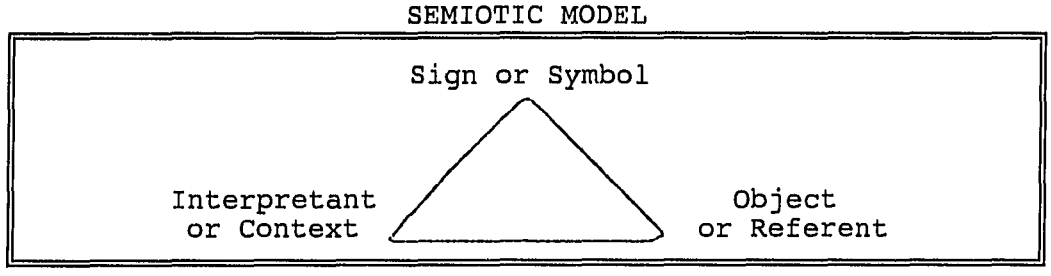


Figure 2. Triadic Method (1932, p. 136).

This structural model exemplified the object in observation as being locatable within the experiences of the observers. The rationale given for an experience is a significant contributor into the meaning of that observed.

Both Dewey and Peirce were methodologically oriented; that is, both methodological interpretations of inquiry gave consideration to the relational lines that link or connect. Dewey emphasized establishing the means and ends relationships in a deliberate manner, i.e., the emphasis is on the value of the epistemological position. Peirce focused on "the truth of that conception;" that is, the interpretant or the language, its meaning and its consequences for investigative purposes.

T. Frank Saunders related the methodological process specifically to model development by elaborating on Peirce's pragmatic semiotic. He extended the relational point which Pierce called the symbol or representamen. Saunders proposed that when the symbol as language and as a structure is examined as the object of investigation, the interpretants are redefined as definitional types and the symbol as a method or a definition of all possible meaning. This extension added a deliberate use of language for structuring purposes. That is, Saunders oriented the language toward abstractions. Thus, establishing,

1. the model concept as a *synthetic a priori* to decision making,
2. the categories as related to the language for model development and,
3. the establishment of a model for models to include the above premises.

Saunders establishes three levels of abstraction or experience. The first level proposes meaning within the immediate which holds that:

> "Things can be counted and the test of accuracy is to be found in a shared or agreed upon statement on the part of several reporters
>
> Man can discover objects and their relations but holds small sway indeed over their intrinsic meaning.
>
> Ideas refer to the grouping of objects.

> Words and ideas are to be tested for adequacy in their correspondent to their physical reference.
>
> Theory and practice are separate and of the two the practical is more important to our world.
>
> Experience is the beginning of meaning." (Decker and Saunders, 1976, p. 22).

The second level or the mediate says that "an object becomes relevant or significant only to the extent that is can be related or connected to another object by a framework generic or basic to each other." (Decker and Saunders, 1976, p. 22).

The third way to experience is the valued mediate or goal framework which "carries with it the claim that the presence of objects in perception is a sufficient condition to say one is experiencing." (Decker and Saunders, 1976, p. 24).

Saunders conceptualized the "Cube of Inquiry Model" to further the thinking process as an organizational and directing model.

> "The face of the cube focuses on the necessity for the progressive and inclusive contextualization of questions or ideas. The middle depth is designed to locate the language usage and forms characteristic of each of the levels on the first plane. The third base depth is seen as the value base (assumptions or system) for the other two planes. Each of the planes is divided into three parts preceding from bottom to top on the rule of inclusiveness." (Saunders, 1967, p. 109).

Elaborating on the issue of models, Decker and Saunders (1976) generate assumptions about the meaning of experience. It is their position that the meaning of an experience is related to the way in which the experience is given meaning. It follows that the human decision process is directly related to the framework or model developed for decision-making purposes. It is not repetition or accumulation which marks an experience but the structuring of the forms that give meaning to the experience.

Models as Syntax Lines and Coordinates for Objectives and Criteria

In model building the juxtapositioning of some basic rules to direct objectives will expand into logical definitions and organizing principles. As such, a systematizing will follow. Figure 3 initiates this systematizing by articulating the characteristics and relationships of the objective and the development of the rules that direct the objectives to their specific end.

This three level model links objectives and criteria, by differentiating depths where more inclusive objectives and criteria can be classified. This design informs by connecting the objectives to relevant criteria, by structuring the objectives and criteria in sequenced levels

MODEL COORDINATING OBJECTIVES AND CRITERIA

OBJECTIVES	CRITERIA
3rd level: (1) Establishes an administrative model that is democratically consistent (in principle), (2) theoretically adequate (structurally), (3) organizationally efficient (internally) administrative model.	3rd level: (1) Do all claims within the model support the idea that "everyone should have a say in any judgment that directly affects him?" (Democracy) (2) Is the model parsimonious and categorically consistent? (Theory) (3) Does the model articulate vertically and horizontally? (Organization)
2nd level: Confront two alternate administrative organizational forms in terms of: organizational behavior, decision making, climate, and style.	2nd level: Each organizational system must define in a pervasive way the several categories that constitute the organization.
1st level: Find specific cases of objectives at the 3rd and 2nd levels in school situations.	1st level: Take any case of school behavior at any level and develop other situations like the first case. If the two cases fit the organizational system, the first case is adequate.

Figure 3. Saunders' Model for Coordinating Objectives and Criteria at Different Levels (Decker and Saunders, 1976, p. 75).

of abstraction, and by meaningfully depicting the syntax lines that direct the different categories.

In the first level, objectives specify and have no criteria or limited criteria for their attainment. An example is an objective without any cohesive terminology specified. It is important that this level for objectives and criteria be recognized since it is a representation that does not have a set of rules. Anytime that there is replication as an explanation, a first level objective can duplicate it. Objectives at this level can answer questions related to a present situation where there is no need for a mediating instrument. If such is the case, the coordinate would represent a list of any type, a kind of laundry list.

Objectives in the second level contrast contexts, and ask, for example, "How do you know?" Given two modes for learning based on skill development and processing, how do they relate to materials, staff development, and parent involvement? At this level the syntax lines do not propose a description of an existing situation as a means to explain it. At this level there is a basic intent to organize the categories in a pervasive manner, i.e., the way in which the question will be extended or proposed to become parallel. The articulation of objective and criteria directs the objective to define that which is in view within the categories that are pertinent for their own attainment. A

contextualization occurs in which there is a contrast between what is "form" and what is not "form."

The third level may be identified as a value objective. At this level the orientation and the rules for the placement of objectives for the second level are established. "How do you know that you know?" questions develop. The syntax lines must account for all levels of the objectives and criteria. In addition the initial step is to recognize a generic framework which includes participatory democratic values and criteria for inclusion. A second step is the growth into more inclusive generalizations for structural theory construction following rigorous criteria for development. Thirdly, is the consideration for mobility whereby the structure can articulate horizontally and vertically. Thus, a cohesiveness begins to emerge at the third level where the articulation of the objectives and criteria is the basis from which any discussion about models, objectives and criteria begins. These are prescriptive and exist prior to any categorization or explanations.

Saunders defined an objective as "a goal in the process of being stated in terms of a series of tasks." (in Lee, 1975, p. 5). In addition Engle specified, "Objectives should be stated in such a way that specific activities can be directly derived. Objectives provide the evaluation criteria

for identifying and measuring the completion of an activity." (Engle, Saunders, Blake, 1981, p.25).

The syntax lines as presented by this model inform the objectives and provide criteria for future planning and goal attainment. Objectives as presented in this manner are operational. That is, the objectives represent the end and the means to achieve their own attainment. Curriculum developers who use objectives as an operationalized value in progress to develop their schooling curriculums are better prepared to attain their educational goals.

Categories and Variables

"Man's invention of categories determines his experience as well as the meaning of the world." (Decker and Saunders, 1976, p. 120).

Categories function as generalizations; they serve to organize our environment. Variables exist within each category and must be addressed within the category. Thus, the methodological process for this study includes the establishment of the grouping of categories and variables, their internal and external relationship, and the method of construction.

The analysis of categories in Saunders' *Cube of Inquiry* requires that the person must be able to recognize a categorical or generic system prior to any experience as such. This leads toward a more clear identification for

grouping of categories as a means of locating a categorical or generic system. Categorization as a system has been recognized in the study of learning and cognition. The goal of Bruner's research on thinking was,

> "To describe and in a small measure to explain what happens when an intelligent human being seeks to sort the environment into significant classes or events so that he may end by treating discriminately different things as equivalents." (Bruner, 1969, p. 3).

He proposed two basic kinds of categories, *identity* and *equivalence*. An identity category is formed by putting together variations of kinds of object; equivalence categories are built when two kinds of objects are considered similar and placed together. He continued,

> "To categorize is to render discriminately different things equivalent, to group the objects and events and people around us into classes, and to respond to them in terms of their class membership rather than their uniqueness." (Bruner, 1969, p. 1).

These types of explanations about categorization are useful in this inquiry since different decisions are made in terms of the manner of grouping. Thus supports, the propositions brought forth of a generic system of abstraction levels and their internal and/or external relationships.

As a method of construction, the categories are generative and provide the rules for the relational lines. That is, the categories generate in the sense that they have

a futuristic function which is to continue developing, structuring and sequencing.

Bilingual Education Categories

The categories for developing bilingual education come primarily from the social sciences. The knowledge for this area proposes descriptive categories that are based on world views and the consequences for that behavior. That relationship has included categories that do not incorporate the meaning of bilingual education within the relationship.

The basic debate is the demise vs. the continuation for bilingual education. Is bilingual education good or is bilingual education bad? The debate includes "melting pot" vs. "cultural pluralism," assimilation vs. maintenance, acculturation vs. enculturation, nature vs. nurture, subtractive vs. additive, normative vs. relativism, comprehensive vs. compensatory education, compound vs. coordinate, deficit vs. enrichment, etc. The debate primarily focuses on the objectives of bilingual education.

Bilingual education categories which do not propose a comprehensive view for bilingual education will not serve any purpose for this study. Those categories that propose bilingual education as a viable system for extended meaning will be placed in some format of types and levels. Thus, discriminate clusters of information come together to form new meaning—to form cohesive coordinates. The structures for

these categories set levels for a comprehensive placement of the concept and the specific behavior for its attainment. These can become vehicles for directives and rationales for instructional programs.

Value Emergence

The development of bilingual education models has primarily been descriptive in nature. There is an emphasis on the contextualization of bilingual education, on its actual environment. The desire to develop a comprehensive model has been widely supported by bilingual education researchers. (Paz, 1980; Padilla, 1980, 1981; Trueba, 1979; etc.).

The premises used for this development have lacked determinate prescriptive methodology. The categories for developing bilingual education models consistently place the transferring of bilingual education into programs at the same level and context. It does not matter how many models are developed, the problem simply does not gain insight. The lack of a contrast does not allow for a value to emerge. Within this context and based on the assumptions about models it can be surmised that:

1. Every effort to develop bilingual education programs is based upon some form or type of a model, whether articulated at the outset or smuggle into the proposals made by the authors.

2. The effectiveness of any bilingual education program is contingent on the expressed and deliberate specification of the models, theories, concepts used by the program.
3. By structuring the existing bilingual education models, this study, can expand some of the major objectives for bilingual education programs.

Limitations

Thus, the limitations for this study are at once logistic, structural and political.

The logistic limitation refers to the scarcity of models in bilingual education, i.e, while bilingual education models may proliferate, the selection of models to be included from the available literature will be constrained as a result of inadequate formulation. This is related to the application of adequacy in model theory, understanding of model problem and the rigorous development of models used to direct bilingual education programs.

The structural limitation deals with the restricted scope of application of the criteria and methods used in bilingual education model development. The current diverse political and economic variables restrict the development of comprehensive perspectives which can be used to restructure the educational system.

The variety of political orientations and the availability of funding contribute to confusion and argumentation in bilingual education; a contribution which impedes the efforts to provide quality oriented education to a large section of the American public as well as to establish bilingual education as an educational goal for American schooling.

Purpose

The articulation of bilingual education into programmatic applications has been contextualized through the law makers and curriculum developers in terms of descriptive models, i.e., the representation of the programs based on world views perspectives. There seems to be a need to examine this articulation of bilingual education and programs through a more comprehensive organizing instrument.

As we examine the idea in *A Model for Models* that models can inform, organize information through levels, and set criteria for the development of objectives, we can extract the need for a comprehensive model for bilingual education. Then we can surmise that the placement of bilingual education within the types and levels for this information processing model can help to expand the context for program development in bilingual education.

As we attempt to categorize objectives for bilingual education we must set up a sort system for determining the

objectives. A system by which there is an emphasis or uniformity of deliberateness as to the placement of these objectives.

Hypotheses

Included in the formation of a comprehensive model are specific hypotheses where clarification is needed:

1) The models used to develop meaning in bilingual education and to relate bilingual education to instructional programs are limited. New forms for interpreting will provide integrating structures. These forms will provide for the continuation and the future for bilingual education;

2) Sequencing and leveling models used in bilingual education can be restructured and each rationale questioned in a systematic manner. The manner of placement will be directly tied to the criteria set for its own formulation;

3) Models in bilingual education serve as a basis for theory development; an understanding of the model problem will serve to set parameters for theories in bilingual education. This emphasis on elaborating on the relationships provides for heuristic definitions and complexity levels for problem identification and placement.

Syntax Forms

Saunders (1969), and Decker and Saunders (1976), developed a taxonomy of syntactical models that related the types of assumption and language to the structural forms

used for model development. These categories called Target, Sequential, and Relational or Contextual furnish criteria for structuring the categories, accounts for the relational lines and refers to the construction of rather than to the description of models. Figure 4 refers to the Syntactical Model Types as categories for structuring.

Decker and Saunders (1976) make a value statement which is applicable to this situation, that it is *better* to differentiate ideas on the basis of the criteria applied rather than look to either the model itself or to the consequences of the ideas for contrast (Decker and Saunders, 1976, p. 133).

As a tool for construction, Decker and Saunders' taxonomy proposes forms that can be used for the development of models and to describe substantive models.

From this perspective on models it can be inferred that the manner of arranging what is investigated depends on the models used by the inquirer. Models as presented in the literature have diverse explanations and it is pressing that the model user define the term as it applies to the function the model served.

For the purposes of this study which is to develop a comprehensive model, a relational model will be used. The rationale for this model is that it offers the structural

SYNTACTICAL MODEL TYPES

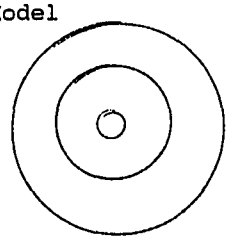
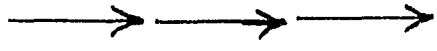
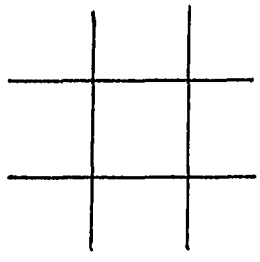
MODEL TYPES	CRITERIA
Target Model 	The first model could be termed a target model inasmuch as each term, concept, or ideas is left as an inclusion case of the more generic classification. The language necessary for this classification includes such terms as "inside," "outside," "included in," "generic to," "class of," "set," etc.
Sequence models 	The second type could be labeled a sequence or chronological model. The language appropriate to this kind of model would be "ahead of," "behind," "in line with," "a step on the continuum," "rand order," "cause," "direction," etc.
Contextual or Relational model 	The third type of model is a more complex framework and could in all likelihood be seen as a model capable of exhibiting all of the relationships of other models given a proper topological expression. The language appropriate to this type of model would include the language of the other models as well as permitting the term relational or contextual to gain new status. Experience is had in terms of the model adopted as the instrumentality for experience.

Figure 4. Saunders' Syntactical Model Types (Decker and Saunders, 1976, pp. 20-30).

setting for the examination of other syntax forms. The model itself is comprehensive yet parsimonious. It includes the language of the other models. The relational model as a syntax form provides us with inclusive levels for the examination of models. Schlessman-Frost points out that in the development of an integrative model that establishes the relationships among the categories and components, it is necessary to use a relational-contextual model type. (1987).

Criteria Of Adequacy

> "The meaning of an experience is settled by setting up the rules by which the experience could have meaning." (Saunders, 1967, p. 100).

Adequacy, as presented by Bigge, includes that all known parts may be taken into consideration (Bigge, 1981, p. 66). Criterion as defined by Baldwin is, "Literally, a test or a standard of judgment." (Baldwin, 1911, p. 245).

Criterion as presented in this study is pragmatic. Saunders best exemplifies the essence of the pragmatic method by pointing out that the idea of pragmatism, which has had an impact on philosophy and science, is a *criterion of meaning* used to assert that the meaning of a concept is to be found in its usage or consequences. (Saunders, 1967, pp. 82-83). He continues that Peirce noted two major features of pragmatism. First, it specifies the conditions under which language is meaningful and second, it locates

the meanings of propositions in the terminate consequences of those propositions.

These concepts bring forth three main ideas for the definition of criteria of adequacy as used in this study:

1. The inclusion of all known categories as presupposed by
2. specifications of conditions under which the language of the categories are meaningful and are valued as
3. the determinate consequences of those propositions.

This position theoretically allows for inclusion which best suits an integrative approach. It also imposes a generic stance where all possible or known considerations are presented and further serves a categorical usage that intercrosses or bridges forming levels of meaning.

Champlain stated the following criteria as bearing upon education theory:

1. Must be normative--indicate selections and rejections from alternatives, offer a warrant, a criterion of soundness, and submit itself to the scrutiny of those concerned.
2. Must be precise rather than vague and ambiguous—if the profession is to build common understanding and public responsibility and to provide for cooperative efforts to achieve common ends (education a profession of many joining over many issues).

3. Must distinguish the domain of the profession from what it is not.

4. Must frame problems capable of solutions with procedures for solution built in. It must be methodological. It must indicate means to be employed for gaining ends. It must formulate ends so that means are locatable. It must be practical.

5. Must direct us to something publicly locatable—something confrontable that we can recognize as influencing.

6. Must be procedural—yield commonly understood procedures and directives. Otherwise, no public scrutiny and criticism is possible. Specifically what is accepted and rejected is not known.

7. Must make a difference to affirm and to employ. Some things and not others should happen, public anticipatable, commonly expected results, predictions, not everything flows from it or is it.

8. Must be sufficiently general as to deal with what comes into the scope of education as well as provide for public determination of what does come into scope.

9. Must be empirical in character in the sense that the evidence used is public as in the courts, medicine, etc. The method of science must operate as thoroughly as in any other public institution.

10. Must yield to or permit ethical controversy. Must permit joining of inquiry over curriculum and other issues without ambiguities and vagueness, with a common or public procedure recognizing that it will stand or fall only as judged to be adequate by others. (Champlain, 1961).

It is relevant for this study that we include the structuring of a two parallel system and that the rules for structuring be the same. Normative, as perceived, does not apply to a particular language such as English to set a

standard, but it applies to the criteria used for the development of this parallel system. This also applies to the selection of categories for bilingual education that they be derived from the meaning for bilingual education, thus not directing us to forms that are not bilingual education.

Also the following criteria were used for structuring theoretical models. These were derived from Decker and Saunders. (1976, pp. 144-146).

1. Vertical lines must be of a lateral relational significance as in "more of" or "less of," "before" or "after," "basic to" or "in depth cases of," etc.

2. Vertical axes must bear a fixed relationship (not for descriptive models) to horizontal axes.

3. Lines marking level changes must be identified and explained. (Criteria for changes in meaning or descriptive function must be clear.)

4. [The inquiring user] should be able to eliminate all concepts and still recognize a change in emphasis parallel to other emphases at [the] same level (e.g., indentations).

5. [The model] must reflect an isomorphic relationship to another model.

6. [The model] focuses on "as if" thinking.

7. [The model] brings any two things together and regards them as related or relatable.

8. [Theoretical] models [are] deliberately constructed for purposes of seeing more in a situation or in an event than we could otherwise see, or of seeing what we could not otherwise see at all.

9. The model can in no way be reduced to its object or become dissolved into the event being explored and explained.

10. [The model] often refers to empirical events but does not derive from them.

11. [The model] is invented in order to recommend that the internal relationships from one event can be advisedly used to reveal or illuminate the internal relationships of some other event in order to comprehend some bigger pattern.

12. [The model] does not have to reflect the appearance of the object it is trying to explain.

13. [The model] may inspect other models of any elaborate variety.

14. [A theoretical model is] concerned with offering an account of both the inner and outer phases, and propounding a *principle* to explain the whole.

15. [A theoretical model is] a systematic repertoire of ideas by means of which a given thinker describer some domain to which those ideas do not immediately and literally apply.

16. [Theoretical models are] useful as blank formats through which a variety of ideas may be processed.

17. [A theoretical model] helps inquirers "push the boundaries" of their thinking.

18. [A theoretical model] helps to organize the descriptive models but also gives rise to models of more extensive varieties.

19. [In theoretical models} quantitative measurements are organized through theory.

In addition Schlessman-Frost provides criteria for an integrative model:

"1. *Integrative model*: The model would establish the relationships among the categories and components. This necessitates the use of a relational-contextual model type.

2. *Hierarchical structure*: Based upon the assumption of levels of experience, the categories would be hierarchical, establishing the generative relationships among values, structures, and content. This would overcome the problem of superficiality.

3. *Methodological rigor*: This includes attention to model and category construction and the minimum cannon of logical rigor.

a. The model is legislative. It is not limited to data collection, measurement, or monitoring.

b. The model is constructed based on informing hypotheses. This avoids the error of "Baconian simplicism," the naive assumption that the observation of facts is a simple process of mere recording (Cohen, 1926, and 1961, p. 77).

c. The model satisfies the minimum canons of logic. There is:

i. no *generic* fallacy "where terms are misused by eclectic adoption without redefinition in each instance"

ii. no <u>reductionistic</u> fallacy - a reductionistic error is made when there is a confusion between something and the conditions under which that thing occurs.

iii. no false dichotomy

iv. parsimony - This is the use of the simplest assumptions and least number of criteria to explain the most. As Peirce is quoted in Baldwin's *Dictionary of Philosophy and Psychology*, "It is bad scientific method to introduce...independent hypotheses to explain the same facts of observation." (Vol. 2. p. 264).

d. Selected categories comprise the model. The criteria for inclusion and rejection or categories are clearly defined, and therefore public and reproducible. Furthermore, the categories are:

i. exhaustive, comprehensive — No analysis or description is complete until each category of a subject matter field

(universe of discourse) needed to identify the topic has been explored

ii. necessary — The necessary categories to describe or explore a topic must be included regardless of the numbers of other categories which are used

iii. mutually exclusive — The categories should not overlap and merge into one another. A clear criterion must be specified for each category thereby keeping the categories separate.

e. The syntax of the instrument should reflect intended structure, the relationships of the concepts, categories and variables.

4. The model includes both theoretical and qualitative meaning." (Schlessman-Frost, 1987, p. 40).

Definition of Terms

This section of Chapter Two provided definitions for the terms used in this study. The definition for each term was expanded, levelled and explained as lexical definitions, expert definitions and operational definitions. These definitional types were defined in the following contexts:

1. *Lexical definitions* — as presented in dictionaries.
2. *Expert definitions* — as stated by authors credentialed in their field, i.e., recognized by their peers in the field.
3. *Operational definitions* — as used and incorporated in the intended model to be developed in this study which may include lexical and/or expert definitions generated for this study.

The terms are intended to be cohesive, sequential and pervasive and each term built on other terms. The primary purpose was to develop an interwoven definitional usage of terms for this study. A secondary purpose was to develop an interdisciplinary definition of terms of bilingual education.

Identification Of Discourse

Discourse is related to the area wherefrom general or specific knowledge is derived. The social scientist works from methods that are based on the behavior of groups within his/her environment. This particular discourse used Kuhn's definition for models. Kuhn contends that,

> "Men whose research is based on shared paradigms are committed to the rules and standards...and continuation of a particular research tradition...paradigm is a criterion for choosing problems that while the paradigm is taken for granted can be assumed to have solutions. To a great extent, these are the problems that the community will admit as scientific or encourage its members to undertake. A paradigm can even isolate the community from those socially important problems that are not reducible to public form, because they cannot be stated in terms of the conceptual instrumental tools the paradigm supplies." (Kuhn, 1962, p.96).

Those who have developed models in bilingual education have used the terminology and the methods used in the social sciences to develop bilingual education models. Paulston in *Bilingual Education Theories and Issues* tells us that,

> "By paradigms, Kuhn means the way a scientific/professional community views a field of study, identifies appropriate problems for study, and specifies legitimate concepts and methods." (Paulston, 1980, p. 15).

The concept for model as proposed for this study is an alternative method to Kuhn's insofar that it establishes that a model can be constructed, that this construction serves to differentiate model types by levels. Saunders stated,

> "The basis of all subject matter analysis is to be found in the construction of inquiry for the area of specialization. The essential ingredient for inquiry are found only on abstractions and the deliberate imposition of generically framed meanings on some subject matter which the model itself determines the meaning of the data concerned." (Saunders, 1967, p. 87).

This definition is more inclusive in its methodology. In addition it does not provide for the solution of a problem based on outside influences. It allows for the problem to be located and developed within its on characteristics.

Since the model concept as presented in this study is an invented construction based on rules for its construction and is an alternative, it is important that this change discourse be identified. The social scientists place problems on the assumption that a solution exists based on paradigmatic shift. This shift is not based on a level of abstraction but on the replacement of one model for another

model without a coherent system. As presented, Saunders' methodology has not been used for model development in bilingual education.

Sorting of Concepts

Saunders (1967) proposed the "Cube of Inquiry" as a generic thought system which generates complexity of level thinking. It is a model for discussing inquiry levels and depths and provides for the specific objectives of this study a referential framework wherefrom to distinguish some different types and levels of intermodel relationships and thus, a methodological process.

The theoretical rationale for this study proposed the *Cube of Inquiry* (See Figure 5) as developed by T. Frank Saunders as the methodological process by which the literature was perused and the bilingual school curriculum model proposed was developed. The *Cube of Inquiry* has been applied to various investigations and subject matter such as model building (Decker, 1976), cultural issues (Washburn, 1970), cross-cultural inquiry (Schlesman-Frost, 1987), negotiation models (Bockman, 1978) and (Garin and Saunders, 1973), and evaluation (Engle and Saunders, 1981).

Thus, applying the cube of inquiry to develop bilingual school curriculum objectives was intentional and viable. In addition it will serve to amplify the heuristic definition for bilingual education as applied and extracted for this study.

Cube of Inquiry

1.1 There are some *things* that can de described.
1.2 There are ideas which can be *contrasted*.
1.3 There is a *value* which functions to *decided* between any two alternatives presented.

Saunders further suggested that:

2.1 There is a *language* that is used to describe things.
2.2 There is a *language* in which rules and *criteria* of adequacy are expressed in direct sequence to contrasted ideas.
2.3 There is a continual *value conflict* which may be partly resolved if the "value-laden" hortative language is examined and any determinate referents identified.

As a final series, the cube establishes that:

3.1 There are *beliefs* in some *ultimate reality* which are not questioned and that function to close off questions of epistemological variety.
3.2 There is sufficient material to *trace in elaborate paths* the *written history* of most ideas or constructs, especially where there is a conflict between "reality claims" and "how do we know we know" positions.
3.3 There is some sense in which an *overarching model* must be foreseen in order to develop any series of ideas and by which a monitoring process can trace the path of any sequence toward any goal anticipated by the overarching model.

Figure 5. Saunders' *Cube of Inquiry*, (Decker and Saunders, 1976, p. 147).

Cube of Inquiry as Applied to Bilingual Education

As we examine the idea that model for models can inform and organize reality, it is necessary to place bilingual education within the model for models concept.

1. Bilingual education as direct and immediate proposes classroom activities, dual language systems, Title VII legislation, etc.
2. Bilingual education as contextual and mediate proposes theories, methods, comparisons, etc.
3. Bilingual education models as prescribing and valued mediate propose a set of rules by which multicultural goals in a democracy direct the development of the model.

As we attempt to categorize bilingual education models we must set up a sort system for determining the language. A system by which there is an emphasis or uniformity of deliberateness as to the placement of these objectives. Thus, the following explanation serves to identify bilingual education as related to the *Cube of Inquiry* model (See Figure 6).

A MODEL FOR INTERRELATING THE LEVEL OF A BILINGUAL MODEL, ITS LANGUAGE STRUCTURE AND VALUE BASE

Level Category of the Model	Questioning Level Models and Designs	Language & Structure Categories and Variables	Value System Criteria of Adequacy
3rd Level e.g.: perspectives world views values goals objectives directives decisions	1.3 (There are models that prescribe, set direction of theories and categories)*	2.3 (There are value conflicts that need to be examined through language used)	3.3 (There is a comprehensive view of bilingual education theory that must account for all the frames in this model; generic inclusion)
2nd Level e.g.: categorizing classifications criticisms comparisons alternatives frameworks contexts	1.2 (There are models that contrast theories; set structures)	2.2 (There is a language in which rules and criteria of adequacy are expressed in direct sequenced to contrasted ideas)	3.2 (There are criteria based on reality claims or "how do we know we know positions")
1st Level e.g.: terminology substantive theory empirical research lists facts data	1.1 (There are models that describe something)	2.1 (There is a language that describes and does not structure nor categorize)	3.1 (There is a lack of criteria or limited criteria for illustrative purposes)
MODEL RATIONALE *The parenthetical remarks can be used as guidelines for inclusion of content in each square.	Developers of bilingual education models intend to provide direction and to establish appropriate categories and criteria for the effective development of instructional programs. In developing the theory, they may exclude values. By using a comprehensive model to include all categories used by theorists, the inquirer can more effectively valuate the "integrity" of the model. Both model theorist and critic can contribute to model construction theory and to the discourse of bilingual education.		

Figure 6. Model for establishing relationships and organizing information adapted from *A Model for Models*.

CHAPTER 3

LITERATURE REVIEW

This review of the literature was based on the criteria for model comparison established in Chapter Two. The information found was placed in a sequential order for model building and identified criteria for model coherency.

This literature analysis was specified to identifying integrative categories in the development of bilingual education program models. It dealt with the presumptions and assumptions which form the basis for the systems of logically related propositions, relationships, terms and language known as bilingual education models.

The placement of bilingual education models from their use of limited criteria to more comprehensive and integrative criteria included the close examination of the qualitative language used to build the model and the placement of the bilingual model within this format. The bases for sorting out the ideas were the *Cube of Inquiry* and *A Model for Models*. As such, the ideas were placed on experience as immediate, experience as mediate, and experience as value mediate. That is, from the most basic positions to the most integrative perspectives which most paralleled the propositions elaborated in this study, which were incorporated into Chapter Four.

Bilingual education models from related literature were sequenced as follows:

1. Descriptive models lacking coherent basis.
2. Comparative models as the categories and the variables used for intermodel comparisons.
3. Integrative models that provided this study with a base for a generic bilingual education model and functioned as a stepping stone to the ideas developed in the recommendations for this study.

Descriptive Models

American schooling represents the democratic concept and the idea of respect for all cultures and multicultural goals. These goals have provided a viable forum for sharing and communicating. Bilingual education has become one of the valued objectives for this purpose.

Bilingual education at an international level is valued but when it comes to the placement of educational programs at the local specific level, the transferring systems or models used to design programs have been bundled in political controversy. There is a need to redesign these models so that bilingual education be valued for its educational results.

The history of some of the issues in bilingual education will serve to guide us through the complexities

which have clouded the glasses of bilingual education curriculum developers in the United States.

Bilingualism has been defined in many ways. Andersson, in *Bilingual Schooling in the United States*, notes the following: Bloomfield says that it is the control of two languages in 1933; Haugen adds *native like control* (1956); Diebold includes a passive knowledge which required the users only to understand speakers of another language not to speak the language themselves (1961); and UNESCO (1960) specifies in its description the following elements: number of languages used, types of linguistic relationships between the languages, function of the language, degree in proficiency in each language, alternating or switching of the languages, and interaction between two languages. (Andersson, 1970, pp. 15-16.).

Ferguson applied bilingualism to society and called it *diglossia* where a society uses more than one historically distinct code (1959); Gumperz (1964) and Fishman (1965) continued this societal application where two or more language varieties were normatively employed distinctly and for complimentary functions. Mackey proposed categories for proficiency and function to include respectively, *partial bilingualism, passive bilingualism, home bilingualism, street bilingualism and school bilingualism*. (Mackey, 1972, pp. 41-65).

Thus, when the concept of bilingualism was introduced into the American school systems as bilingual education, the bilingual school was defined by Andersson in *Bilingual Schooling in the United States*,

> "If bilingual school is thought of merely as a form of foreign-language education, it already has one strike against it. ...although bilingual schooling does involve the learning of two languages, neither is foreign." (1970, p. 57).

Saville and Troike in *A Handbook of Bilingual Education* defined bilingual education as an educational program in which two languages are used as the mediums of instruction. (1971). The U.S. Office of Education in *Title VII-Bilingual Education Act* (1974) proposed that a bilingual education program means a program of instruction, designed for children of limited English-speaking ability. Instruction is given in English and, "to the extent necessary" to allow a child to progress effectively through the educational system, the native language of the children was allowed in all subjects of study.

Bilingualism came to be associated with negative attributes and implications for intelligence. The lack of academic success for other than English speakers in an English only school setting was attributed to their bilingualism and the rationale for such behavior which included *disadvantage, a handicap, and a learning problem*. Diebold concluded in his studies that what has been

presented as a lack of intelligence was more likely related to the lack of verbal ability in English. Peal and Lambert in 1962 agreed that true bilinguals are not only at par with monolinguals but surpass them in both verbal and non verbal intelligence tests. "The basic themes that seem to run through the literature on testing Mexican-Americans' IQ's are those of (1) the proper language for testing, (2) the proper test and (3) the proper norms." (Cohen, 1975, p. 44).

In addition, the school system came under political pressure to establish successful programs particularly since the population for other than English speaking students had grown immensely from 1960-1980 and were receiving inadequate education.

> "In 1960, achievement scores and median years of school attended by Mexican American children were alarmingly low in contrast with national norms. In California, for example, 50 percent of all Mexican Americans 14 years of age and older had not gone beyond the eighth grade, in contrast with 25 percent of the national sample. Several school districts, notably Dade County (Florida) and San Antonio (Texas) developed bilingual programs with monies from private foundations (Ford Foundation, for example), and began to demonstrate high levels of academic success with selected Hispanic student populations. Similar experiments took place in other states, such as California and New Mexico." (Trueba, 1989, pp. 87-88).

The necessity for the success of other than English speakers in the school system led to the establishment of policy and litigation allowing for the use of the native

language as the instructional language for these students. This was the beginning of a power struggle for funding based on the old debate of learning English vs. the use of native language instruction.

The Bilingual Education Act--Title VII of the Elementary and Secondary Education Act (ESEA) was enacted into law in 1968 by President Lyndon Johnson. Meyer and Feinberg in *Assessing Evaluation Studies: The Case of Bilingual Education Strategies* provide the following chronology: The act was reauthorized in 1974, 1978, 1984 and 1988, and it will need reauthorization in 1992. The early Act included certain limitations: students of poor background, did not prescribe native language or culture in instruction. In 1974 the act excluded the *poverty* issue, and included the child's native language and culture. In 1984 four to ten percent of the total appropriations went for Special Alternative Instructional Programs that did not required native language instruction. In 1988, up to twenty five percent of federal funding for bilingual education programs were appropriated for Special Alternative Instructional Programs. (Meyer and Feinberg, 1992, pp. 111-112).

The Supreme Court maintained a liberal philosophy as it applied to language learning. It passed *Meyer v. Nebraska* in 1923 which invalidated suppressive legislation prohibiting

the teaching of foreign languages and, *Lau v. Nichols* in 1974 a decision which declared that it was unconstitutional to deprive linguistic minority students of educational opportunities on the basis of language differences. (Teitelbaum and Hiller, 1970).

After the passage of *Lau vs. Nichols,* the Office of Civil Rights responded with the *Task-Force Findings Specifying Remedies Available for Eliminating Past Educational Practices Ruled Unlawful under Lau v. Nichols.* These remedies went beyond the *Lau* decision: they required that bilingual education of some form be provided at the elementary school level in cases where injustice was found; an "English As a Second Language (ESL) program was deemed acceptable at the middle school level." (Meyer and Feinberg, 1992, p. 3). During the Carter administration in 1980 the *Lau* regulations proposed that bilingual education be mandated in grades K-8 by 1981. The *Lau* recommendations were withdrawn under the Reagan administration.

In New Mexico in *Serna v. Portales,* the courts found that Mexican American students' constitutional rights had been violated and ordered bilingual education programs to be set up. This plan was particularly significant in that bilingual instruction was prescribed for English-dominant Chicanos and Anglo students. (Teitelbaum and Hiller, 1970).

In New York in 1972 in the case of *Aspira of New York, Inc. vs. Board of Education of the City of New York,* Puerto Rican students, who were receiving instruction only in ESL or no particular instruction, to meet their particular linguistic needs, challenged the New York School System. The court required that the school district assess the students' skills in English and Spanish and to provide core instruction in Spanish for those students not fluent in English. (Teitelbaum and Hiller, 1970).

School systems have provided defenses for their lack of programs for minority students; however, the courts have not been receptive to budget concerns, contract rights, number of students, and avoiding minority-student segregation. (Teitelbaum and Hiller, 1970). Although the judicial process did provide for the acceptance of a foreign language or a native language as the language of instruction, it did not require that the states set up procedures and directives for public scrutiny nor that it be empirical in character.

An important concern for bilingual followers was the lack of a shared forum for the use of native language instruction. This was and is not an easy accomplishment due to emotional issues about patriotism and language usage in this country. Ruiz tells us that even though English in the United States has not been declared the official language, it has primacy over all other languages. (Ruiz, 1988).

Opposition to the use of languages other than English in school and in public life has been responsible for such initiatives as Proposition 63 which passed in California in 1987. In addition, other states have declared similar legislation. The largest private organization to move for prescriptive language legislation in the United States is the English Only Group, or U.S. English Initiative. It is headed by Senator Hayakawa. Galvan cites the following statement made by the senator,

> "We have unwisely embarked upon a policy of so-called bilingualism, putting foreign languages in competition with our own. English has long been the main unifying force of the American people. But now prolonged bilingual education in public schools and multi-lingual ballots threatens to divide us along language lines." (Galvan, 1986, p. 5).

For political justifications and the use of federal funding, national evaluations were assigned by Congress to determine the success of bilingual education. These evaluations have included: The American Institutes for Research (AIR) Report, *Evaluation of the Impact of ESEA Title VII Spanish/English Bilingual Education Program* in 1978, *Proposed Research Plan for Bilingual Education* issued in 1978, *Study of Significant Bilingual Instructional Features* started in 1979 and completed in 1982, The Baker and de Kanter document on the *Effectiveness of Bilingual Education: A review of the Literature* in 1981, *The National*

Longitudinal Evaluation of the Effectiveness of Services for Language-Minority Children begun in 1983 and ended in 1988, the *National Longitudinal Study of Immersion and Dual Language Instruction Programs for Language Minority Children* begun in 1983 and ended in 1988, and the *National Longitudinal Evaluation of the Effectiveness of Services to Language Minority, LEP Students* begun in 1983 and ended in 1988. (Meyer and Fienberg, 1992, pp. 111-112).

For every national report that has reached negative conclusions for the use of native language instruction there has been a rebuttal. Noel Epstein, in *Language, Ethnicity, and the Schools*, attacked the effectiveness of bilingual education based on the American Institutes for Research (AIR) Report. (1977). A rebuttal for this position was given by Cardenas and included at the end of Epstein's book. He stated,

> "...bilingual and bicultural education are not only pedagogically sound concepts, but are a positive step in bringing about equality of opportunity and the realization of the American dream for populations being excluded from the political, social economic and educational mainstream." (Epstein, 1977, p. 84).

The Baker and de Kanter study in 1983 was requested by President Jimmy Carter. The study examined 39 transitional bilingual programs. The results were that the prescription of bilingual education was not necessary. These results were questioned in terms of the methodology used. Willig in 1987

made a critical analysis of the report and found many problems with the analysis. (Willig, 1987).

In addition, the relationship of English as a Second Language to bilingual education has greatly fluctuated. The successes of ESL were not considered optimal in the education of Chicano and other language minority children because it ignored all incompatibilities except that of language (Gonzalez, 1975). "Successful ESL classes accelerate the acquisition of conversational languages...A useful supplement...is ...'sheltered subject matter'...(It) is not a substitute for bilingual education, but is a supplement." (Krashen, 1988, p. 24).

This behavior to set up a bilingual program, regardless of a cohesive purpose or an organizing system, led to innumerable arrangements based on substantive issues.

As bilingual education became an objective for the public school system, different types of programs and definitions for programs were developed. As there was a continuum for program development there was also advocacy for assimilation or pluralism. From the sociolinguistic perspective which considered the relevance and effects of bilingual programs upon language use beyond the school and within the wider community, Kjolseth stated,

> "Hence a bilingual program which fosters bilingual use outside the school and norms of stable and balanced diglossia is one which can be

> said to promote linguistic pluralism whereas a program which restricts or inhibits use in other than school domains and erodes diglossia community norms is one which must be characterized as promoting linguistic assimilation. In other words, a bilingual program's social effectiveness is seen in the school domain's qualitative and quantitative effect upon the *use* of each language in other community domains." (1976, p. 5).

Within program definitions various bilingual "models" were established to determine the type of programmatic application. The literature continuously refers to these as transitional, maintenance and enrichment and are the bilingual education model categories most commonly referred to for the description of bilingual programs. (Fishman and Lovas, 1976).

Comparative Models

Typologies are the most common way of using models in bilingual education. Fishman proposes that a typological approach indicates the type of community and the type of bilingual education program that such a community requires. "These 'types' are presented as idealized as 'conceptual' guideposts, to clarify underlying parameters, rather than as exhaustive reflections of reality per se." (Fishman, 1977, p. 114).

Gaarder demonstrated that *bilingualism* and *bilingual education* mean many essentially different things. "If it were extended to show all combinations of the attributes listed for each language, there would be several times

the...types noted. A further extension to include the pedagogical components of the bilingual school itself would produce thousands of types." (Gaarder, 1967, p. 34). Gaarder's topology suggests fifty four distinctions. Mackey's (1970) typology proposes ninety different patterns of bilingual education schooling. These types of typologies are monumental. For the purposes of this section of the chapter the study concentrated on program model types.

As bilingual education became an objective for the public school system, different types of programs and definitions for programs were developed. As there was a continuum for program development there was also advocacy for assimilation or pluralism. (Ksoljeth, 1973) and (Aguirre, 1980). Within program definition various bilingual models were established to determine the types of models for programmatic application. The literature continuously refers to transitional, maintenance and enrichment as the most common program models in bilingual education. (August and Garcia, 1988), (Lessow-Hurley, 1990), and (Hakuta, 1986). As such, all program "models" as defined in bilingual education can be presumed to belong to these model types. (Paz, 1980 and Trueba, 1980).

Transitional Model

The *melting pot* world view had accepted bilingual education under the name of transitional programs. This

position is rooted under the theory of assimilation which has as its underlying premise the exclusion of other than English cultural characteristics to bring about inclusion into American society. Its basic intent is to place students for a limited amount of time in native language instruction and then to transfer the students to an all English program.

The transitional model became the most commonly acceptable model within the American educational system. Anderson noted that the teaching of a language solely as a bridge to the official language cannot be considered bilingualism nor foreign language teaching (1970). Fishman commented that when a language is abandoned, as a result of a language shift, socially "unstable" bilingual communities can be observed (1964). This situation has also been reported by Fillmore-Wong (1991). "I have long said that transitional programs would more efficiently lead to the extinction of native languages in this country than any amount of repression has succeeded in doing in the past." (Troike in an interview with Epstein in Epstein, 1977, p. 34).

This language shifting occurs in *rapid acculturation* programs that are established in public schools systems. (Troike, 1971, p. 25). "Within these transitional or assimilative models, the aims for bilingual education were to keep students from not needing bilingual education."

(Wong- Filmore, 1978, p. 92). The goal is to help the *NES* (Non-English Speaker) and *LES* (Limited English Speaker) children to maintain cognitive development and academic programs while they were learning English.

Basically there has been a trend in many bilingual programs in the United States to place limited English speakers in a bilingual program to exit them to *all English* programs as quickly as possible. "It is observed that students who are classified as *English proficient* after relatively short stay in a bilingual program and are then exited to an all English program, often fall progressively behind grade norms in the development of English academic skills." (Cummins, 1980, p. 37). Another interpretation is presented by Fishman who states, "Particularism.....is most commonly thought to be associated with parochialism, with intimacy but yet with isolation and exclusively, with smallness in size and outlook." (Fishman, 1969, p. 4). The most valued model for this type of thinking is the belief that American society is and should be regarded as a single, homogeneous entity. (Figueroa, 1979, p. 32).

In addition, bilingual education was classified under compensatory programs. Compensatory programs as applied to bilingual education were based on the philosophy that non-English language constitutes an educational "handicap" for a child entering school and should be gradually replaced by

English. (Anderson, 1978, p. 17). These programs were designed to bring children into the mainstream of the society. The bilingual component of the child's education was considered temporary until the child is "caught up" with children from English speaking families.

The transitional model based on compensatory notions was first established in the first *Bilingual Education Act* (1974). The policy favored the quick transition to English. Epstein believes that the reason why bilingual bicultural proponents do not support transitional programs is due to the fact that the students who become educated in English as well as their native language will sooner find the use of English as the more useful language in American society. (1977).

In bilingual education program development, the transitional model signifies the least likely alternative toward meeting the objectives for bilingualism. In the United States the directives to educate its diverse populations are policy statements that lack a comprehensive perspective. The model allows for the use of two language instruction for a relative limited time and does not place any value on first language literacy after exiting the student from the program.

Transitional models do not constitute bilingualism for the intent is the demise of native language usage. The value

system which directs this type of program application is assimilation which emphasizes ethnocentrism toward one language system. In the United States this is on learning English only. As such it does not provide for the transferring from one language and culture to another language and culture. Both the *Title VII Bilingual Education Act* and English only proponents lead this type of thinking.

Maintenance Model

Maintenance or *maintenance of culture* became another term for interpreting programs in bilingual education. This was based on cultural pluralism as a world view. The emphasis was to establish bilingualism and biculturalism as a permanent part of the education of minority children and perceived as going into future generations. (Turner, 1973). This was in direct opposition of the public policy of perpetuating and promoting a separate or divergent future to children who were not English speakers. (Turner, 1973). This definition led to the *Maintenance Model* in bilingual education programmatic application. It is important to note that the maintenance model is still viewed under the umbrella of compensatory programs.

Epstein's argument against maintenance programs was the continuation of native language instruction to a minority student that already knew English. In his view this should not be the responsibility of the federal government. (1977).

August and Garcia define bilingual maintenance programs as targeting students from two distinct language groups.

> "Their purpose is to achieve proficient bilingualism, both linguistically and academically, in these students. Therefore, instruction is consistently provided in both languages. For those students whose native language is not English, special curricular attention is paid to developing the native language while acquiring English. For those students whose native language is English, particular curricular attention is paid to developing the 'target' second language (the native language of student peers)." (August, 1988, p. 40).

Maintenance programs according to Lessow-Hurley are language maintenance programs that are pluralistic and promote bilingualism and biliteracy for language minority students. She supports this conclusion in terms of the transfer of concepts and skills from native to second language learning, a strong basis in a first language facilitates second language learning and the support of the native language and culture builds self-esteem and enhances achievement. (1990, p. 16).

Maintenance models have been proposed as an alternative to transitional models. The supporters of bilingual education based on the idea that literacy can best be achieved through native language instruction and that the native language literacy was to be preserved. In addition, English was to be taught as a second language. Other

rationales included developing positive self concept, knowledge of one's cultural history, etc.

This program was differentiated from transitional in that either the exiting from the program was based on a longer period of time or there was no exiting. Cultural pluralism perceived as the inclusion of cultural differences in the society was the directing value. In addition, it was compensatory in idea and only applicable to non English speakers. Both of these issues have been questioned in program development.

Maintenance of language or native language instruction has its value when the purpose is to strengthen the native language for children who come with a limited education, to strengthen the native language because it is in danger of extinction of usage, to provide for children who have not learned to read a basis for knowledge while they are learning a second language and/or to enrich the first language. Whereas transitional programs do not support bilingual objectives, maintenance programs do.

Bilingual schooling has remained within the *transitional-maintenance* format for funding purposes. Thus, it is only applicable to those students who are transferring into the new language and culture. It is necessary that bilingual education be intercultural in nature and an appropriate education for the enrichment of an individual.

The interaction is not just among immigrants but it is among all types of people. Its intent must be to enrich for cross-cultural awareness and development.

Enrichment Model

Enrichment programs are primarily those that have conceptualized bilingual education programmatic application as immersion models. This type of model was based on the international model and the learning of a second language is its main purpose. Lambert and Tucker in 1972 as well as Cohen in 1975, studied immersion programs in Canada and in the United States. Through these investigations, the results showed that students developed cognitively at grade level in the home language, English, while the instructional language was French.

When immersion was first introduced into the United States from Canada, Hernandez in *The Inadequacy of English Immersion Education as an Educational Approach for Language for Language Minority Students in the United States* questioned its practicality for programmatic application in the United States and the need of native language instruction for other than English speaking students (1984). As a result, bilingual education developers did not accept this approach.

Lessow-Hurley in *The Foundations of Dual Language Instruction* describes three types of immersion programs: 1)

Enrichment — Bilingual biliteracy for majority students, 2) *Two-way* — Bilingual biliteracy for majority and minority student, and 3) *English immersion* — for minority students (1990).

August and Garcia define Canadian immersion programs as placing early grade emphasis on French for native English speakers.

> "Students enter kindergarten or first-grade classes that are conducted by monolingual French-speaking teachers. This early immersion into French is kept rather exclusive of the English until the second or third grade, when English language instruction in the form of a language arts program is introduced for one period per day. By sixth grade, however, both languages share near instructional parity." (August and Garcia, 1988, p. 40).

In addition they point out the program evaluations of the St. Lambert study by Lambert and Tucker (1972), by Barik, Lambert and Tucker 1975), and by Barik and Swain (1975), where the effects of the program were overwhelmingly positive.

It is important to note that immersion programs should not be confused with submersion programs or the *sink-or-swim* approach. Lessow-Hurley differentiates these as follows: In the *sink-or swim* approach the non-English student are

> "mainstreamed in English-only classrooms without assistance and expected to keep the pace. In an immersion classroom the grouping is homogenous and second language learners are not competing with native speakers, the teacher speaks the child's first language and can respond to student needs,

> children are not expected to function immediately in their second language and can express themselves in their first, first language support is offered in the form of language arts instruction, and instruction is delivered in the second language, but is carefully structured so as to maximize comprehension for students." (Lessow-Hurley, 1990, p. 17).

Fishman considers that it is through the immersion or enrichment programs that the academic and societal advantages of bilingual education can be presented. (Fishman, 1969).

Lindholm examined the investigations concerning bilingual and immersion education (Baker & de Kanter, 1981; Cummins, 1979, 1983; Diaz, 1983; Dolson, in press; Fisher and Guthrie, 1983; Swain & Lapkin, 1985; Troike, 1978, 1986; Willig, 1985), which are comprehensive reviews of research and evaluation and pointed to certain sociolinguistic and instructional factors which tend to contribute to successful dual language programs. She recommends ten criteria that are essential for language education programs:

> "Duration of instructional treatment,
> Exposure to optimal dual language input,
> Focus on academic curriculum,
> Integration of academic language arts with curriculum,
> Separation of languages for instruction,
> Additive bilingual environment,
> Classroom composition,
> Ratio of English to the non-English language,
> Promotion and opportunities to language output,
> A positive school environment,
> Positive and reciprocal instructional climate,
> High quality instructional personnel,
> Home/School collaboration." (Lindholm, 1987, p. 6-12).

It has been indicated through evaluation and research studies that education programs can be designed to simultaneously meet the needs of language minority and majority students by combining the best features of immersion programs with the best features of bilingual education. These programs will be better equipped to provide integration of our national unity while preparing a growing diverse minority population to better be able to meet academic achievement. Cross cultural, internationalism and multilingual goals will be more readily achieved. (Lindholm, 1987, p. 15-16).

The bilingual education immersion model has been proposed at an international level as an enrichment program for educating all children to improve the quality of their life through cross-cultural understanding. Thus, it provides a comprehensive system. Immersion seems to have gained much recognition and acceptance in the 1980's and 1990's from bilingual researchers. (Lindholm, Padilla, R., Hakuta, etc.). Basically it eliminates the problematic; that is, compensatory education and lack of enrichment for all students.

This program model is the one that most closely identifies a format for becoming bilingual. Thus, it serves as a viable model option. In addition it articulates bicultural participation for the purposes of reconciling the

differences between cultural groups which is the intent of a democratic society. Fuentevilla in an interview with the author categorized the Dade County—Coral Way (Florida) bilingual education program model as bilingual education or two-way immersion model. (Interviewed in December, 1993). This is important for bilingual education since the Coral Way bilingual model was and still is considered by many as the most viable model for bilingual education programs.

Generally the variations in bilingual education programs, noted Paulston, were primarily differences in the arrangement and combination of components rather than in different components. These combinations, she found, affected program output. She notes, "Clearly, what is needed is an empirically based feature analysis of models of bilingual education programs." (1980, p. 198). Paulston provides descriptive definitions of bilingual education programs. These are:

1. Programs where all language instruction is in the L2 with the exception of a component, i.e., the target language is taught as a subject, in mother tongue skills (Canadian immersion).

2. Programs taught in the mother tongue L1 with a second language component, i.e., the target language is taught as a subject. There is a question whether these programs merit the name of bilingual education but these programs occur under that label.

3. Programs in which two languages are used as medium of instruction. (1978, p. 7).

In addition, she proposes that the differences among these programs lie in the medium of instruction. These variables she identifies as: 1) Sequencing of language, 2) Time, 3) Emphasis on mother tongue, 4) Medium of instruction, 5) Teacher ethnicity and competency, 6) Good vs. bad programs, and 7) Language of surrounding school and community. (1980, pp.8-9).

Mackey states about bilingual education models,

> "Reports of the success of bilingual education models in one area have often led educators in other areas to adopt these same models. Before importing a bilingual education models from another area, it would seem wise to find out the extent to which both areas are comparable linguistically, ethnically, socially economically and in some cases, politically. It seems also important to understand the history and development of the model in the area in which it was developed. This implies a knowledge of the population for whom the model was intended, and not only of what people did with the model but why they did it, not only of the fact that the model was, but why it was successful, or why it failed. In order to obtain this information, educators must have access to case studies of bilingual education. Because of the number and complexity of variables, it would seem that the case study approach to the training of educators in bilingual education would be the wisest. The theoretical framework in which the cases are studied with a view to selecting the right model for a given community might indeed be an ecological one." (1970, p. 1).

This manner of grouping the models and the theories which generated them was critiqued and redefined to propose some bilingual education categories.

Some models are primarily used as strategies. The CHCALT Model which has been widely used in the development of bilingual programs was developed by the Institute for Cultural Pluralism at San Diego State University.

Model with four major areas:

I. Philosophy of Education for the Culturally and Linguistically Different
II. Sociocultural Awareness--Home and Community Based
III. Oral Language and Assessment Techniques
IV. Diagnostic and Prescriptive Strategies (pp. 3-5)

The model does not propose any relationships among the four major areas. At every level, there is a lack of criteria for evaluation purposes. The syntax design does not "add up" to any coherent series nor comprehensive system. Syntactically the lines are mere conveniences, heuristic nonsense.

This is an ambitious model for it proposes a philosophy of education for the culturally and linguistic different. This would be very difficult to achieve based on the lack of syntax design. The main idea proposed is that if a syntax had been developed by the establishment of objectives, then the model could have stood after the criteria were applied. This position is important for this study which is trying to identify categories that will be useful for model building.

In Chapter three "Educational Programs" in the book *Language Minority Education in the United States* August and Garcia suggest that program types for language minorities are characterized by the treatment of the native language and English programs as conceptualized by the "...distinction between additive and subtractive education models....The additive models,...serve to place significant importance on the native language and English. Subtractive models either place no, some or even extensive emphasis on the utilization of the native language for purposes of enhancing English linguistic and academic competence." (1988, p. 41).

In addition they state, "Conceptually the distinction was between additive and subtractive education models is based on the treatment of the native language within the schooling experience of the students." (1988, p. 40). See Figure 7.

INSTRUCTIONAL MODEL TYPES

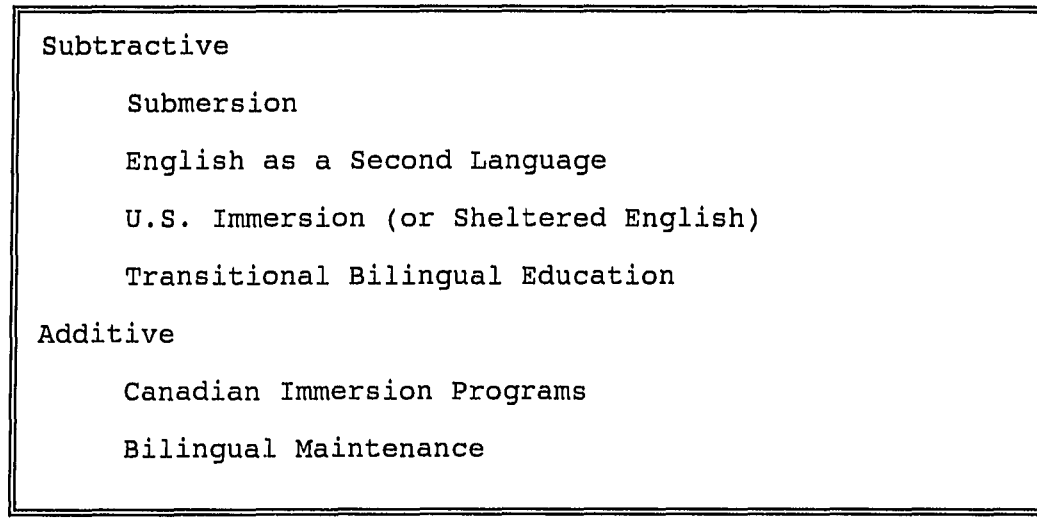


Figure 7. Figure adapted from August and Garcia, 1988, pp. 39-40.

The use of these models was for the purpose of describing programs. These authors do not propose a model but they do propose this typology for models. These categories they borrowed from Wallace Lambert. (1967).

"Of course programs can shift their emphasis overtime. That is, language minority students may begin in an early grade additive program, which after two to six years is followed by a subtractive program." (August and Garcia, 1988, p. 41). It is questionable that if a model indicates a subtractive form that it should be considered a bilingual education category.

The difficulty with *subtractive* and *additive* categories is that they present two different views toward program model results and yet there is no cohesive element. Additive models indicate what pertains to bilingualism, and as such, serve to provide bases for model construction. Thus, the categories Canadian immersion programs and bilingual maintenance programs are more viable categories.

Judith Lessow-Hurley in *The Foundations of Dual Language Instruction* presents an illustration for dual language program models. It is descriptive since the categories are constructed for the purpose of showing as closely as possible characteristics of the program models.

"A program model refers to the span of language use and distribution towards a goal across the grades." (Lessow-Hurley, 1990, p. 14). Like August and Garcia, she used "additive and subtractive" categories to determine the outcomes of the models. She distinguishes that not all immersion programs are additive. She considers English immersion for language minority students as an subtractive bilingualism and stemming from an assimilationist perspective. Thus, she introduced enrichment immersion and two-way immersion as additive programs based on pluralistic views.

In addition she presents the model goals. These can further help in the integration of bilingual education model

construction. Her intent is primarily to illustrate the programs. She could have used the goals to redefine a more integrative model for bilingual education. However, she does not pursue this type of thinking. For our purposes the major goals for the additive models include the categories bilingualism and biliteracy.

In the 1980 article "The Development of Bilingual Education," Paz develops a "comprehensive model" to synthesize information about instructional models. This type of questioning, that is the construction of a comprehensive model, requires a set of rules that can integrate the information; this is not provided in his analysis.

Paz related, "The models serve as mechanisms to organize school programs according to the variety of needs existing in our society." (1980, p. 3). He acquired his information from sociolinguistic and sociopolitical perspective. Models as presented in sociology are based on the idea that everything can be reduced to the object in view. This is a redutionistic fallacy. It does not propose models as an informing tool and therefore does not provide for the development of a model. There are assumptions about the object in observation and there are assumptions about the manner of arranging or of examining the object. A comprehensive model would require the latter. Descriptions can only demonstrate a case of something.

At first glance the model's syntactical lines indicate a contextual or a relational model and it is only when the language of the model is examined that we can determine that there is a lack of cohesiveness in the categories. The use of a model does not make the transition from immediate, the object, to the mediate, a connective system. There is no vertical nor horizontal mobility.

Only when the objects are connected to a category, that is generic or basic to each other, the objects gain experience or are relevant. The polemical positions, "assimilation and pluralism," are not resolved. Paz provided Dewey's *Democracy* as a value base for the categories "assimilation and pluralism." However, he did not utilize Dewey's *Democracy* as a construct to unify the polarized positions. If he had, a new model would have emerged that could serve as a comprehensive model. Figure 8 is an illustration of sequential complexity which would provide Paz's model structural connectiveness.

BILINGUAL EDUCATION MODEL VALUES AS INTEGRATIVE CATEGORIES

DEMOCRACY
PLURALISM
ASSIMILATION

Figure 8. Structural cohesiveness for the PBEM as redesigned by Speasl.

All other categories can be sequentially placed in an inclusive format. In this manner the assumptions are set in a pattern.

Fishman in *Bilingual Education: The State of Social Inquiry* stresses the ontological commitment and the empirical verification for theory development. Thus, his analysis of bilingual education models and critiques supports his position. A model, as favored by Fishman, is dictated by the data. (1977).

He explains several approaches that have been developed to integrate bilingual education and the schools. Schools as he interprets them are, "reflections of societal characteristics, societal needs, societal views and, above all, societal power constellations." (Fishman, 1977, p. 12).

The first approach is a typology. A second approach is where one or more societal dimensions (For example: income, heterogeneity of population, etc.) are related to educational goals (For example, acquisition of English).

Fishman points out that this approach is more empirical and less inclusive. A final approach is population oriented which attempts to describe the teacher, parents or pupils involved in bilingual education.

Fishman's orientation toward the first approach is of interest for this study. He expressed that the typologies for bilingual education were built before a bulk of empirical data was collected and concluded that these will need revision, "as the normal give and take between theory and data obtains." (Fishman, 1977, p. 15).

The application of this perspective to our study is that Fishmnan proposes an ontological commitment where a model is dictated by organizing quantities of data or perhaps a smuggled model which allows one to know a datum when one sees one, "Frequently, typologies are of help in initiating demographies, i.e., in studying the spatial distribution of schools/programs of all/particular 'types.'" (Fishman, 1977, p. 14). This is in contrast to setting up a model which is the position taken in this study.

Fishman's (1976, originally 1973) trichotomy includes both of Spolky's types but adds to it a third, namely *enrichment* oriented bilingual education which may include anyone, "seeking additional cognitive and emotional exposure to that available via 'monolingual deprivation' (Riegel and Freedle 1975, Bain 1975)." (Fishman,1977, p. 6). This

trichotomy he derives from a Q factor analysis of self-report data from an international sample of nearly 100 bilingual education units at the secondary level. Fishman values the use of quantification for verification. He also conceptualizes data as in a give and take relationship with theory. Data, of course, being the most important of the two. (Fishman,1977).

Fishman's criticism is that systems can only be conceptually provocative and only through a required realism supported by empirical data can they be utilized. He concludes, "The currently available parsimonious models are probably too limited and guilty of *lumping* errors....Greater *purposive specificity* plus *empirical data* will improve them both." (1977, p.22).

Fishman emphasized strict regard for empirical verification of theory and or developing theory. His call to bilingual researchers to use social science inquiry to justify the concept of language maintenance motivated research and collection of data to substantiate and to serve as a rationale for program development.

The manipulation of data through a theoretical model is possible since theoretical positions can reject and include other theoretical constructs and data. The inference that data can organize into a model or formulate theory is not

plausible; it is possible to smuggle a model. This model-data relationship is presented in Figure 9.

MODEL-DATA RELATIONSHIP

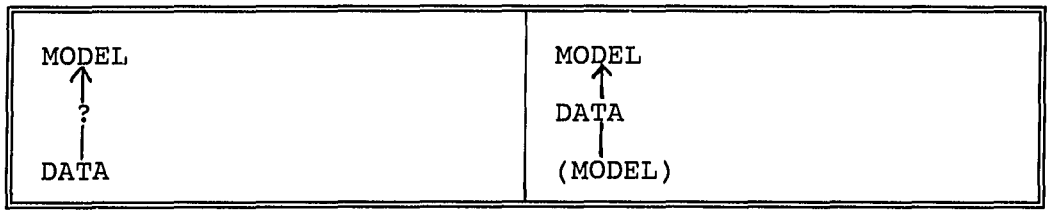


Figure 9. Model-Data Relationship (Decker and Saunders, 1976, p. 66).

Decker and Saunders indicate in *Model for Models*,

> "One set of concepts can be related to and supported by another set of concepts. The continual efforts to jump form a datum to a model can only lead to a confusion over model theory. *(See Figure 9.)* When data are seen as testing a model, there is a smuggled model pre-organizing the data. What 'looks like data' turn out to be the necessary predicates of a model assumed by the data themselves. *(See Figure 9)*....The neglect of this model is partly due to a lack of commitment to models as generic to the meaning of data and partly due to an ontological blind spot as far as natural meanings are concerned." (1976, p. 65).

There are those researchers who question the concept of coherency and apply the model concept to the object or phenomenon in view. Adalberto Aguirre in *In Search for a Paradigm for Bilingual Education*, proposed that a prerequisite in the search for a paradigm is that bilingual education must ground and commit itself in what it is. He

uses the terms "paradigm" and "model" as such: "...the term 'paradigm' is used in a general sense as a significant ordering principle or structuring idea that provides consistency and coherence in a body of knowledge." (Aguirre, 1980, p. 3). "...the term 'model' refers to the general image of the main outline for some major phenomenon, including ideas about the nature of the units involved and the pattern of their relations." (Aguirre, 1980, p.6). Aguirre reduced the model to the phenomenon and this is a case of reductionistic fallacy. In addition, the word "nature" denotes a realist philosophical orientation.

Some researchers find no use in applying theories to the empirical world yet there is a belief in an ontological duality; that is, theory of things and the nature of things.

Aguirre maintains that when the individual encounters the world, he carries in his head a model of society that helps him to organize these encounters. This mental image helps the individual in the construction of life experiences and permits the generation of interpreting "new" as well as established phenomenon. Thus, the construction of social reality retains a level of cohesion. (Aguirre, 1980). For the purposes of our study, which places experience as mediate and value mediate, there is a need to establish a method for this organization.

The failure for the development of a model in bilingual education, as perceived by Aguirre, was the lack of a "holistic" approach. Many disciplines came together to interpret bilingual education as a specialization in that area. "Thus, bilingual education was not conceptualized as a system of education, but rather as a type of education definable only in terms of the function its components assumed." (1980. p. 10).

Aguirre's ideas for paradigms come primarily from Kuhn's analysis of the structure of scientific revolutions. Boulding's process of encounter with the real world, and Durkheim's educational change. Basically these perceptions are based on realism. These position does not accept that there is an inventiveness in the way in which man sees the world.

Henry T. Trueba in "Bilingual-Education Models: Types and Designs" in the book *Bilingual Multicultural Education and the Professional* conveyed the idea that many bilingual education programs were developed from theoretical and practical models that lacked the empirical basis necessary for an proper classification of programs. He quotes, "Typologies, taxonomies, and models are the conceptual guideposts we construct in order to better understand reality." (Trueba, 1979, p. 54). Disciplinary perspectives

and dimensions are imposed that are not relevant to the existing reality.

In his search in the literature he found that bilingual education models ranged from simple dichotomies to multidimensional models for program distinguishing hundreds of different programs. The utilization of criteria in the typologies, he found, were diverse and unrelated.

Trueba in reviewing program models proceeded from simple to more complex. He categorizes them as follows:

> "Dual Models
> Three-and Four-Type Models
> Multidimensional Models
> Designs Developed by Practitioners"
> (Trueba, 1979, pp. 55-61).

These categories are primarily descriptive and do not recognize any integrative effort. There is a lack of cohesiveness.

Trueba accepts the need for a model and poses the question of the lack of understanding for model construction in bilingual education.

> "It is obvious that the status quo of the art in model building for bilingual education is at a very crude and initial stage. Social scientist remind us of the multiple relationships between programs and school, community, and societal organization. Obviously, there is an enormous need for empirical research, accurate descriptions, and rigorous analysis." (Trueba, 1979, p. 72).

Like Aguirre and Fishman, he upholds reality based models. Thus, the problem does not change.

With respect to terminology for model, Trueba agrees that there is a great deal of confusion and overlap and questions the appropriateness of the categories. He questions the use of the terms and proposes that model be perceived within the social sciences tradition.

> "Thus a *model* would refer to basic broad classes of bilingual programs. A *type* in turn would refer to a program sharing important features with other programs different in modality of application, in emphasis or particular biases. Finally program *design*, at the lowest level of abstraction, would refer to a particular curriculum arrangement sharing with other arrangements particular modalities and the important basic characteristics. Thus, in descending level of abstraction, we would have:" (1979, p. 70).

Trueba applied these principles to model comparison and identified the following categories and content.

He comments,

> "As we go through *models*, *types*, and *designs*, we have to remind ourselves continuously that all those conceptual tools are but landmarks and are only as good as their applicability to the empirical reality. They may help sometimes, but if they don't, we must reject them and develop our own concept of reality." (Trueba, 1979, p. 73).

Trueba believes that models are important and that they are conceptual tools; however, he concludes that they are also landmarks that are only as good as their applicability to the empirical reality. This position is not the one taken in this study; thus, we disagree with it. It is important to note that experience can only be gained when a framework is

imposed on any two related experiences and that a structuring results. In this manner models in the mediate can inform the data.

Most of the researchers in comparing models in bilingual education have taken data with the purpose of organizing it through theory. The question that is left unclear is how the empirical evidence rejects or changes a theory. Theory provides a basis to contradict or reject another theory. When theory is included in the membership of things, it can only be treated as such. If definitions are the basis for the formal system, the comparisons can only be based on disimilarities. If operational definitions are used, then an alternative emerges.

Quantification of data, used as the measurement of analysis for the effectiveness of a program and or as a classification for programs, is questionable.

The most prevalent studies of quantification of data in bilingual education have been for the purpose of determining the effectiveness of bilingual education programs to provide information to policy makers and practitioners. *The Final report: The Longitudinal Study of Structured English Immersion Strategy, Early Exit and Late Exit Transitional Bilingual Education Programs for Minority Children* was prepared by J. David Ramirez, et. al., and included a study design, development of data collection instruments,

literature reviews, selection of study sites, and data collection to compare three types of programmatic application. That is, early-exit, late-exit and immersion. (Ramirez, 1992).

The documented information on the students in the study was to establish comparability between students and their instructional programs and to conform implementation of the program model. The data was integrated to develop an analytic model to speak on the objective of the study. Most of these types of studies establish the idea that behavior is a response to a stimulus — in this case the instructional program.

Much precaution was taken in this study to verify the results. A panel to review evaluation studies of bilingual education assessed the study and concluded "...that an explicit theory of bilingual education, including objectives, is required to both motivate and structure the sensible statistical design of a study to evaluate alternative forms of bilingual education." (Meyer and Feinberg, 1992, p. 90). It is very probable that bilingual education has to be accepted for its qualitative notions rather than for its quantification. (Meyer and Feinberg, 1992).

Some question the use of data to construct theory. Cummins has developed two hypotheses—the threshold

hypothesis and the development interdependence hypothesis; two constructs—cognitive academic language proficiency [CALP] and basic interpersonal communicative skills [BICS]. Edelsky, et. al., have questioned Cummins' constructs because his concepts lack the social—political explanation where no overall framework is set forth which takes account of the relationships among differences in children, in home/community norms and in educational outcomes. (Edelsky, 1982).

They find that the "theoretical bases have unintentionally detrimental consequences for minority children and that the theory is wrong in relying primarily on data from tests and test settings." (Edelsky, 1982). Aguirre observes that,

> "...Studies of bilingual education program effectiveness, for example, are not of potential benefit to program development because of the lack of consistency in their presentation of results within the scope limitations of what is being studied." (Aguirre, 1980, p. 10).

The mediate level represents a shift in thought. Models thus, are frameworks, perspectives, and sequenced systems. The object in view is only significant when related to another by a more basic generic term.

Paulston places value in the theoretical format for the examination of bilingual education programs. In "Ethnic Relations and Bilingual Education: Accounting for

Contradictory Data" in the book *Sociolinguistic Perspectives on Bilingual Education,* Paulston (1992) reviewed some of the 'hard data' in bilingual education in terms of examining the efficacy of bilingual education as related to different models. Paulston questions the use of psychometric research in bilingual education. Of this she stated,

> "I should make clear from the outset my particular bias when it comes to 'hard data.' I consider as hard data any systematic and sustained observation within a coherent theoretical framework. I am impressed with the technical degree of sophistication of much psychometric research but find many of the findings inadequate in scope to deal with the questions and problems of bilingual education. It is simply not so that we can understand only what we can measure, and I doubt that we will ever be able to reduce the most important issues in bilingual education to quantifiable terms." (Paulston, 1992, p. 8).

Her position is, "...only when we see bilingual education as the result of certain societal factors rather than as the cause of certain behaviors in children" can the problems and questions in bilingual education be understood." (Paulston, 1992, p. 9).

Paulston utilized Schermerhorn's (1992) inductive typology from the book *Comparative Ethnic Relations: A Framework for Theory and Research.* The theory of minority-majority relations (1970) is based on interacting dichotomies (subordinate vs. superordinates, centripetality vs. centrifugality, and congruence vs. incongruence) and produces eight possible contexts for bilingual education.

From these contexts four socio—ideological settings are developed—two leading to conflict and two leading to non conflict states.

Paulston uses this dichotomy to examine the idea that if the larger society and the subordinate society's trends are congruent, there is a movement toward integration. If the superordinate society and the subordinate society's trends are incongruent, there is a movement toward conflict. It is more likely that in a democratic society trends themselves must be placed in an integrating system. Trends indicating similarity in thinking are not consistent enough when applied to a society. Trends may range from momentous and predominant to non existing and causal. Democracy as used for cohesiveness is more viable.

Assimilation and cultural pluralism can be structured in the same manner as was done for Paz's design. The use of a model for the purpose of integrating things or ideas that are different is more useful for the co-existence in society and for the pursue of individual decisions.

In the textbook *Bilingual Education theories and Issues,* from the literature of social educational change, Paulston, poses a similar manner to examine bilingual education. Paulston uses Kuhn's definition for models taken from F. Paulston's model of cultural conflict vs.

equilibrium paradigms and theoretical data applicable to program models.

The equilibrium paradigm theories are evolutionary, neo-evolutionary, structural functionist and systems analysis. Their basic intent is to maintain society through a harmonious relationship of the social components. They emphasize smooth and cumulative change.

Theories that are related to the conflict paradigm emphasize the inherent instability of social systems and the conflicts over values, resources and power that follow as a natural consequence. The theories that characterize the conflict paradigm are: Group Conflict Theory, Cultural Revitalization Theory, and an Anarchistic Utopian Approach. The major issues are economic conflict, conflicting values and cultural systems, and conflicts arising from oppressive institutions and imperfect human nature. (Paulston, 1980, p. 16).

Paulston questions the issue of integration. If integration is the manner of congruency in thinking then bilingual education developers must examine integrative manners through which conflicting systems can be paralleled as equal systems.

There are some researchers who do not value the heuristic complexity of models as determiners of the manner in which assumptions are placed. Similar to Paulston's

trends are the propositions made by Raymond Padilla in terms of policy as a goal to mediate between theory and technological concerns. Again, it is the dependency on the political structure that questions the use of policy as a viable and consistent mediator.

Schlessman-Frost and Saunders question the use of policy analysis as a methodology for analytical purposes. They comment,

> "There is a general understanding in the social sciences that each of the foundations fields of study is an independent, albeit cross-referenced area of inquiry. The issue emerges in the confusion engendered when each subject field, e.g., sociology, psychology, history, anthropology, and philosophy, is considered an equal alternative or parallel option in the pursuit of educational objectives or for purposes of this presentation, policy analysis." (1988, p. 134).

Padilla in the book *Bilingual Education Technology* presents a metaframe which describes a structure of categories of knowledge for bilingual education and specifies a process for the analysis of bilingual education public policy in the United States.

Public policy is perceived as a "...social process that culminates in the exercise of choice by a duly constituted political body." (Padilla, 1980,p. 468). Padilla does not specify the assumptions for the construction of his meta-frame. Of this, he states,

> "At the outset it may be useful to erect a sort of conceptual scaffolding that will allow the construction of the desired framework in the context of a larger edifice. Consider this scaffolding as a metaframe that can be conceived as encompassing three interlocking components. These components may be designated as theory, technology, and public policy." (Padilla, 1983, p. 468).

He identifies the interaction of the three components as the foundation for his classification system. "The connection between bilingual technology and public policy is apparent if one sees that public policy issues often involve choices between technological alternatives as well as between philosophical or value alternatives." (p. 469) Padilla acknowledged that the metaframe will be useful in differentiating between selecting a particular technical alternative as a matter of public policy and the use of technical data to support choices. This he considers to be one of the problems in the melting pot vs cultural pluralism debate.

Padilla proposed that there is a describable structure of knowledge in the field of bilingual education and that there is a specifiable process through which knowledge in bilingual education can be expanded, modified, and refined. He also asserts that there is a specifiable process through which knowledge in bilingual education can be generated. The proposed process entails the concepts of documentation, accumulation, criticalness, and paradigm. This process he

confirms as one that generates knowledge and organizes within the systematic framework.

PROPOSED CATEGORIES OF KNOWLEDGE IN BILINGUAL EDUCATION

I. Theory
   A. Knowledge of phenomena related to language and communication
   B. Knowledge of phenomena related to culture and society
   C. Knowledge of phenomena related to cognition and brain functioning
   D. Knowledge of phenomena related to pedagogy as implemented for bilingual students
II. Technology
   A. Knowledge of phenomena related to models in bilingual education
   B. Knowledge of materials related to instructional materials
   C. Knowledge of phenomena related to specific techniques or methods
   D. Knowledge of phenomena related to technical instruments
   E. Knowledge of phenomena related to measurement
   F. Knowledge of phenomena related to evaluation
III. Public Policy
   A. Knowledge of phenomena related to federal bilingual education legislation and implementing regulations
   B. Knowledge of phenomena related to actions of the courts
   C. Knowledge of phenomena related to state bilingual education legislation and implementing regulations
   D. Knowledge of phenomena related to the bilingual education policies of local school districts
   E. Knowledge of phenomena related to the influence of the mass media on bilingual education issues
   F. Knowledge of phenomena related to bilingual ethnocommunities
   (Padilla, 1983, p. 469).

Padilla concludes,

> "What is significant about this process is that competing paradigms arise within any given field. And it is this competition that both increases the rate of knowledge production and the efficacy of the critical process noted above. The

> clash of competing paradigms can shape knowledge much as the old blacksmith shaped functional implements by banging iron between the force of the hammer and the resistance of the anvil.... Moreover, paradigms need not be restricted to narrow disciplinary concerns. In a field such as bilingual education, it might well be argued that paradigms should be multidisciplinary or interdisciplinary. After all, the essence of a paradigm is to invoke a framework within which phenomena can be studied and organized. Such a framework should maximize comprehensiveness as well as depth." (1983, pp. *ix-x*).

Models as related to bilingual education are included under the category "Technology". Padilla, in terms of rules, points out the need for parsimony, some measure of orderliness and comprehensiveness. He clarifies that the categories are not totally inclusive of all possible knowledge and are not mutually exclusive. (Padilla, 1983).

Of the categories, he claims that they can also serve an heuristic function where researchers and practitioners may be able to identify and evaluate knowledge. Philosophically, knowledge is an epistemological endeavor. It deals with the "How do we know?" question. Once we have obtained all the information presented in the categories, the question of relatedness has not been addressed. He proposes that the knowledge categories can serve an heuristic function. The variables are not sequences and thus they lack depth. An heuristic definition would require more inclusiveness in the formation of the categories so that

they may be related. The issue of interdisciplinary comparisons is not addressed.

In a paradigm the researcher could describe all the different disciplines as related to specifics that the she/he wishes to investigate. However, for an interdisciplinary study the topic must be cross categorical issues. "A detailed account of any particular interdisciplinary theory would, for instance, require a list of key words and expressions, categorical and terminological schemes, paradigmatic relations and goals for which the unifying or interdisciplinary emphasis was to be used." (Decker and Saunders, 1976, p. 129).

The categories-criteria continuation can be questioned as such (See Figure 10).

CATEGORY	CRITERIA
THEORY	?
TECHNOLOGY	?
POLICY	?

Figure 10. Lack of continuity between the category and criteria as proposed by Speasl.

Language has its own characteristic. Terms in one universe of discourse are not the same in another. The

categories in each have an internal consistency within their ordering system. A discourse fallacy takes place when categories derived from different universes of discourse are set in parallel without consideration for the competing definitional types.

Joan Baratz, et. al., in *"The development of Bilingual-Bicultural Education Models"* proposed a model through a planned variation study based on observable behavior, language acquisition and a definition for bilingualism. Various models of bilingual education were constructed to determine models of effective bilingual education. Within the study, all programs were related in terms of the goals of the models to try to link the models with goals to determine what goals were best, so that in the future school board members would have the data from which to develop decision making.

The concentration on models construction of her work presented three attempts:

1. To examine models of human learning and behavior, which base bilingual-bicultural programs and which establish deliberate choices of particular goals and strategies,
2. differentiate models of bilingual education, and,

3. set these models within the context of an educational framework (strategy and content). (1973).

Thus, her models were seen as having a societal level, a linguistic level, and an educational level. The societal level examined models of anthropology, psychology and social linguistics. (1973)

From Baratz's results, she concluded that model development in bilingual education was dichotomized into relativist and normativist orientations. The model she presented is not hierarchical, nor does it have any vertical or horizontal mobility. There are no specific assumptions about the development of a model. She proposes a model, collects data from models and yet there is no definition nor rules for model development. Her assumptions, theory and methodological bases are narrowly defined in a circular argument.

The fields of anthropology and psychology provide the bases for the categories of the model. It is never made clear that the manner of arrangement has any structural value. The most apparent syntax division is for dual purposes. The terms "relativism," and "normativism" present opposing views. Each category is related to a particular discipline. That is, "relativism" is a category for anthropology and "normativism" is related to psychology.

This comparison of two areas of discourse without any method for these comparisons is a discourse fallacy. Similar to the Padilla model, there is no unifying element for the placement of these categories in a common system.

This examination of a sequence examines the problem of utilizing the lines for integration. This is a process that requires parallel thinking. A problem of syntax lines usage is presented by Atilano Valencia in *Cognitive Development in Bilingual-Bicultural Education: A Multidimensional Model.* His theme was that bilingual education affected cognitive growth of children. He hypothesized that there was a relationship between culture and cognitive variables. Thus, he proposed that bilingual/bicultural education responds to the flexible approaches in cognitive processes. He encouraged the following,

> "Bilingual education need not limit the learner to cognitive processes inherent in his native culture, for if bilingual education provides the learner with reinforcing elements from this native culture that are advantageous to his cognitive development and psychological well-being, there is little chance that the acquisition and internalization of additional cognitive processes (e.g., from the technical world) will completely transform him into a monocultural person." (1976, pp. 7-8).

The idea that there are cognitive processes and affective (cultural) processes brings into question the issue of integration which this author does not address. In addition he discusses the curriculum models which he calls concentric

circles and vertical and horizontal dimensions in terms of time, curriculum and bilingual involvement. (Valencia, 1976).

Valencia contributes a model to facilitate cognitive development for the bilingual educator. Circular lines with inclusive circular lines makes a statement; that is, a generic structure. The circular lines without any inclusive element obstruct the inclusion necessary to relate these ideas. Valencia's work with models is one of the early and most significant attempts to relate cognition to a model for bilingual education. However, his contributions do not deal with model structuring for cognitive purposes.

Ramirez, Herold and Castañeda in *Cultural Democracy, Bicognitive Development and Education* argued that if students are to live comfortably and successfully in the mainstream culture, they need to achieve cognitive flexibility; that is, "bicognitive development" where they are equipped to operate effectively in diverse intellectual and social contexts, and that they at the same time retain and develop those cognitive abilities that were fostered by their unique home and community experiences. (Ramirez, et.al. 1974).

They propose the categories "field dependent and field independent" which advance the notion that Mexican American students are field dependent and Anglo children are field

independent. Both of these strategies were cognitively based. A model for "field dependent" as a type of thinking is similar to a descriptive model where the student depends on the environment. The "field independent" individual does not rely as much on the environment. Thus, it was recommended that programs should incorporate both of these strategies or "bicognitive development." (1972).

Parallel thinking is concerned with categorization; thus, "bicognition" does not relate. Cognition is a process of inquiry which can be linked to any language and culture. The issue of being able to think abstractly has no reference to bilingualism. A bilingual person may be able to conceptualize language in the sense of a "meta language" as proposed by Cummins (1976) and as pursued by Hakuta who seeks to ascertain whether students in bilingual programs demonstrate learning that is common to both languages. (Hakuta,1986). There is no indication that the process of cognition needs to be repeated or that it lacks universality.

Whorf argued for a determinate role of language in cognition, but he rejected any notion of the superiority of any one language in this regard. He believed in a kind of study that he called "contrastive linguistics" which could enable man to transcend the determinism and limitations of

particular languages, as obstacles to deeper understanding of reality. (Whorf,1956, p. 240).

Angel prescribed that a limited English speaker requires cognitive development rather than language development. This position has also been taken by Saunders in "A Philosophy for Cultural Deprivation." Saunders states,

> "In the process of thought growth children can be seen to proceed from 'survival' literal conception to general description; from classification to categorization, and from generalization to relational contextual meaning. This change is 'style' of thought could see the deprived child as one fixed in the first phase rather than as deprived of all meaning. Modified learning programs could take on the task of diagnosis of style and designed improvement of relational-contextual patterns." (Saunders,1966, p. 2).

Angel in "Three Different Conceptualizations of Bilingual Education: Their Implications and consequences--An Exploration and a Critique" suggests that bilingual education can be perceived as 1) The Language Oriented Bilingual Program, 2) The Culture Oriented Curriculum, and 3) The Cognitive Development Oriented Curriculum. (1974).

The Cognitive approach, "...could underlie or permeate both the language and culture curricula. It has to do with the development of intelligence, as this is related to the bilingual student." (1974, p. 36). The involvement of the cognitive bilingual school is primarily to enhance the students' intelligence.

Cognition, as he presents it, is based on Piagetan theory. "Unlike language and culture which are content organizing centers, cognitive development being both process and product make it a more pervasive focus for the bilingual curriculum. Both culture and language are necessary elements for cognitive development but play means roles not ends roles." (Angel, 1974, p. 57) This separation of the "means" and "ends" does not allow for the categorization of operational concepts. This is the main difficulty in the integration of the ideas Angel proposes.

He emphasizes,

> "Cognitive development holds great promise as a breakthrough in the low achievement and poor school performance syndrome of the bilingual child while at the same time allowing for the acquisition of language and culture. Cognitive development as the organizing center of the bilingual curriculum places both language and cultural elements in a different context than has been true in the typical school where they have been the major objective of schooling." (1974, p. 57-58).

Angel reiterates that any curriculum which does not involve evaluation is incomplete. "At the very least, the proponents of any curriculum would gain an understanding and appreciation of the relation between objectives and products." (1974, p. 73).

Although Angel does not propose a manner of integrating the models, he does propose that these categories serve as a basis for program development, and insists that evaluation

be prescriptive. López in *New Mexico Bilingual Education Teacher's Perceptions Relative to Teaching Preparation in Culture-Related Studies, Language Arts, and Cognition* applied Angel's categories and determined that language, culture and cognition were highly valued by the participants in the teacher preparation programs. (López, 1980).

Sociology, anthropology and psychology use models even though the areas are formalized in different substantive concerns. A universe of discourse fallacy occurs when ideas are transferred from different model types without a cohesive model and criteria. The methods proposed and the models developed in bilingual education come primarily from these three disciplines.

Interdisciplinary theory requires constructing a generic model where other models can be articulated. This is a methodological endeavor. In *A Model for Models,* Decker and Saunders state that,

> "For each idea that is to be confronted and extended, there are three important steps to be taken:
>
> 1. Use, for example, the term 'tall.' The idea must be identified. 'He is tall' must be defined.
>
> 2. A polemical inference must then be posed. For example: 'He is short.'
>
> 3. Finally, an inclusion principle must be formulated. For example: 'He is tall' and 'He is short' are both cases of measurement, which is a relative term and requires a re-examination of the terms 'tall' and 'short,' in search of relational

> options." (Words underlined by authors). (1976, p. 129).

A model can only be tested in terms of its internal consistency, parsimony and categorical compatibility. The problem emerges when the facts or descriptive models are transformed into operational predicates of a model. In that manner there is a jump from fact, to comparison, to model integration. (Decker and Saunders, 1976).

Integrative Models

A Model for Models is an example of experience as valued. Basically the model directs the development of models through a series of decision making steps. It proposes that any assumptions or model demands a contradictory position with different assumptions. The examination of descriptive models can only be done through an imposed set of categories that are more inclusive and that provide a generic structure for the discussion of issues, problems, and development.

Urquidez in *Bilingualism, Bilingual Education and Biculturalism: Three Issues in Search of Meaning,"* presents Saunders' three level model as she accounts for the syntax lines and coordinates for objectives. (See Figure 11). In a summary paragraph definition she states that, "Bilingualism can be defined by including three separate types of components in which it is: first a

BILINGUAL EDUCATION: A COMPREHENSIVE DEFINITION
Bilingual education includes the following components, participation and purposes:

LEVEL I 1. Bilingualism is two spoken languages 2. Bilingualism is two language literacy 3. Bilingualism is comparative linguistics
LEVEL II 1. Bilingualism is cultural awareness (of one's history) 2. Bilingualism is bicultural participation 3. Bilingualism is cross-cultural analysis (ethnoscience)
LEVEL III 1. Bilingualism is cultural unity (cultural identity) 2. Bilingualism is strength in shared differences (cooperative forum) 3. Bilingualism is multicultural educational goals in a democracy (an investment in all people)

Figure 11. Comprehensive definition for Bilingual Education (Urquidez, 1976).

> spoken language with cultural awareness in an identifiable cultural system; then a
>
> two language literacy with bicultural participation in a shared effort toward a cooperative forum; and finally a
>
> comparative linguistics with a cross-cultural analysis for the expansion and refinement of multicultural educational goals in the democracy." (Urquidez, 1976).

This definition is based on Saunders' "Cube of Inquiry." It supports a methodological process; thus, not separating bilingual education into competing components but using the components as syntax lines that coordinate objectives for the attainment of bilingualism. These

objectives as reexamined provided a basis for the definition for bilingual education for this study.

Schlessman-Frost presents and integrative model for cross-cultural development which serves as the basis for the definition of culture as applied to this study. See Figure 12.

The frameworks presented by Urquidez and Schlessman-Frost are further discussed in Chapter Four.

Summary

On our way to the year 2000 we see increased interaction among people of different cultures and languages. Common world markets and economic demands create the need for multicultural values. In the midst of this cultural explosion, it becomes a priority for countries to find viable goals within their educational systems. These goals should increase their understanding for diversity and for the development of existing mediating methodologies, models and instruments to integrate different perspectives.

In the United States, schools have adopted bilingual education to educate both adults and the young. Bilingual education is education that provides dual language system schooling. It is invaluable when it is based on the decision to gain knowledge for intercultural participation. This interaction of culture and linguistic abundance can be

CROSS-CULTURAL INQUIRY MODEL

CATEGORY OF THE MODEL LEVEL	INQUIRY LEVEL	LANGUAGE & STRUCTURE	VALUE AND HISTORICAL SYSTEM
PURPOSE	Conventurer can get long range perspective on values held and reasons for actions and beliefs. Time exposure produces broad scale meanings. Conventurer seeks and sees what the other culture believes & values-knows. It is possible to believe in ways of the cultural "informant" Situational ethnicity.	Conventurer can identify and select ways to evaluate the technical aspects of cultural contributions & qualitative developments of people. What qualities identify a cultural participant? How can you tell if he has any given quality?	By being aware of the compounded complexity of all the levels, a trainer could staff develop conventurers for success in business. A depth familiarity with cultural information, sequences and level of coordinates, an elaborate tourist becomes an effective conventurer.
CONTEXT	Library study and in-depth discussions with cultural informants, "immersion" in language and cultural behaviors. Simple distinctions between work ethic and general entertainment ideas.	Anthropologists classify cultures one way, business people another. Cube structure makes comparison of methods possible Conventurer can compare the family structures of two cultures and understand business ethics and family ethics.	How does history of each culture effect current behavior? Parallels? Conventurer visits mosques and shrines. Reads history of theater, etc.
CONTENT	A back log of information in answer to what to do in a variety of situations. Dictionary and Encyclopedia Knowledge. Correct mores and behavior in every day situations. e.g. "Guten Tag," "kampai"	Sophisticated use of cultural cepts as qualitative sharing or communications within a closed group. Cultural jargon usage.	"They" are OK, but I wouldn't want to spend a lot of time with one. Nice place to visit, BUT...! "Everyone is American." ethnocentric projection

Figure 12. Conceptual scheme (topology) to visualize the interconnection among levels and categories, variables and context. (Schlessman-Frost, 1987, p. 87).

shared in a context wherefrom expansion of knowledge or enrichment is appropriate.

The area of bilingual education provides a rich background for its rationale and methodology. The social scientists, anthropologists and educational researchers have provided much information of descriptive nature about social problems, world views, ethnographies, case studies, evaluation of programs and student testing. These have

primarily served as the basis for model construction. The values used for the relationship between bilingual education and programs only present different curriculum designs and objectives. These models primarily present different models used for programmatic planning.

Presently bilingual education "models" can be described in terms of their value system, objectives and program designs. See Figure 13.

DESCRIPTIVE MODEL FOR THE VALUE SYSTEM, OBJECTIVES AND PROGRAM DESIGNS IN BILINGUAL EDUCATION

PROGRAM DESIGNS	OBJECTIVES	VALUE SYSTEMS
Immersion	Bicultural Biliterate Bilingual	Democracy Cultural pluralism Inclusive for all children
Maintenance	Bicultural Biliterate Bilingual	Cultural pluralism Ethnic support Applicable to ethnic children
Transitional	Monocultural	Assimilation Applicable to other than English-speaking children

Figure 13. Descriptions of program designs, objectives and value systems.

Self interest guides these different perspectives. The assimilationists believe nationalism is the basis for keeping the country together. The ethnic group supporters view American society as a salad bowl that includes differences. The immersion group has a different perspective since it examines the issue of bilingualism from an international perspective. Thus, it is based on self enlightenment.

The political agenda includes power and funding. The political arena practices a benevolent parent attitude toward its societal members that are not at the core of the Americanization dream. Thus, most policies have not allowed the integration of other groups' culture and language as a viable form of communication for the Anglo society.

All bilingual supportive actions have come from policy changes due to state and federal court actions and mandates. These have primarily been based on bigotry and, lack of visualization for the integration of people, and issues of equity. The models used are limited and cannot implement successful participation for all its members. The political arena, thus, is the main area where bilingual education has been accepted in the United States and only as a temporary measure for those who are not English speakers. Political bigotry is at the root of the prolonged bilingual education debate-assimilation vs cultural pluralistic viewpoints.

There is no question that economic competition in the United States requires that the individual be a fluent English speaker, reader and writer. Not learning English inevitably leads the individual to lack of marketability. In addition, the American educational system has a responsibility to provide all students an education that allows them to be competent and competitive.

In addition it has become apparent that knowing a second language is needed for future global markets growth. The passing of NAFTA is just the beginning of this type of transactions in the United States.

What type of bilingual education is needed? It is important that in our times we begin to examine the issue of enrichment as the basis for the educational system. The curriculums must concentrate on providing a structure that allows American students to participate equally and profitably. Second language learning must be guided and valued for all American students. The learning of two languages is a necessity. In addition the native language must be used to enrich the language and to help students meet their educational goals.

Bilingual Education vs. ESL is not a profitable argument. ESL is a powerful instrument in second language acquisition and learning. The area itself has committed to bilingual education. (Leone, et. al., Dec. 1992/Jan. 1993)

In addition, most of the second language teaching techniques that are effective and enjoyable have been developed through ESL methodology. For foreigners who come into this country trying to improve their economic status by learning English, it is a reassuring method. For limited English speakers who are in our American school systems from kinder to high school without learning English it is imperative.

Foreign language teaching can serve as a parallel program to bilingual education. It is necessary that a school district intending to establish bilingual programs recognize that it must commit itself and its resources for the success of the program. Once a district dedicates to cultural pluralistic goals indicative of a democratic society, then it must consider the educational needs for its diverse ethnic backgrounds and the cultural awareness of its teachers and administrators.

The establishment of bilingual education programs must incorporate equal education for all students, professional growth for administration, teachers and professional aides, and a district mission supporting cultural pluralism goals indicative of a democratic system.

The decision to select any particular model does not defer the problem. The problem of integrating the different groups in terms of a shared forum is still questionable due

to a reality based formats to bring together the different value basis.

The emphasis for model building as "empirical reality" based does not provide a viable system. The concepts are all the same. There are no implications for differentials since they remain within hortative definitions. Although the models in bilingual education are primarily descriptive, there must be a manner of examining that prescribes a value, identifies the results of given approaches and gives perspective to future model developers.

Another model to describe the area is not needed nor is it the purpose for this study. The models used for programmatic application need to be integrative. The results of bilingual education models necessitate a model or set of models for outcome examination. This model would require a broad or generic basis that would be inclusive of any dissimilarity in assumptions and alternatives. In addition, it is important to recognize that any model has a value base and that this base should be made clear.

The analysis of models for given areas, and in particular for bilingual education that lacks a comprehensive view of model types and levels, is of great importance. Models, when used as rationales for development and for the placement and expansion of the general and specific directives for bilingual education, can account for

the political and legal, cultural and historical, and community and individual conditions of schooling. Thus, as models are analyzed and the proper manner of developing models is presented, it is necessary to set some parameters.

What does it mean to construct a model to examine models of bilingual education? Is it possible to examine the models or purposes through a syntax that can integrate them into equivalents? Can these models be processed through the inclusive criteria proposed by the models? Can these criteria be placed through a sort system that states the rules for model construction?

What would be appropriate is to present an integrative model through which models in bilingual education can be evaluated and shared. The language used in bilingual education becomes the best method through which to enhance the analysis of models and the construction of bilingual education models. *A Model for Models* comes from the perspective that ideas, objects and experience are all contingent on their meaning, and that the most significant instrument to be developed would involve that patterning of instruments which directs compositions of meaning. (Decker and Saunders, 1976).

In comparing ideas about models and model building in bilingual education, it is clear that comparative models in bilingual education need a broader inquiry basis. Models

have the purpose of directing and informing: the assumptions, goals/objectives, and philosophical orientations can be identified and extended through a model.

Bilingual education construction must be able to provide a set of rules through which the variables and components of the school program can be placed in effective juxtaposition to one another and used to explore the bilingual/instructional program question. Model builders must be methodological oriented and they must clearly describe and establish the framework they are using and the rules for its construction. In the following chapter the models were methodologically examined.

CHAPTER 4

PROPOSED CONTRIBUTIONS

Model, as used in this study, is an informing hypothesis and holds that models are the informing agencies for 'experience.' This idea is basic to the development of this chapter and denotes a theoretical position. The theoretical dimension of the problem as presented for this study is to propose a model, through which to conceptualize bilingual education, from which more effective programmatic application can emerge in bilingual education.

The cube of inquiry offers a design for processing information that provides a three level system. These levels are generative and inclusive. The levels provided the basis to locate the model problem in bilingual education and to change the direction for examining the bilingual education models; that is, from the theory/practice dichotomy to an integrative cohesive form.

This change in direction required first to understand that bilingual education models comparisons were primarily based on an immediate level. The immediate level, as an ontological commitment, is based on the mirroring of reality. A model at this level describes, i.e. data is collected for quantification, statistical research without a theory to provide proof, etc. There is no syntax and thus there is no

coherency nor a structure, and the language does not categorize nor provide rules. Descriptive theory is always a case of a descriptive model. Most of the comparisons of models are at this level.

Secondly, it was necessary to recognize that changing direction was a mediate level activity which required utilizing rules to direct the categorization process. For every X there is a Y that is set in contrast according to rules for inclusion. Models in the mediate offer a context, provide alternatives, frameworks, and set a structure. The language refers to coherency in sequence and providing a measurement. It is conceptual and refers to a measurement based on historical/reality claims.

Thirdly, it was necessary to establish the rules. Models in the value mediate set the rules and are prescriptive. The language is examined to determine the sorting system and to reconcile value conflicts. It is at this level that the *A Model for Models* (1976) and *Cube of Inquiry* (1967) are found respectively for they account for the model type and the value system. The levels provided a rigorous methodology within a democratic perspective.

The Cube of Inquiry sorts and distinguishes things, categories and values by establishing the rules for inclusive levels. Thus providing a continuing movement for the placement of old and new information in a new form. Basical-

ly, each idea is part of a continuum of a universe of discourse. The cube has its basis on the structure using genus-differentia definitions. That is, the inclusive principle. For example, a dog is part of a larger family group called a mammal which in turn is part of a larger family called a form of life, etc. This sorting provides a basis for the placement of the categories proposed in an integrative bilingual education model.(Saunders,1968).

A Model for Models insists that a model have three levels of experience, and that a true taxonomy of models should include the criteria for model construction, the comparison of model through critical analysis, and substantive models. Three syntactic or model types were presented: target models, sequential models and contextual models.

The Bilingual education models were primarily compared and perceived through target and sequential forms. This study proposes that a contextual model be utilized to examine bilingual education models since it included a way to examine target and sequential models through an extended integrative syntax form. This type of examination offered a manner of evaluating that includes a generic design and a way of comparing bilingual education models.

An Evaluation Model

In their explanation of models, Engle, Saunders and Blake in *Effective Evaluation: Models for Accountability*

proposed that a relational model is a more comprehensive syntactical way. That is, "...where the evaluation must incorporate in the inclusions of a target model, the phasing capabilities of a sequential model, and yet provide a way to connect any and all relational in a methodologically rigorous pattern." (1981, p. 71).

The construction of such a model is primarily applicable to the parallel pairs model. See Figure 14.

PARALLEL PAIRS SYNTAX

	4		
3	5	1	2
	6		

Figure 14. Saunders' Parallel Pairs Syntax (Engle, Saunders, Blake, 1981, p. 76).

In an evaluation model there must be a separation of program (categories) from their components (variables),

objectives from their activities, resources and support services. (Engle, Saunders and Blake, 1981). The numerical sequence as presented in Figure 14 represents this relationship. "For example, do the lines which separate the categories from one another (1 and 2) serve the same function as the lines which separate the variables (5 and 6) ...are lines 1 and 2, 5 and 6 the same kinds of lines as 3 and 4? Clearly the answer is no. A generic class must not be confused as a member of its subset." (1981, p. 75).

An evaluation model is proposed as Figure 15. The model can be used as a form for comparing and analyzing bilingual "models" as well as a design through which to construct a proposal for a more effective bilingual model.

The relational model established a generic design where the information regarding bilingual education models can be compared and evaluated. At every level criteria were provided for the user. The evaluation for the integrity of the individual model, the individual category, and the total model was accounted for. In addition, the evaluation categories clearly were identified as such and distinguished from the models to be evaluated.

BILINGUAL EDUCATION MODELS AND MODEL EVALUATION CATEGORIES: A MODEL ASSESSMENT DESIGN

Bilingual models / Model Evaluation Categories	Bilingual Education "Model" (A)	Bilingual Education "Model" (B)	Bilingual Education "Model" (C)	Evaluation The models can be evaluated at each level
Purpose (As stated) 1	2			4 Do the purposes contribute in the realization of bilingual education?
Objectives (As stated)				Are the objectives effectively organized to support the purposes?
Scope				Has the scope set parameters? Identified categories and variables? Are they functional and relating to the purposes and objectives?
Proposed Results				Are the results desired? Do they attain the proposed purposes?
Evaluation Criteria	Do valuative criteria serve to provide basis for the model? Is it inclusive?	Do valuative criteria serve to provide basis for the model? Is it inclusive?	Do valuative criteria serve to provide basis for the model? Is it inclusive?	Do valuative criteria serve to provide basis for the model? Is it inclusive?
Evaluation Does the model meet the criteria of internal consistency? parsimony?	3 Does the model meet the criteria of internal consistency? parsimony?	Does the model meet the criteria of internal consistency? parsimony?	Does the model meet the criteria of internal consistency? parsimony?	5 Does the total sharing of information comprise a comprehensive evaluation? Do all claims within the model support democratic collaboration?

Figure 15. Speasl/Saunders' Model for evaluating bilingual education models.

Within the contextual model, the horizontal lines represent the variables to be evaluated. In this case, these are the bilingual education models (A, B, and C) to be evaluated. Schlessman-Frost in developing a collaborative model emphasized that more models can be placed in the horizontal axis and placed according to some importance based criteria. (Schlessman-Frost, 1993).

The vertical axis depicted the model evaluation categories. The idea was to distinguish between the purposes, the objectives, the scope, the proposed results and the valuative criteria. This leveling of the categories helped to operationalize the content of the model, analyze the integrity of the model in terms of given criteria.

Ultimately the models were evaluated in terms of the horizontal and vertical axis. This separation of the evaluation from both the horizontal and vertical axis provides both specific-general continuity at every level.

In agreement with the Engle's format for effective evaluation, this model provided five evaluation types. These evaluation types related to the specifics-general evaluation continuity for the model. This continuity was further illustrated as numbers 1, 2, 3, 4, and 5 of Figure 15. A description of this sequence was as such: Number one was the placement of the, e.g., purpose category; number two was the evaluation of different purposes as related to a specific

bilingual education model; number three related a given bilingual model in terms of the model evaluation categories; number four was the evaluation of the "purposes" or any other model evaluation criteria as related to all the models; and number five was the total evaluation where the integrity of the model was finalized.

This model could be used to evaluate any bilingual education model and content. The categories and variables can be changed as needed without the model losing any model integrity. The model was established prior to the inclusion of content. The model objectives and criteria established a model that was democratically consistent (in principle) where the claims support the idea that everyone should be included, theoretically adequate (structurally) in terms of a parsimonious and categorically consistent model, and organizationally efficient having vertical and horizontal mobility. In this same format an effective bilingual model can be proposed.

Operational Objectives and Predicates

This framework proposed for integrating the models and the ideas for bilingual education models is descriptive and the categories provide a sequence which can further be examined. Urquidez and Schlessman-Frost provided integrated frameworks that are useful for integrative purposes and that can be applied to bilingual programmatic application.

Schlessman-Frost in the *Cube of Cultural Inquiry* sequenced cross-cultural interaction using Saunders' three levels. The first level is based on ethnocentrism. A conventurer who maintains this type of interaction in cross-cultural material development will only focus on the appropriate behavior without fully understanding the nuances of the culture. This is at ethnocentric projection where "Everyone is an American."(Schlessman-Frost, 1987).

Whenever, the conventurer realizes that there is a need to understand the values behind a particular behavior, then there is a need to focus on a system for integrating these cultural definitional types. That is a second level question. At this level culture is examined from the historical perspective of the other culture. The actual decision of deliberately imposing such a system on developing a cross-cultural model is a third level issue and one who examines culture from the instruments used for cross-cultural mediation. This structure referred both to language (theoretical symbols) and culture (qualitative symbols) as an intelligent process for symbolic mediation and proposed cross-cultural interaction.

Urquidez in *Bilingualism, Bilingual Education and Biculturalism: Three Issues in Search of Meaning* (1976) proposed a framework based on Saunders' cube for a comprehensive definition of bilingual education. The categories of

oral language, language literacy, and bicultural participation can be used by the writer to propose an integrative system. This framework could serve to develop a comprehensive programmatic module for bilingual education. The framework as articulated is based on operationalizing objectives through an inclusive principle of levels and types.

Both of these views operationalize objectives and/or predicates, that, when articulated in this form, can best illustrate Saunders' *Cube of Inquiry*. For Dewey it is the method, the means-ends relationship, the process of attainment. For Peirce it is the method, the semiotic relationship, the process of knowing. For Saunders, it is the method, the mind-object relationship, the process for learning.

Saunders, from his ideas on cognition and evaluation, proposed a model for assessment of student language level. (See Figure 16).

The sequencing of the language categories provides four types of evaluation which can be identified by the numbering of the categories and their relationships. The categories for the model were explained in depth in the following section, "Programmatic Application."

MODEL FOR RELATING LANGUAGE LEVELS

LANGUAGE TYPES / LANGUAGE LEVELS	EXPRESSIVE	RECEPTIVE
ABSTRACT	4	3
CONCRETE	2	1

Figure 16. Saunders' Assessment for testing language levels.

The model provides four types of evaluations for language levels. Number one refers to concrete-receptive language. That is, ask the child point to the pencil and the child points to the pencil. In level two, the concrete-Expressive level the child can be asked, "What is this?" and the child can give the name of the object. In the third evaluation, the abstract-receptive level the student can recognize the categorical level but may only point or make some non-verbal agreement. At the fourth level, the abstract-expressive level, the student can articulate the concept in abstract terminology.

Urquidez, Schlessman-Frost and Saunders' ideas will serve both as the structure and the content for programmatic

application. In this manner, objectives of integrative models were integrated and redesigned to establish a new design or structured model and specify some illustrative recommendations. Thus, a parallel pairs design was proposed to further examine the bilingual education-program relationship.

Programmatic Diagnostic Model

The development of a programmatic diagnostic model includes a comprehensive plan to integrate the manner of identifying, interrelating and evaluating the bilingual education objectives and variables. We propose the overall framework for any given activity for any category that can be supervised by itself or in relation to any other category. This procedure is an essential part of the professional concern we have for the education of all children and the evaluation of their programs.

The framework proposed in this study relates bilingual education objectives and variables through a parallel pairs format or contextual model. Thus, the representative bilingual education objectives/variables were placed on a continuum. This format for integrating bilingual education objectives is more applicable since criteria for evaluation can be identified at every level.

A school district's bilingual education objectives need to be clearly defined in terms of its main areas of

PRESCRIBED INTERVENTION BILINGUAL DIAGNOSTIC PROGRAMMATIC MODULE

Curriculum Programs and Cognitive Levels / Curriculum Objectives and levels of Attainment	Oral Language				Literacy				Content Areas				Evaluation	
	Conc.		Abs.		Conc.		Abs.		Conc.		Abs.		Teacher Preparation	Material Development
	R*	E*	R*	E*	R*	E*	R*	E*	R*	E*	R*	E*		
Bicultural Cultural Cultural Emergent													Are the teachers prepared to teach biculturally? to teach cognition?	Do they have a portfolio of materials?
Biliterate Literate Literate Emergent													Are the teachers prepared to teach biliteracy? to teach cognition?	Do they have a portfolio of materials?
Bilingual Lingual Lingual Emergent													Are the teachers prepared to teach bilingually? to teach cognition?	Do they have a portfolio of materials?
Evaluation Student Evaluation	Oral Language Level Assessment Student Portfolio				Reading and Writing Level Assessment Student Portfolio				Specific Content Area Level Assessment Student Portfolio				Total evaluation includes everyone working together	to plan, coordinate, implement, and evaluate the bilingual curriculum.

Figure 17. Speasl/Saunders' Model for programmatic application relating curriculum areas, operational objectives, and evaluation components. R*=Receptive, E*=Expressive

activities. Those that are particularly related to bilingual education program development must be identified. Figure 17 is a model that integrates the curriculum programs and curriculum objectives.

The model relates curriculum areas and cognitive levels to bilingual curriculum objectives and levels for attainment. The purpose is to diagnose the programmatic level of participation. The model establishes three levels of participation:

LEVEL ONE

At the basic entry level,

lingual emergent participation, receptive-expressive concrete-abstract operational language usage within the oral language, literacy and content area programs

literate emergent participation, receptive-expressive-concrete-abstract operational language usage within oral language, literacy and content area programs

cultural emergent participation, receptive-expressive-concrete-abstract operational language usage within oral language, literacy and content area programs

LEVEL TWO

A middle level of participation would include,

lingual participation, receptive-expressive-concrete-abstract operational language usage within the oral language, literacy , and content area programs

literate participation, receptive-expressive-concrete abstract operational language usage within the oral language, literacy and content area programs

cultural participation, receptive-expressive-concrete-abstract operational language usage within the oral language, literacy and content area programs

LEVEL THREE

A final level of participation would include,

bilingual participation, receptive-expressive-concrete-abstract operational language usage within the oral language, literacy and content area programs

biliterate participation, receptive-expressive-concrete-abstract language usage within the oral language, literacy and content area programs

bicultural participation, receptive-expressive-concrete-abstract language usage within the oral language, literacy and content area programs

The model proposes two distinct categories and variables to be interrelated; that is, "Curriculum Objective" and "Curriculum Areas." A description of these categories and variables will further explain the purposes for their inclusion in the model.

Horizontal Axis-Curriculum Areas

These axes were leveled in terms of their importance in the construction of the model.

Cognition

Cognition plays an important role both as a structure to integrate language usage throughout the other components and as a pre-conditioned requirement at the initial entry level toward an integrative language system. That is, there are two cognitive categories concrete and abstract and

receptive and expressive that relate to the language usage level. The category "concrete" refers to the naming of the particulars in the world. The category "abstract" refers to forming categories for the explanation of things. "Receptive" denotes a state of acceptance of information or the internal understanding of a concept. "Expressive" as a term means the actual articulation of the concept.

The idea that you transfer native language skills to a second language is one of the basic axioms in bilingual education. How is this done? Perhaps this is an intelligence process which requires that a categorical pervasive in the native language be pre-established before the learning of a second language/culture is introduced. Thus, the transformation from concrete to abstract and from receptive to expressive operational language usage can only extend or magnify the manipulation of language.

This categorical learning will enhance the formation of abstractions for language learning. This step is a prerequisite for transferring skills. Thinking is the process of using instruments to inform experiences. In addition, these experiences can be contextualized and leveled. These levels propose a syntax line or a sequence which connects the experiences. In this particular case curriculum objectives were used.

The process of moving from one spoken language to effectively participate in a bicultural manner in a second language requires that the learner and the teacher recognize this transfer as a decision-making process based on the three levels for participation: the spoken language, the use of literacy and culture. This category for cognition must be recognized before any other category can be used. This procedure represents a way of examining language where the learning for categories precedes any teaching. It begins at any level for program development and is taught in the student's native language.

Literacy

Reading and writing are the tools for literacy. Language is a written endeavor. It includes community context and the pre-literature stage. In bilingual education literacy is presented in terms of 1) literacy emergent, 2) literacy, and 3) biliteracy. This is a two language endeavor. In second language learning, it is assumed that the oral language has been internalized even if at the lingual emergent stage or receptive stage. For the beginning learner, reading and writing must be initiated in the native language. The reader can begin reading and writing in a second language.

Oral Language

Using oral language is the most common manner of communicating. In a bilingual program it is the level where second language learning is initiated. As such it has three levels of interaction: 1) lingual emergent, 2) lingual, 3) bilingual. As related to bilingual education it is a dual language system incorporating native and second languages. The native language may need to be reintroduced in case of limited knowledge of native language or in the case of native language enrichment. These are the typical cases for language learning where native and second languages instruction play vital interactive roles.

Content Areas

The content areas include math, social studies, science, etc. They are of importance in bilingual education insofar that it is through the specialized areas that the language learned is applied. As the student develops categorical order thinking, the student can articulate more clearly and effectively the complexity of the subject area. The teacher must be trained for categorical development and cognitive formation.

Vertical Axis-Curriculum Objectives

Culture

Culture is the value system for language. Three values have been proposed for the examination of cultural interac-

tion: That is, 1) Basing all interaction on one's own culture, 2) Valuing other cultures from an historical point of view, and 3) Understanding cross-cultural interaction. This is a process that goes from cultural emergent, to cultural, to bicultural. The value level is that presentation for bilingual education which accounts for culture. For bilingual education this is participation in a two culture system. Being bilingual and biliterate are not enough to fully understand the realization of another language and culture. Culture is important in a bilingual curriculum because it formulates values for the curriculum objectives.

The main objectives identified in the literature, as related to bilingual education, are biculturalism, bilateralism, and bilingualism. These have been sequenced from most to least integrative.

Bicultural

Comparative cultural studies will lead to analogies as inclusive criteria, as sequenced for a better understanding of the tools for cross-cultural interaction.

Cultural

Once students understand their own culture and a method for understanding a second culture, then, comparisons between cultures will be examined. This level was extended to include as many differences and likeness as can be

related in these comparative studies. This level may include native language, second language and two language usage.

Cultural Emergent

This emergent is only in reference to the process of learning about a new culture. If it is a new process, then the individual may have feelings of ethnocentrism, as Schlessman-Frost points out, and may reject this level of interaction with another culture. The intent at this level is to help the student to deal with this fear. It is important that the student be given cross-cultural strategies by which this transferring can be done.

Biliterate

Once the student has learned how to read and write in the second language, the student can be given reading material that is more complex and that deals with a variety of categorical reasoning. Community context is included. Students should be reading in both languages and critiquing techniques, attitudes, methods, etc.

Literate

A student who speaks a second language can learn to read in that language. If the program allows for the inclusion of the spoken language, the written language and biculturalism simultaneously, as in the case of Whole Language classrooms, there may be less specialization emphasis. The native language reader needs enrichment.

The student is diagnosed in terms of his written language in the native language. If the level is at the word formation level, s/he must take cognitive skills in the second language. If the student does not progress, the cognitive skills must be taught in the first language.

Literate Emergent

A student who does not read needs to be motivated by the print. At first, the student is at a literate emergent or pre-literature level. Again the student cognitive skills are tested. If his/her level is at the category formation, then the student is ready to begin. If not, it is important that the cognitive skills be taught in the students' native language.

Bilingual

The student at this level is most likely interested in the manipulation of the two languages for translating purposes. This would be similar to the Legal Translator training at the University of Arizona, United Nations Language Training, etc. The program can be more specialized.

Lingual

This language program includes the teaching of English or Spanish. At the beginning of this level the student will take a cognitive diagnostic test. This will indicate the language level. Is the student at the level of word or category formation? If the language is at the word formation

level, then the student will receive cognitive skills in native language. Once the categorical formulation level has been achieved, it is necessary to enrich th4e4 native language through the content.

Lingual Emergent

The lingual emergent stage is one where the student's L1 and L2 are determined. Once determined the student will receive instruction in cognitive skills using the students native language or the dominant language. Lingual emergent refers to two stages: one that the student lacks cohesive language patterns for categorization purposes in the native language, and two that the student is at the entry level for second language learning. For second language training, this is the beginning of English as a Second language or Spanish as a Second language.

Finally the model has an evaluation component.

Evaluation Components

The placement of the curriculum objectives and the curriculum areas form the basis for the evaluation. This evaluation has an horizontal evaluation which represents the advancement and diagnostic process for management of the students in the programs. The student at each level may be tested in relation to his/her student mobility from right to left and or from bottom to top. A student portfolio must be kept to examine this programmatic progression.

The vertical evaluation gives consideration to the given levels in terms of the teacher preparation, teacher portfolio and teacher materials. Teacher preparation should be conducted both by universities and by district staff development. The teacher curriculum should include the training for teachers to fully participate in the bilingual, biliterate, and bicultural curriculum. This curriculum is necessary for teacher sensitivity in the appreciation of the students' cultural differences.

The teacher portfolio could be developed during the planning activities while in training. The materials should reflect the type of thinking proposed in this model. Particular attention should be given to teaching thinking skills as well as to have the teacher understand the Cube of Inquiry process. Books such as *Double Think* (Saunders and Decker, 1973) and *Fun That's Smart and Healthy* (Schlessman-Frost and Saunders, 1991) are representative of the type of material that should be included. In addition the teacher should develop lists of materials and literature that is linguistically and cultural relevant.

A final evaluation component, the comprehensive coordinate, examines all the components in terms of the vertical and horizontal evaluations. All the components in the model are accounted and evaluated. It is imperative for this process that the administrators, the teachers, and the

professional assistants who will articulate the programs come together and share their information and criteria for evaluation.

Since both enrichment in Spanish and enrichment in English are offered, the student and the parents have a choice of program. If the intent is to enrich, then the diagnostic process and the programmatic modules should be followed.

In the process of integrating objectives of bilingual education models, we had the imperative that the integrative components build a structural integrity that could provide the design, the formalization and the implementation of the model. Thus, it is necessary that the curriculum objectives and areas be presented in a more comprehensive investigation to eliminate some of the common problems with the model types.

As explained in the theoretical implications of this dissertation, Chapter Two, the manner of examining these problems is through a model that can incorporate information through a simple design and yet can be cumulative by building categories and variables into the model. Also, the model can expand structurally, that is, through more complex syntactical delineations.

The logistics of incorporating bilingual education as an established component of a curriculum requires that the

organization adopt the activities of bilingual education within the overall school curriculum objectives.

Some Considerations

Bilingual Education as a universe of discourse is an aggregate of information based on other areas of expertise. Each contributes its representative models. Thus, the construction of models is the primary emphasis of the area. Model building needs to be firmly established to avoid the pitfalls of models as descriptions of existing programs. Bilingual researchers interested in the philosophical aspect of model construction will benefit through the application of the inquiry methodology proposed by T. Frank Saunders.

Model construction in bilingual education is necessary because the area needs to bring together the assimilationists, the ethnic group supporters, and the pragmatists into the future planning of bilingual education. There must be shared experience and a collaboration. The *Bilingual Education Models and Model Evaluation Categories: A Model Assessment Design*, as proposed in Chapter Four of this study, serves as the basis for this type of interaction.

The *Prescribed Intervention Bilingual Diagnostic Programmatic Module*, as presented in Chapter Four of this study, sets a direction for programmatic application based on the bilingual education model objectives. A school system can operationalize this model to clearly identify the

curriculum and evaluation components, the users of the models, and the activities needed in the planning, coordination and implementation of the model.

The contextual model, or a parallel pairs model proposed by Engle, Saunders and Blake (1981), represents a syntax form that allows for the juxtaposition of givens. Thus, the terms used in bilingual education can be set in a comparative coordinate form. The comparison must differ by type and level of complexity so that a relationship will provide significant implications in goal, objective, activities and results.

Urquidez' comprehensive definition for bilingual education, based on Saunders' levels, is integrative and applicable for most efforts related to the experience of bilingualism. The categories are:

Multicultural educational goals,
Strength in shared differences,
Cultural unity,
Cross-cultural analysis (ethnoscience),
Bicultural Participation,
Cultural awareness of one's history,
Comparative linguistics,
Biliteracy, and
Bilingualism.

These components, as constructed and based on the methodological orientation, propose a theoretical definition for bilingual education that needs to be included as a valuable contribution to the area of bilingual education.

In addition, Schlessman-Frost presents a definition for cross-cultural interaction, which serves to provide a basis for biculturalism. It should be considered as an option for program development.

Models, as presented in bilingual education, lack criteria for model construction. Thus, they imply a lack of deliberate application of model theory. Bilingual models have come to represent a reality based on dual language strategies rather than on constructs. The idea of *A Model for Models* is perceived as too determining in its organization and thus limiting the perceptions at hand. The fact that models can inform, organize, and develop the meaning of reality is not acceptable to some. It is however this last idea that is basic to the development of our model construction.

As we attempt to categorize objectives of bilingual education we must set up a sort system for determining the objectives. A system by which there is an emphasis or uniformity of deliberateness as to the placement of these objectives.

Historically model construction in bilingual education is politically based. The issue is to examine the model question though different types and levels to gain meaning. In developing a program model a curriculum developer may propose to select a model based on the ideas of "assimilation" or "maintenance," etc. However, these will not suffice in terms of a more comprehensive system for precise examination unless in some manner both of these are in inclusive forms and part of a structure.

A Model for Models comes from the perspective that, "If ideas, objects and experience are all contingent on their meaning, it would follow that the most significant instrument to be developed would involve that patterning of instruments which directs compositions of meaning." (Decker and Saunders, 1976, p. 89). The two patterning instruments are thus identified as descriptive models and theoretical models. The descriptive model is a copy of some original and the theoretical model are analogies. This differentiation must be clearly established in bilingual education construction.

CHAPTER 5

EPILOGUE: FUTURE SOCIETAL AND EDUCATIONAL IMPLICATIONS

Bilingual education may be one of the better aspects in the emerging technological societies to aid the reconstruction of the American educational system, to make the educational system more relevant to a large section of the American public, and to become a shared forum where the decisions concerning the educational goals of societies can be determined.

As the participation of America in world activities increases and as the population of other than English speaking Americans increases so does the need for Americans to be active and responsive in their contact with other cultures. Thus, there is a need to educate Americans to foster a cultural pluralism which will reflect the goals of an open democracy composed of a wide variety of cultural groups.

The demand for multicultural goals in the educational system is imperative. The complexity of the knowledge does not only pertain to the outcomes of education as measurable but to the quality factors in the lives of the American public and their education. Bilingual Education offers multiculturalism as a goal.

A proposition has been made in this study that all the different perspectives or different model types in bilingual education must come together to share and support the concept of bilingual education. If this is not followed, what then are the future consequences for bilingual education? Saunders in *Futures—A Procedural Question,* contributes three models which furnished three future scenarios for this explanation.

Extrapolation Model

> "We can simply predict a cause-effect relationship between the past and the future. The future is then an extrapolation line from then through now to when. On these grounds the more clearly we analyze the past the more precisely we can predict the future." (Saunders, 1973, p. 1).

In this model (See Figure 18) the past is indicative of the future due to a lack of change in the present. What existed then is the accepted model for any type of interaction in the future. Thus, if in the past, there was fragmentation due to different ideologies, then in the present the same fragmentation would prevail. For bilingual education that has a fragmented support basis, this type of thinking about the future does not contribute a new orientation.

This type of thinking is based on a target model. This model has an assimilative perspective. In bilingual

EXTRAPOLATION MODEL

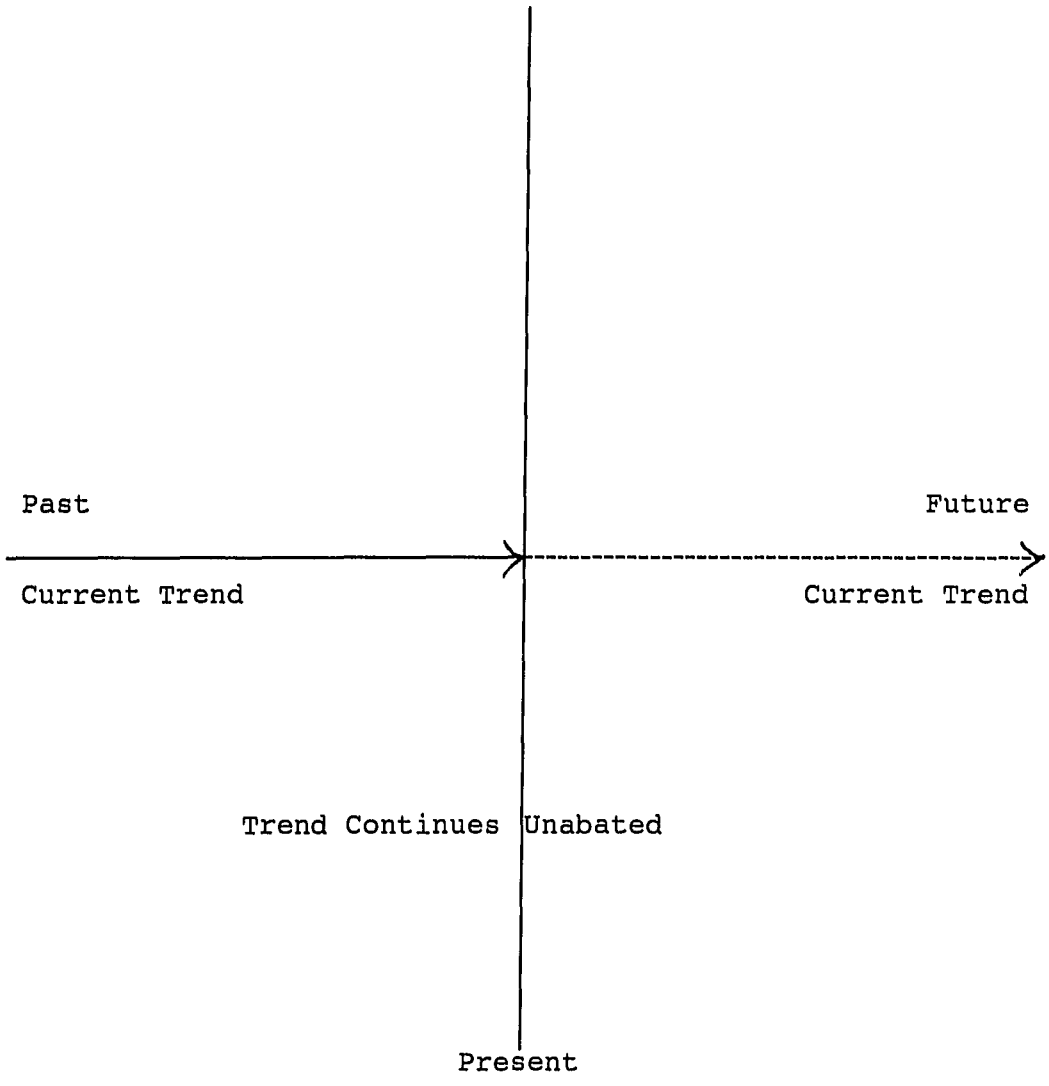


Figure 18. Saunders' Extrapolation Model for determining futures (1973).

education this type of thinking has been clearly identified within populations that do not want to change. For example, bilingual education is under attack by "English only" supporters and nationalistic ideology. In response bilingual education has developed many models in the attempt to provide information regarding to its development, its evaluation, and research methods.

Contingency Model

> "The future can also be defined as some combination of expectation and accident. We will plan to develop what is available and be pleasantly surprised by the unexpected in our lives. Some believe that science discoveries come about by this kind of fortuitous serendipity." (Saunders, 1973, pp. 1-2).

Within the contingency model, the past, which is based on current trends, is expanded by an intervening model such as the one proposed in this study, *Prescribed Intervention Bilingual Diagnostic Programmatic Module*. This is to establish criteria or a norm. The expansion could include at least three directions for decision making. (See Figure 19).

The direction may be to continue in the same current trends, or to select two-way immersion as a more appropriate model to follow, or to use an intervention model. The future

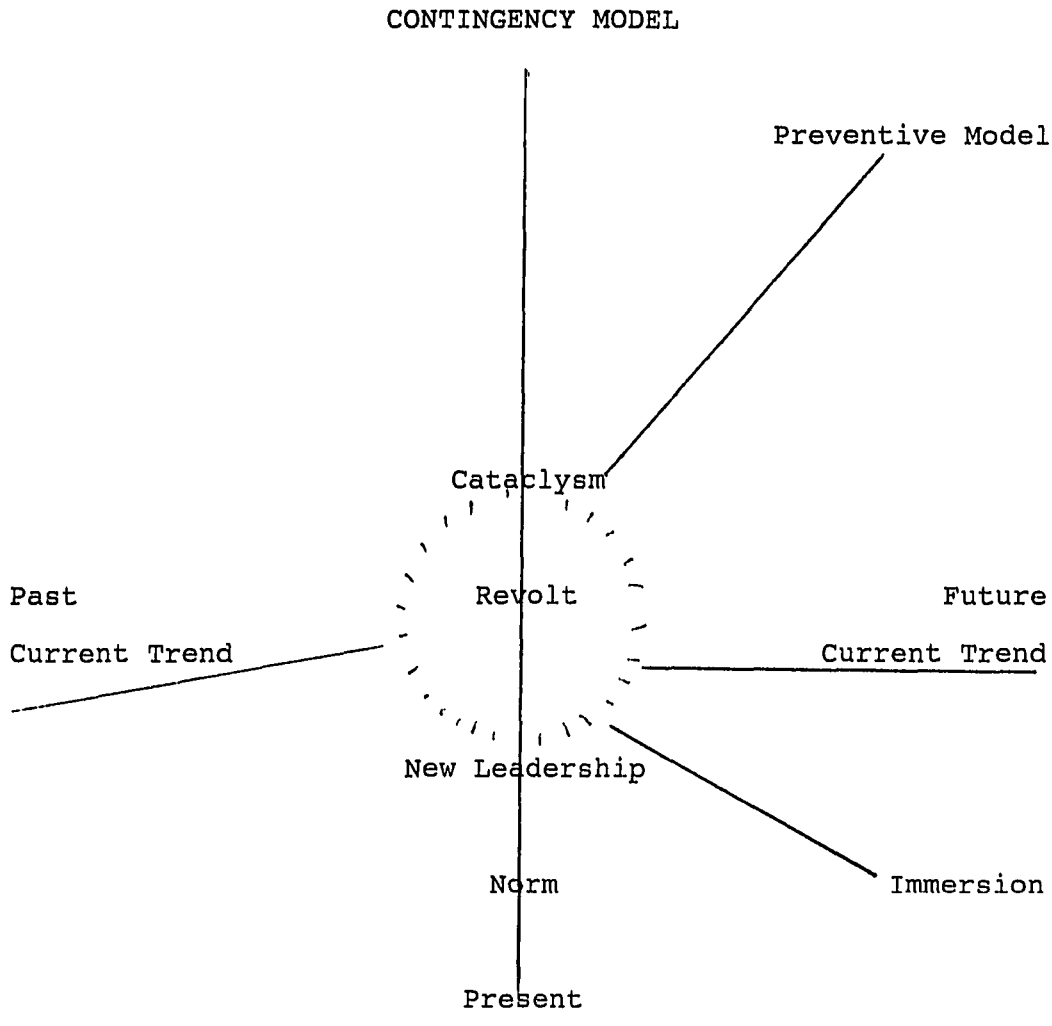


Figure 19. Saunders' Contingency Model (1973). "Serendipity Waiting for Direction."

is still based on fragmentation with some expansion. The model type is called the sequential model.

It is interesting to note that the basic model types proposed in bilingual education seem to be following a chro-

nological pattern in terms of the bilingual education experts and policies. The first trend was the establishment of transitional bilingual programs, the second trend included more maintenance bilingual programs, and the third trend is to adopt the two-way immersion model.

Futures Model

> "The future can also be seen as a matter of method. Here man's future would not be contingent upon his past nor his present. C.S. Peirce once said that 'the truth will be that to which the method of science will arrive, if everyone adopts its methods, in 2,000 years.'" (Saunders, 1973, p. 3).

The third scenario for the future is one that releases the past from the present and the present is perceived as a kind of future. (See Figure 20). Thus the future as determined by future goals proposed for bilingual education directs the present. The manner of interacting in the present depends in how clearly the objectives are redefined and stated. Thus, it is important for us in the area of bilingual education to examine closely what are our goals and objectives?

Presently, highly developed technology is used to communicate. Schlessman-Frost proposes programmatic computer application for cross-cultural interaction. (1987).

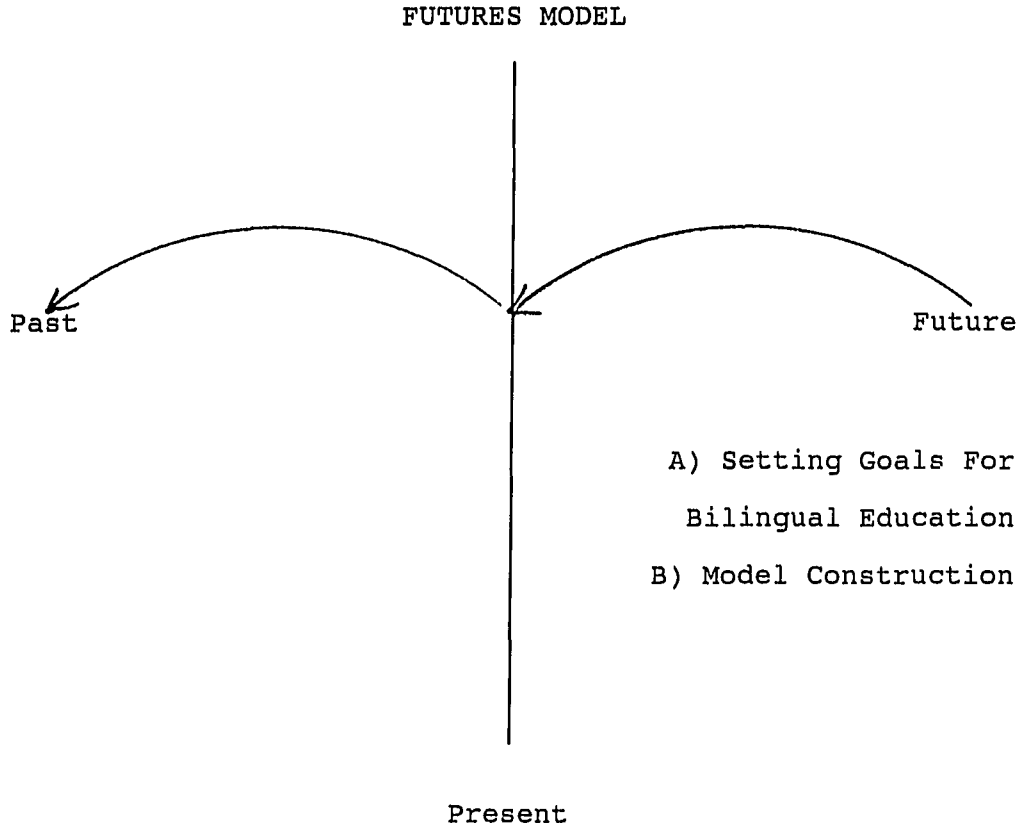


Figure 20. Saunders' Futures Model (1973). "Today is tomorrow's yesterday, unless we get there first." T. Frank Saunders.

The Japanese have communicating systems that are programmed so that as you speak into a microphone in Japanese, the receiver listens to the message in his own language which may be other than Japanese. With this type of technology available, it is important that bilingual education leaders and decision makers have the education and the knowledge to

act intelligently to determine goals that have a future consequence.

It is of great importance that the future be examined and such issues be dealt with. Decisions must be made that identify the critical criteria necessary for future implications.

The present school curriculum cannot deal with all these implications as the contingencies increase in number and complexity. However, bilingual education may be the way to examine and offer a new meaning to our present curriculum.

This can be so if bilingual education can be established as a design, as a future choice, as a foreseen goal, a *synthetic a priori* for the school organization. In this manner bilingual education becomes a value issue, pertaining to all those who are part of the system, and incorporating a shared forum for human worth. "Language may preserve the only aesthetic foundations diverse cultures have to offer the human condition in the next millennia." (Saunders, 1994).

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