

COMPREHENSIVE ASSESSMENT OF CULTURALLY AND LINGUISTICALLY DIVERSE STUDENTS:

A SYSTEMATIC, PRACTICAL APPROACH FOR
NONDISCRIMINATORY ASSESSMENT.



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STAGES OF LANGUAGE ACQUISITION

Comprehensible input is essential in order to progress through these stages

Pre-Production/Comprehension (*no BICS*)

Sometimes called the silent period, where the individual concentrates completely on figuring out what the new language means, without worrying about production skills. Children typically may delay speech in L2 from one to six weeks or longer.

| | | | |
|---------------|---------------|--------------|----------------|
| listen | point | match | draw |
| move | choose | mime | act out |

Early Production (*early BICS*)

Speech begins to emerge naturally but the primary process continues to be the development of listening comprehension. Early speech will contain many errors. Typical examples of progression are:

| | |
|-------------------------|---|
| yes/no questions | lists of words |
| one word answers | two word strings & short phrases |

Speech Emergence (*intermediate BICS*)

Given sufficient input, speech production will continue to improve. Sentences will become longer, more complex, with a wider vocabulary range. Numbers of errors will slowly decrease.

| | |
|---|---------------------------|
| three words and short phrases | dialogue |
| longer phrases | extended discourse |
| complete sentences where appropriate | narration |

Intermediate Fluency (*advanced BICS/emerging CALP*)

With continued exposure to adequate language models and opportunities to interact with fluent speakers of the second language, second language learners will develop excellent comprehension and their speech will contain even fewer grammatical errors. Opportunities to use the second language for varied purposes will broaden the individual's ability to use the language more fully.

| | | | |
|----------------------|-----------------|----------------|----------------|
| give opinions | analyze | defend | create |
| debate | evaluate | justify | examine |

Source: Krashen, S.D. (1982). *Principles and Practice in second language acquisition*. New York: Pergamon Press.

SECOND LANGUAGE ACQUISITION

Basic Interpersonal Communication Skills (BICS)

- *ability to communicate basic needs and wants*
- *ability to carry on basic interpersonal conversations*
- *takes 1 - 3 years to develop*
- *insufficient to facilitate academic success*

Cognitive Academic Language Proficiency (CALP)

- *ability to communicate thoughts and ideas with clarity and efficiency*
- *ability to carry on advanced interpersonal conversations*
- *takes at least 5-7 years to develop, possibly longer*
- *required for academic success*

Cummins' Developmental Interdependence Hypothesis

- *BICS is the small visible, surface level of language*
- *CALP is the larger, hidden, deeper structure of language ability*
- *each language has a unique and Separate Underlying Proficiency (SUP)*
- *proficiency in L1 is required to develop proficiency in L2*
- *Common Underlying Proficiency (CUP) facilitates transfer of cognitive skills*

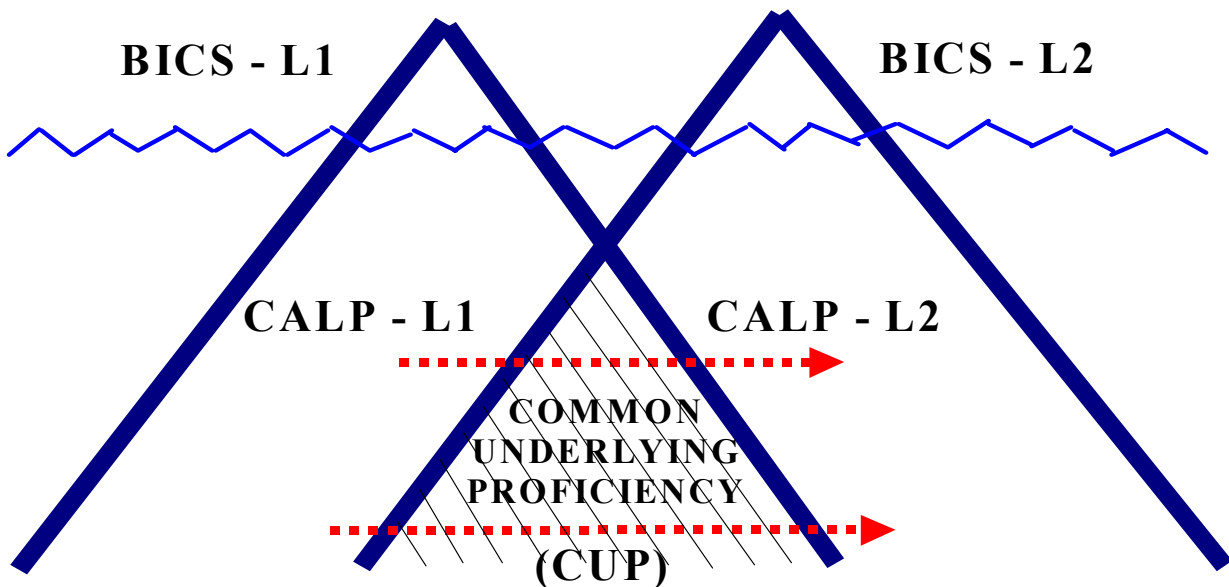


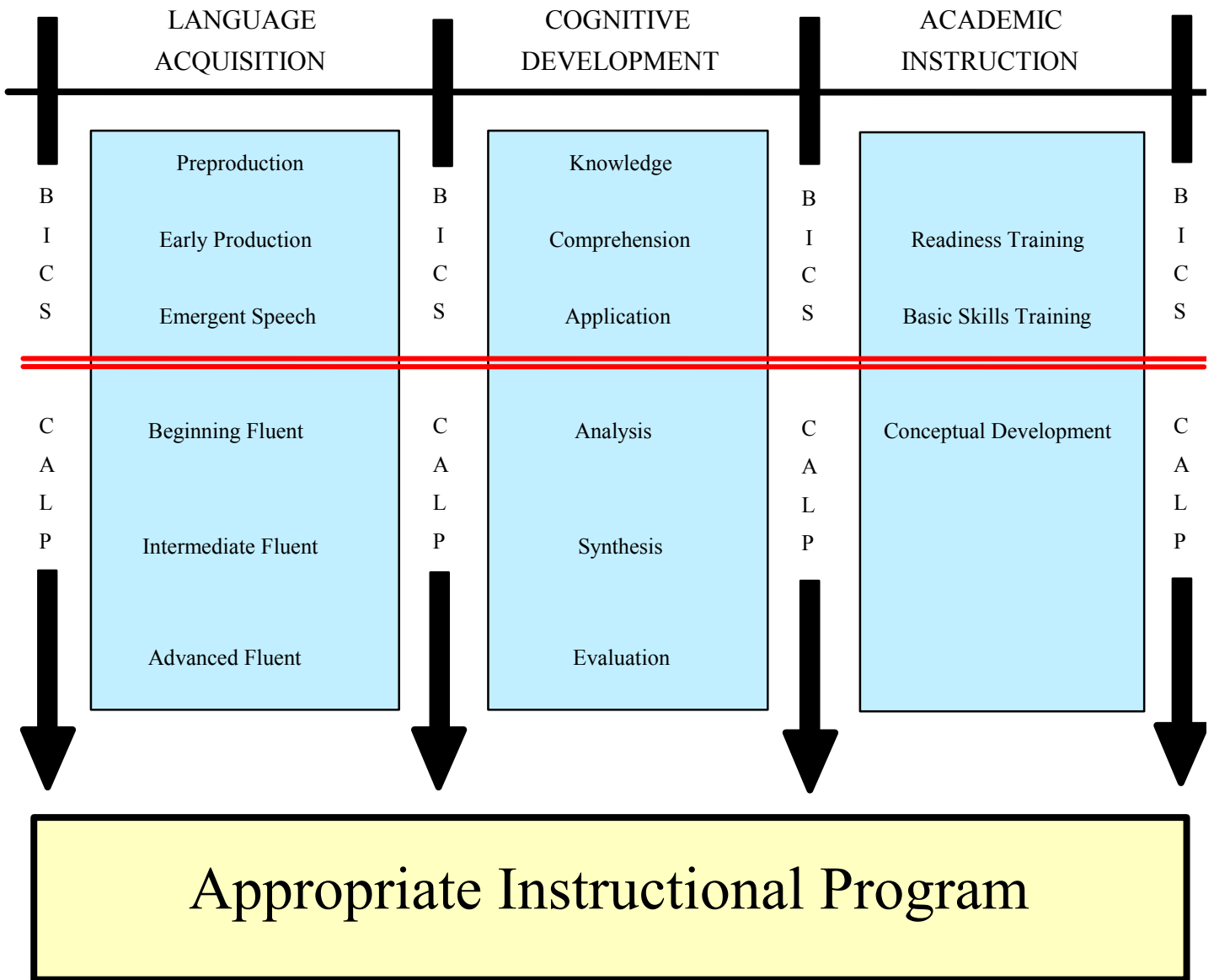
Illustration adapted from Cummins, J. C. (1984). Bilingual And Special Education: Issues In Assessment and Pedagogy (p. 143). Austin, TX: Pro-Ed.

DIMENSIONS OF BILINGUALISM AND RELATIONSHIP TO GENERATIONS

| TYPE | STAGE | LANGUAGE USE |
|---|---|--|
| <i>First Generation – Foreign Born</i> | | |
| A | Newly Arrived | Understands little English. Learns a few words and phrases. |
| Ab | After several years of residence – Type 1 | Understands enough English to take care of essential everyday needs. Speaks enough English to make self understood. |
| Ab | Type 2 | Is able to function capably in the work domain where English is required. May still experience frustration in expressing self fully in English. Uses immigrant language in all other contexts where English is not needed. |
| <i>Second Generation – U.S. Born</i> | | |
| Ab | Preschool Age | Acquires immigrant language first. May be spoken to in English by relatives or friends. Will normally be exposed to English-language TV. |
| Ab | School Age | Acquires English. Uses it increasingly to talk to peers and siblings. Views English-language TV extensively. May be literate only in English if schooled exclusively in this language. |
| AB | Adulthood – Type 1 | At work (in the community) uses language to suit proficiency of other speakers. Senses greater functional ease in his first language in spite of frequent use of second. |
| AB | Adulthood – Type 2 | Uses English for most everyday activities. Uses immigrant language to interact with parents or others who do not speak English. Is aware of vocabulary gaps in his first language. |
| <i>Third Generation – U.S. Born</i> | | |
| AB | Preschool Age | Acquires both English and immigrant language simultaneously. Hears both in the home although English tends to predominate. |
| aB | School Age | Uses English almost exclusively. Is aware of limitation in the immigrant language. Uses it only when forced to do so by circumstances. Is literate only in English. |
| aB | Adulthood | Uses English almost exclusively. Has few opportunities for speaking immigrant language. Retains good receptive competence in this language. |
| <i>Fourth Generation – U.S. Born</i> | | |
| Ba | Preschool Age | Is spoken to only in English. May hear immigrant language spoken by grandparents and other relatives. Is not expected to understand immigrant language. |
| Ba | School Age | Uses English exclusively. May have picked up some of the immigrant language from peers. Has limited receptive competence in this language. |
| B | Adulthood | Is almost totally English monolingual. May retain some receptive competence in some domains. |

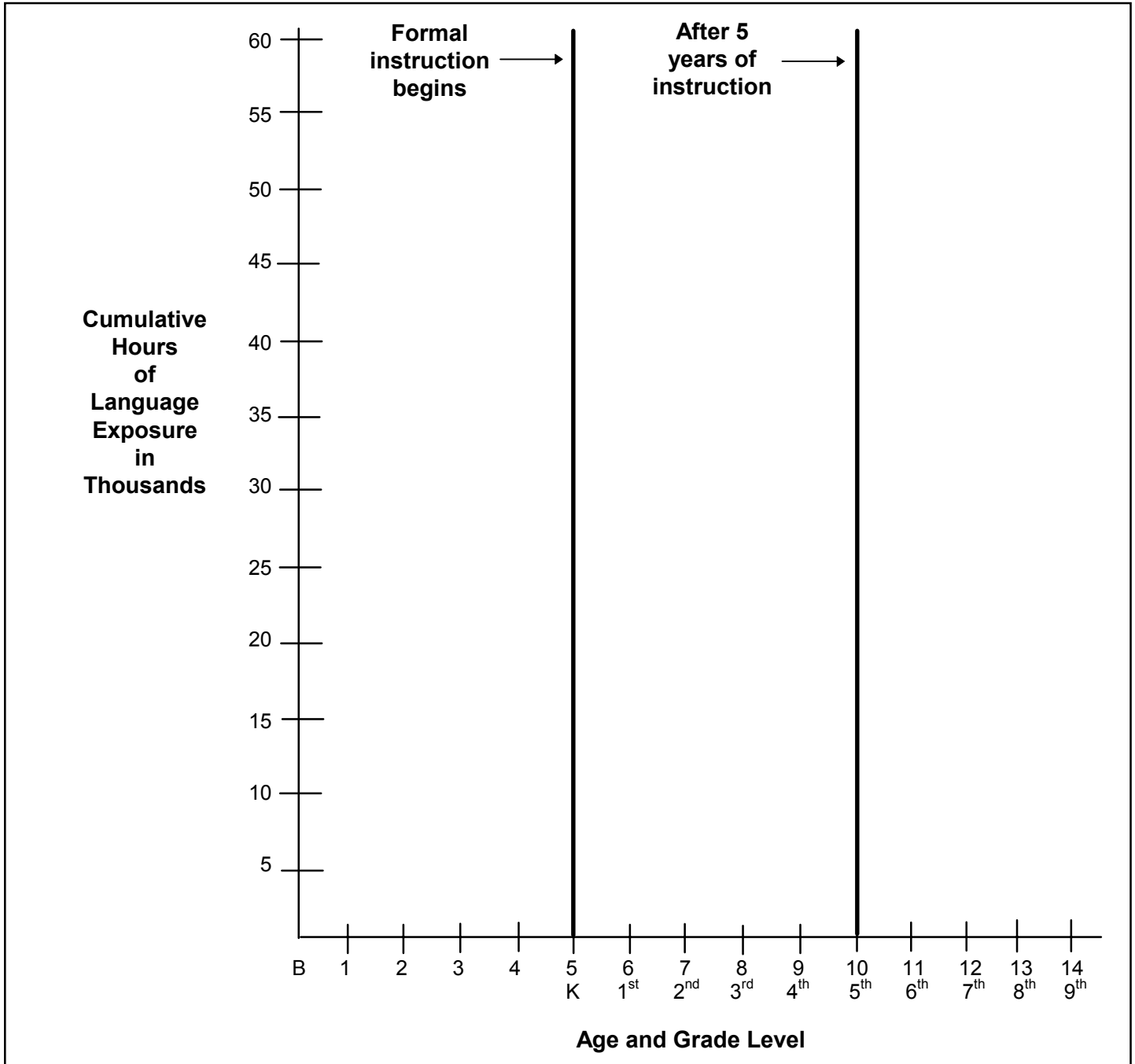
Source: Adapted from Valdés, G. & Figueroa, R. A. (1994), Bilingualism and Testing: A special case of bias (p. 16).

PARALLEL PROCESSES IN DEVELOPMENT: EDUCATION FOLLOWS MATURATION

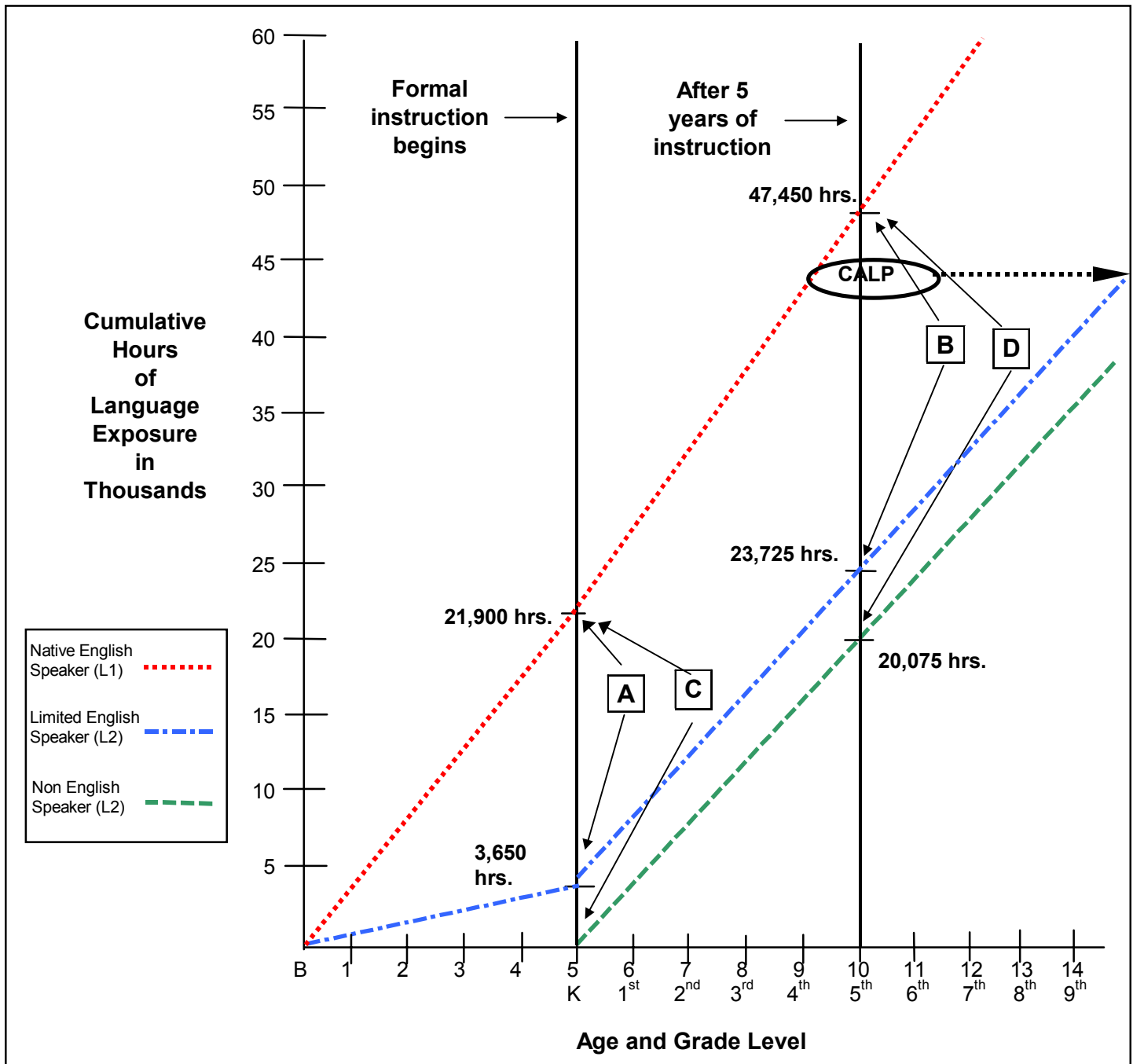


CULTURAL CONTEXT

LANGUAGE EXPERIENCE GRAPH: TYPICAL PATTERNS OF LINGUISTIC, COGNITIVE, AND ACADEMIC DEVELOPMENT WHEN DO NON-NATIVE ENGLISH SPEAKERS “CATCH UP?”



**LANGUAGE EXPERIENCE GRAPH:
TYPICAL PATTERNS OF LINGUISTIC, COGNITIVE, AND ACADEMIC DEVELOPMENT
WHEN DO NON-NATIVE ENGLISH SPEAKERS “CATCH UP?”**



A) difference upon entrance to K between native English speaker and Limited English Speaker = 17,250 hrs.

B) difference after 5 years of English-only instruction for Limited English Speaker = 23,650 hrs.

C) difference upon entrance to K between native English speaker and Non-English Speaker = 21,900 hrs.

D) difference after 5 years of English-only instruction for Non-English Speaker = 27,350 hrs.

Estimated point at which CALP begins to emerge:

- Native English Speaker = 4th to 5th grade
- Limited English Speaker = 9th to 10th grade (now ready for 4th grade instruction)
- Non-English Speaker = 12th grade + (now ready for 4th grade instruction)

Assumptions: average waking hours during which language exposure takes place from birth to age five = 12

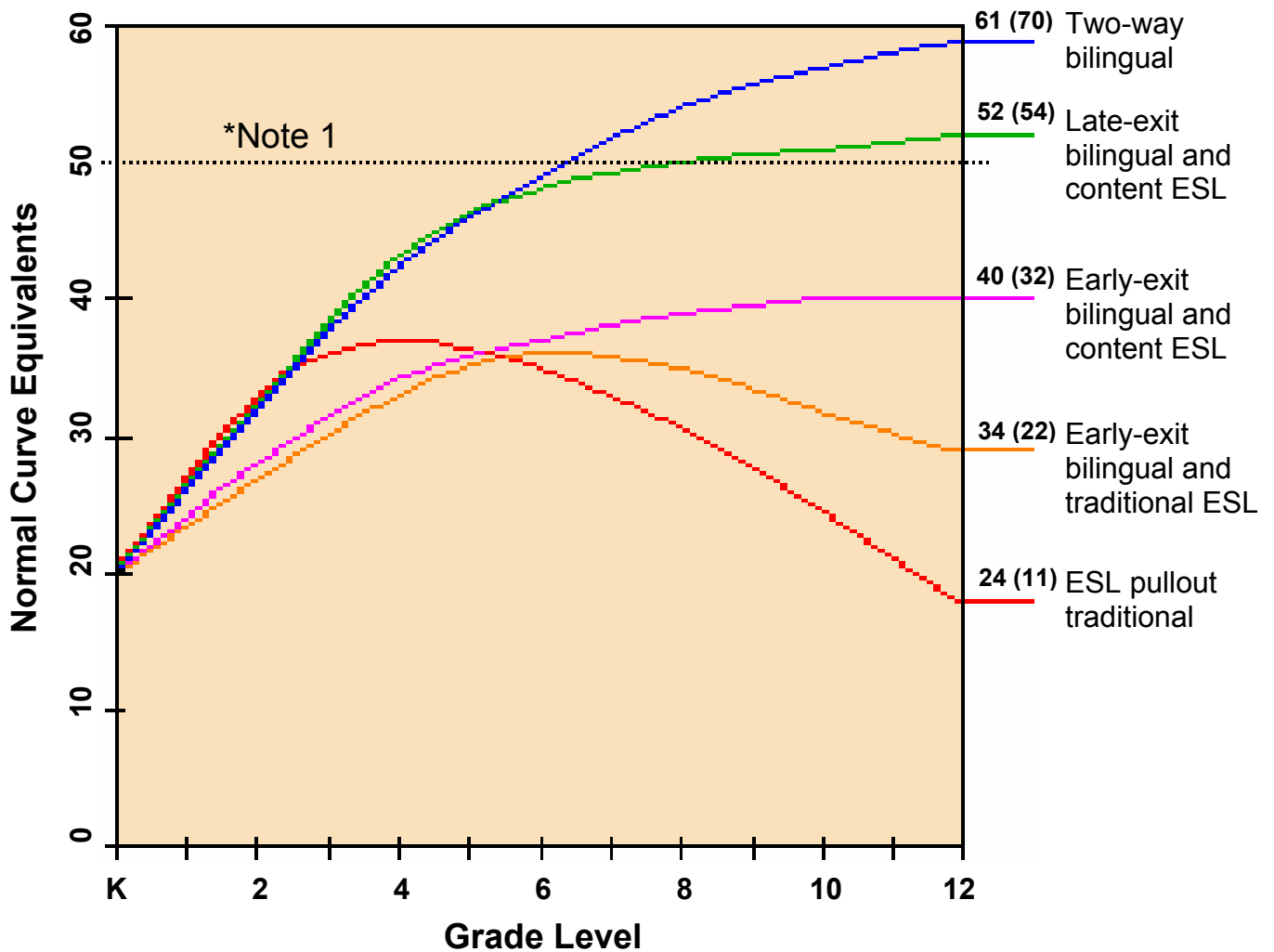
average waking hours during which language exposure takes place from age five to age ten = 14

average hours of English language exposure for non-native speakers from birth to age five = 2

average hours of English language exposure for non-native speakers from age five to age ten = 11

BILINGUAL EDUCATION MODELS AND ACADEMIC ACHIEVEMENT

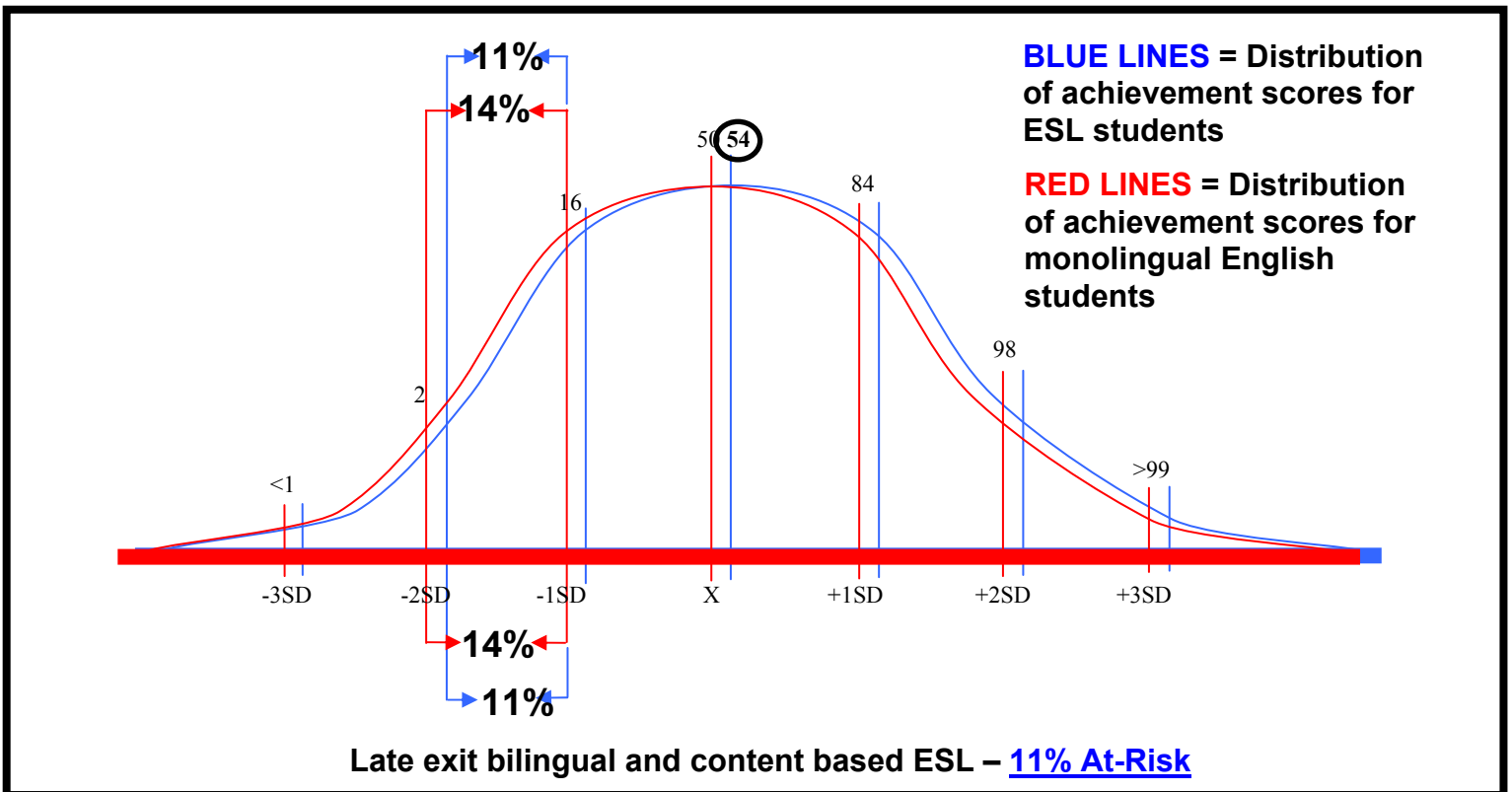
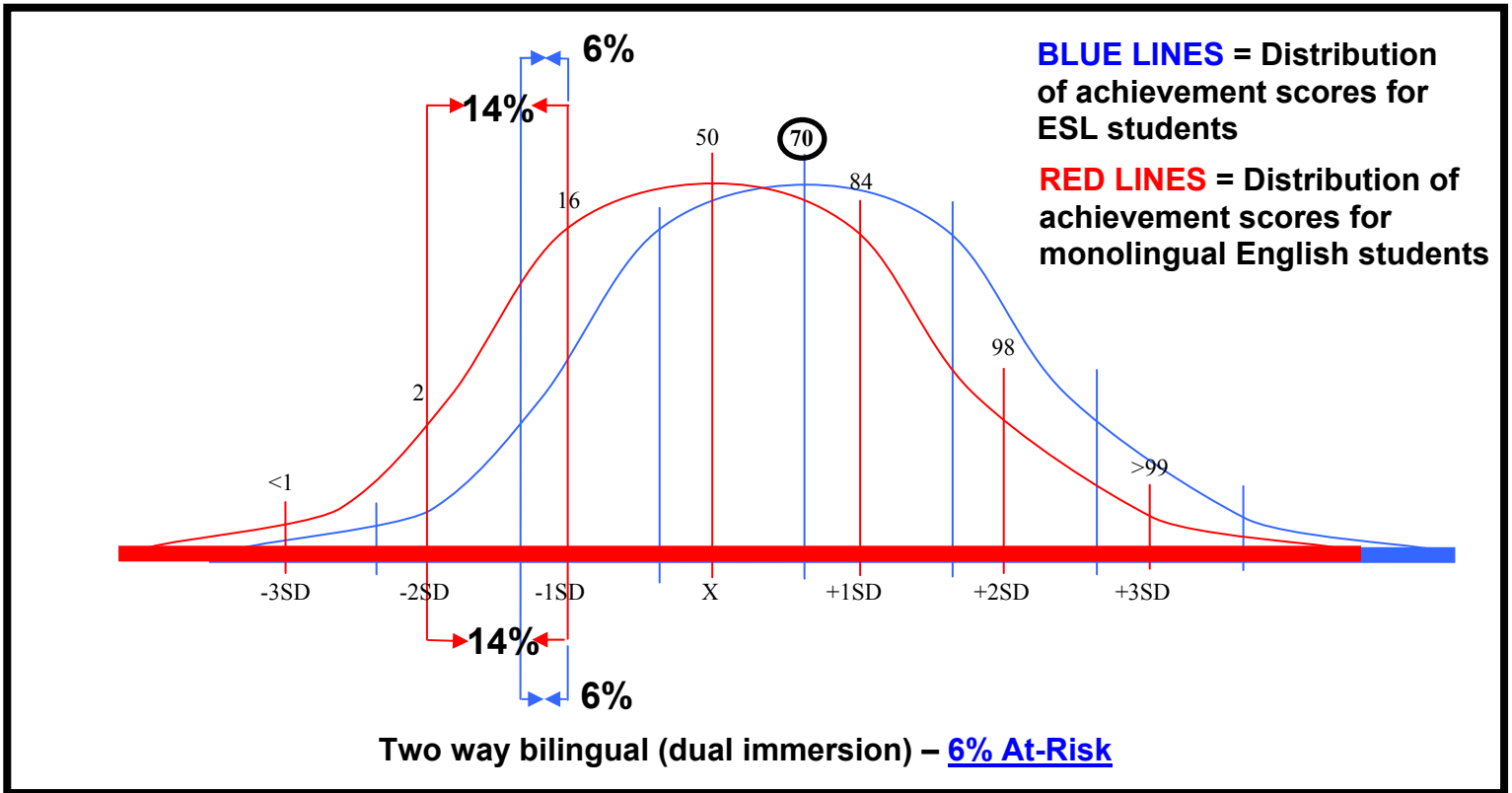
General Pattern of Bilingual Education Student Achievement on Standardized Tests in English



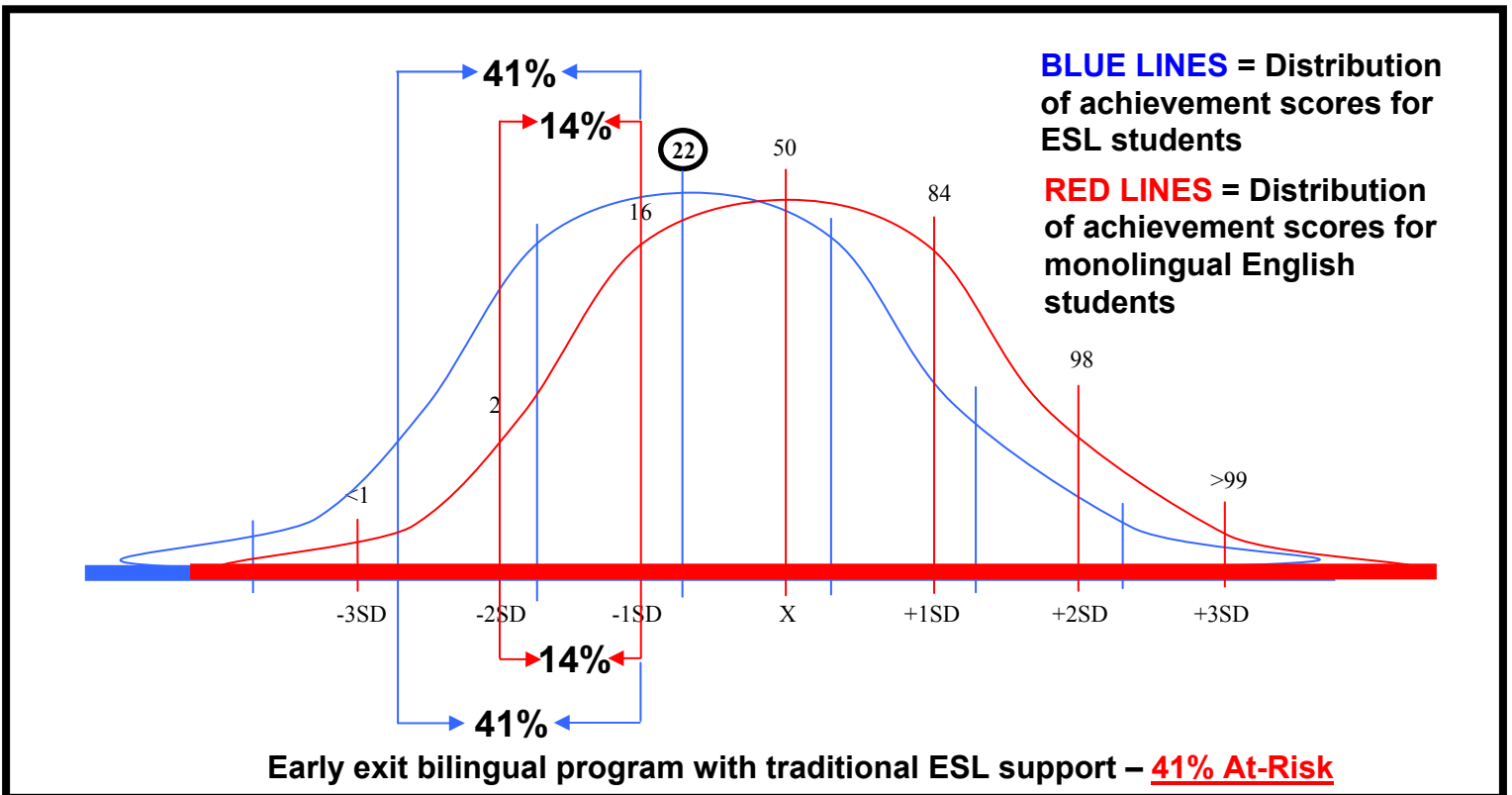
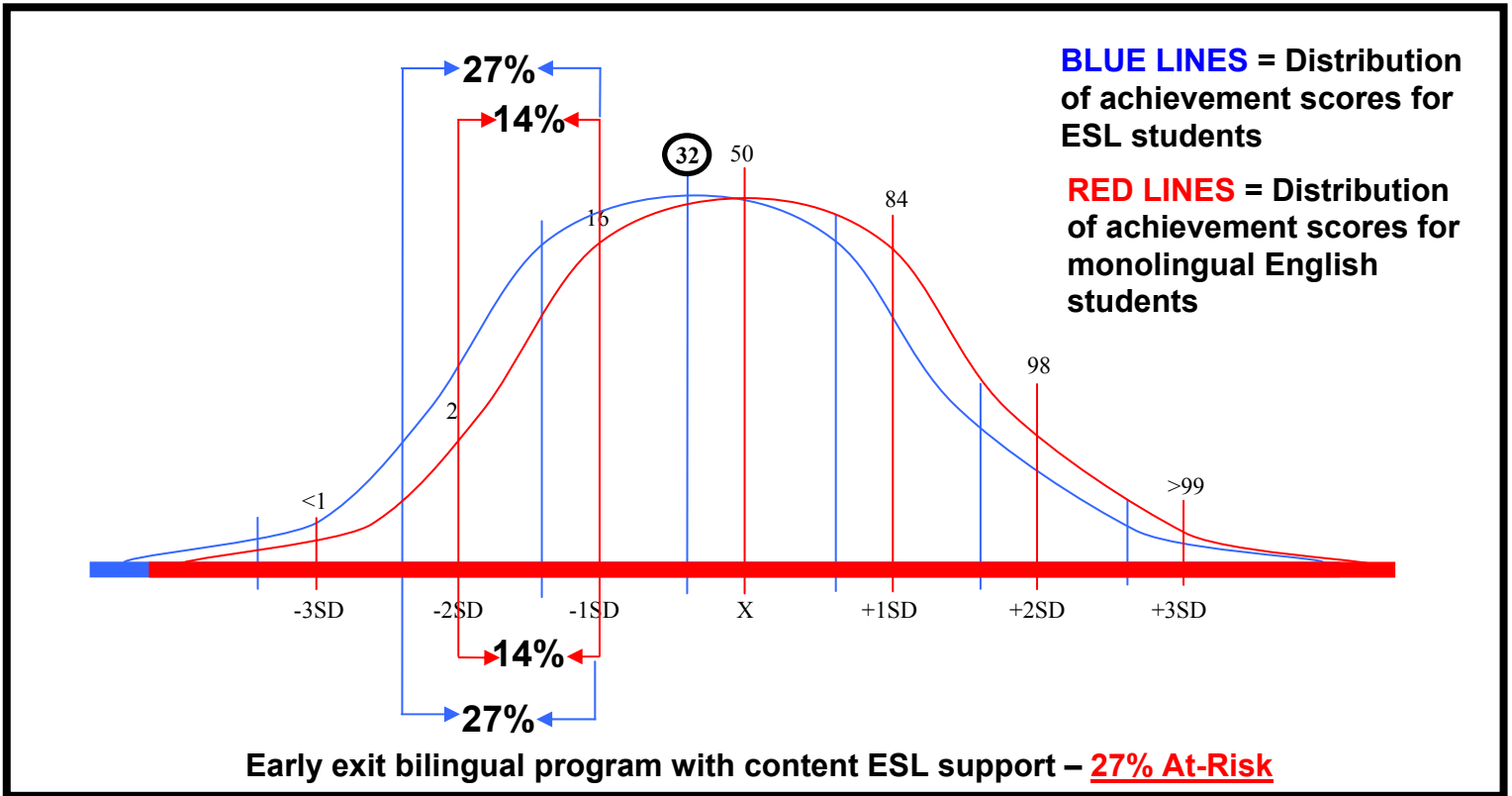
*Note 1: Average performance of native-English speakers making one year's progress in each grade.

Adapted from: Thomas, W. & Collier, V. (1997). *Language Minority Student Achievement and Program Effectiveness*. Washington DC: National Clearinghouse for Bilingual Education.

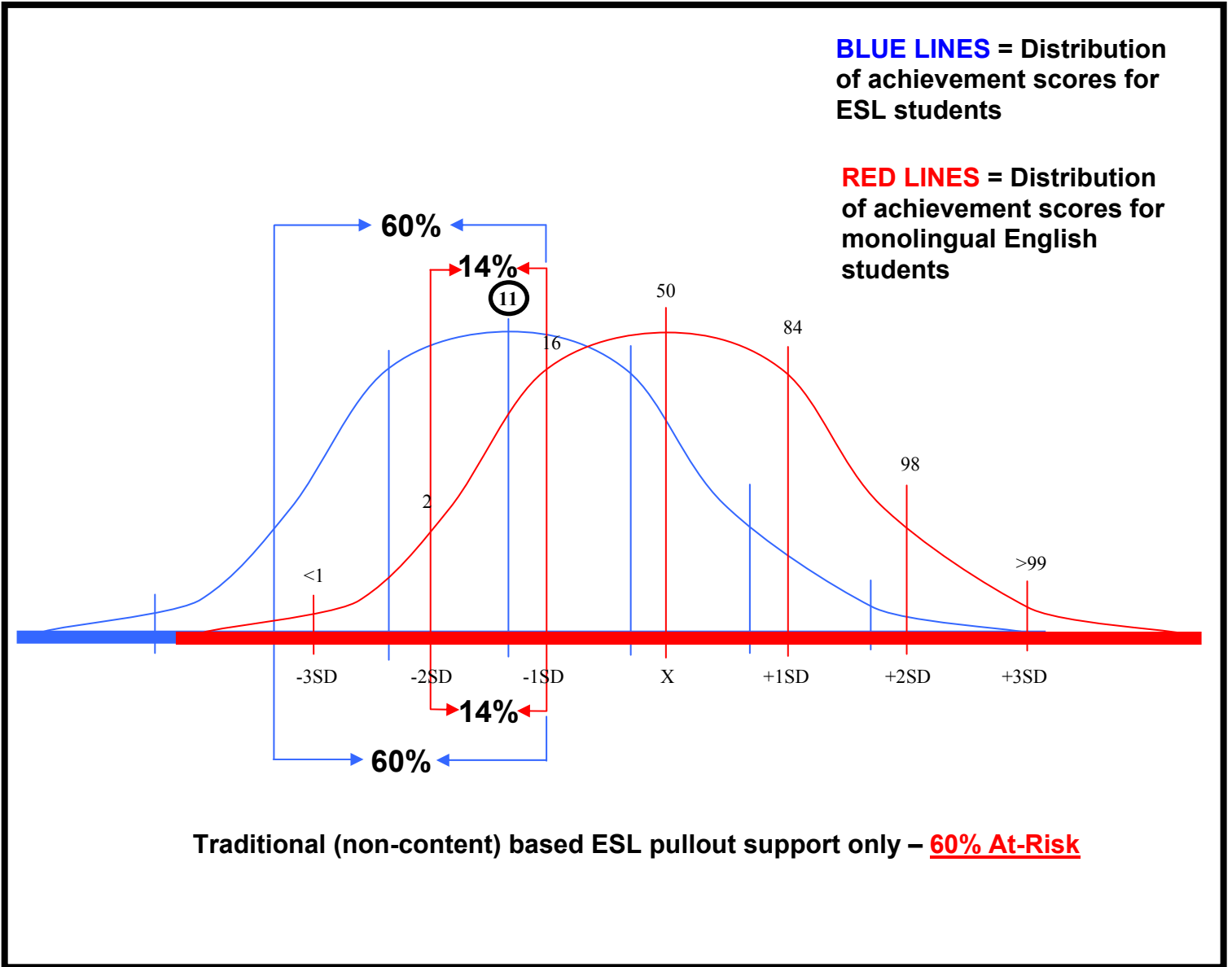
MODEL COMPARISON OF PERCENTAGE OF "AT-RISK" SECOND LANGUAGE STUDENTS



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NONDISCRIMINATORY ASSESSMENT: FEDERAL LEGISLATION

- | | | |
|--|---|---|
| 1. No child, including one who is culturally and linguistically diverse, may be placed in special education solely on the basis of identified academic need in the absence of a disability related to educational performance. (34CFR 300.7) | T | F |
| 2. Information about the child's language proficiency in both the primary language and in English must be considered in determining how to conduct the evaluation of a pupil with limited English proficiency. (34CFR 300.532) | T | F |
| 3. Lack of familiarity with the English language does not preclude a child from being eligible for special education services. (34CFR 300.534b2) | T | F |
| 4. Cultural difference ("disadvantage") is not a sufficient condition with which eligibility for special education services can be questioned. (34CFR 300.7b10ii and 300.541b4) | T | F |
| 5. Environmental or economic disadvantage that adversely affects a pupil's academic achievement may be used to form the basis of a disability or establish eligibility for special education services. (34CFR 300.7b10ii and 300.541b4) | T | F |
| 6. The normal process of second-language acquisition, as well as manifestations of dialect and sociolinguistic variance may be diagnosed as a handicapping condition. (34CFR 300.533a and 300.534b) | T | F |
| 7. Tests and procedures that are culturally discriminatory can not be used to qualify a pupil for special education services. (34CFR 300.532a1) | T | F |
| 8. Tests and other assessment materials need not be provided in the pupil's primary language or other mode of communication. (34CFR 300.532a2) | T | F |
| 9. Psychological assessment of a pupil in their native language by a bilingual psychologist meets the requirements under the law for assessment in the primary language. (34CFR 300.136 and 300.533a) | T | F |
| 10. The written assessment report must contain a determination regarding the effects of cultural or linguistic difference upon the functioning of the pupil only when a child is found to have a specific learning disability. (34CFR 300.543a7) | T | F |

PRE-ASSESSMENT CONSIDERATIONS IN NONDISCRIMINATORY ASSESSMENT

COMPARISON OF TRADITIONAL VERSUS ALTERNATIVE MODELS OF ASSESSMENT

| <u>TRADITIONAL MODEL</u> | <u>ALTERNATIVE MODELS</u> |
|--|---|
| Based on "medical" model where the learning problem is identified as being an internal flaw <i>within</i> the child | Based on "ecosystems" model where the learning problem is identified as being due to dysfunctional transactions <i>between</i> the child and learning environment |
| Focus is on measuring performance on tests and comparing results to provide relative standing against performance of other age and grade level peers | Focus is on assessing environmental and systemic factors which may be affecting child's ability to learn |
| Intent of assessment is to identify disabilities in isolation rather than generate intervention strategies or modifications | Intent of assessment is to identify problem situations in context in order to develop intervention strategies or modifications |
| Children are given labels corresponding to their measured performance and are classified by disability category | Strengths and weaknesses of the situation and the child are identified regardless of disability |
| Child's abilities and potential is innate, static, immutable, and unchangeable | Child's abilities are experiential, dynamic, modifiable, and changeable |
| Assessment is conducted by a "multidisciplinary" team of experts who evaluate learning difficulties relatively independently | Assessment is conducted by a team of people familiar with the child who collaborate in a "transdisciplinary" approach |
| Parents and general education teachers are not active participants in the assessment process | Parents and general education teachers are key participants in the assessment and intervention planning process |
| Standardized testing provides little useful information that can assist in the development of instructional approaches for the classroom | Alternative and authentic methods of assessment provide information directly applicable to the development of instruction for the classroom |

PRE-ASSESSMENT CONSIDERATIONS IN NONDISCRIMINATORY ASSESSMENT

CONTRASTING PARADIGMS

| | PSYCHOMETRIC | ECOSYSTEMIC |
|---------------------------------|------------------------------------|--|
| ORIENTATION | Individual Child | Ecosystem of the Child |
| ROLE OF HOME AND CULTURE | Background information | Foreground of hypothesis generation and central to "interpretations" |
| ROLE of PARENTS | Source of information | Collaborators |
| PROBLEM DEFINITION | Internal individual differences | Situations |
| PROCESS | Identification of child's deficits | Differentiation of functional and dysfunctional transactions and settings and identification of potential resources. |
| INTERVENTION | Remediation | Mediation Liaison Consultation |
| GOAL | "Fix" the child | Alter transactions |

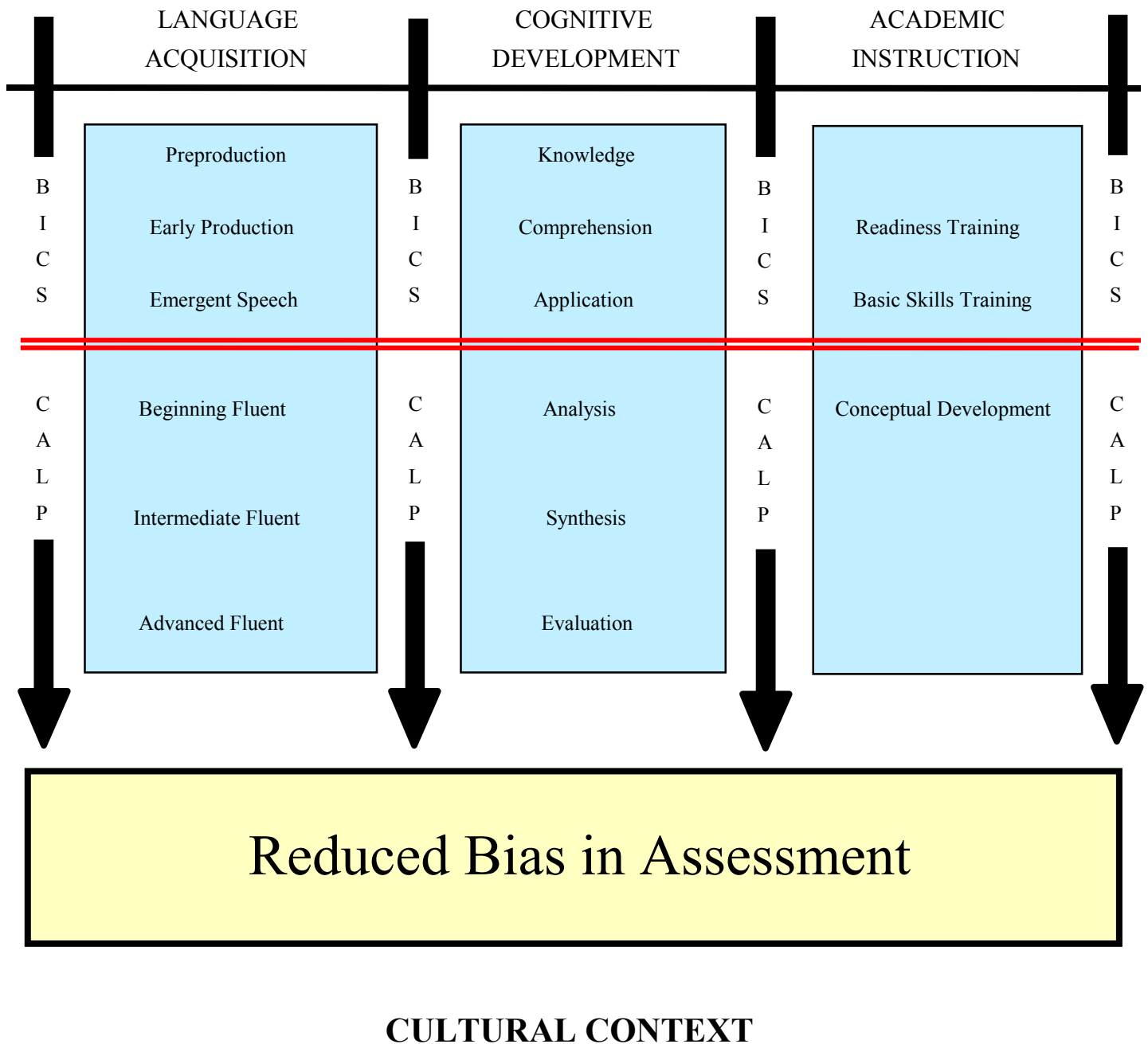
Adapted From : Cook-Morales, V. J. (1994). The Cultural and Linguistic Diversity Project. A pre-service professional training grant funded by the Office of Bilingual Education and Minority Language Affairs, U. S. Department of Education.

PRE-ASSESSMENT CONSIDERATIONS IN NONDISCRIMINATORY ASSESSMENT

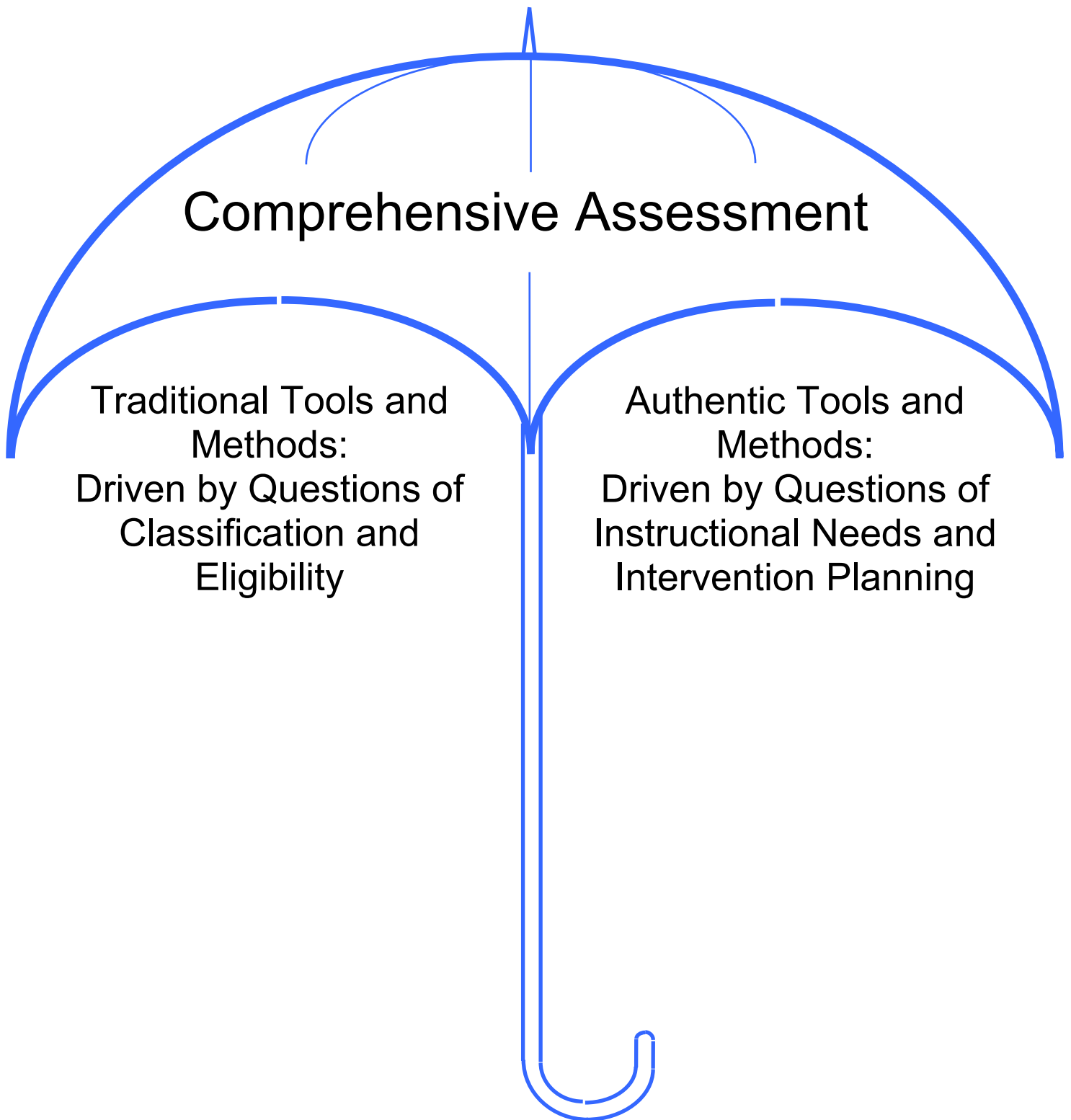
| POTENTIAL BIAS | APPROACH | TECHNIQUES/PROCEDURES |
|---|--------------------------|---|
| Failure to consider cultural and linguistic implications of background experiences | Transactional | <ul style="list-style-type: none"> • Cultural knowledge bases • Culture appropriate processes • Parent and child involvement • Cultural advocates |
| Failure to view behavior or performance within context of learning environment or ecology | Ecological | <ul style="list-style-type: none"> • Ecosystems assessment • Culture-based hypotheses • Ecological assessment • Adaptive behavior evaluation |
| Failure to measure both performance and achievement via informal and direct methods | Alternative | <p><u>Authentic</u> (skill focused)</p> <ul style="list-style-type: none"> • CBA/M, portfolio (work samples) • Criterion-referenced tests/procedures • Contextual-participant observation <p><u>Process</u> (cognition focused)</p> <ul style="list-style-type: none"> • Dynamic assessment • Clinical observations • Piagetian assessment (Ordinal Scales) |
| Failure to reduce potential bias and discrimination in the use of standardized tests | Psychometric | <ul style="list-style-type: none"> • Underlying theory • Cultural and linguistic bias • Test adaptations • Test selection • Test interpretation |
| Failure to collaborate across disciplines in evaluation and decision making | Interdisciplinary | <ul style="list-style-type: none"> • Establishing a professional assessment team • Inclusion of parent in the assessment process |

Source: Adapted from Flanagan & Ortiz, 2001 and Cook-Morales, 1995.

PRE-ASSESSMENT CONSIDERATIONS IN NONDISCRIMINATORY ASSESSMENT



PRE-ASSESSMENT CONSIDERATIONS IN NONDISCRIMINATORY ASSESSMENT



STAGE MODEL FOR NONDISCRIMINATORY ASSESSMENT OF CLD CHILDREN

I. DEVELOP CULTURAL AND LINGUISTIC HYPOTHESES

II. ASSESS LANGUAGE DEVELOPMENT AND PROFICIENCY

III. ASSESS CULTURAL AND LINGUISTIC DIFFERENCES

IV. ASSESS ENVIRONMENTAL AND COMMUNITY FACTORS

V. EVALUATE, REVISE, AND RE-TEST HYPOTHESES

VI. DETERMINE NEED FOR AND LANGUAGES OF ASSESSMENT

VII. MODIFY AND ADAPT TRADITIONAL PRACTICES

VIII. UTILIZE NON-DISCRIMINATORY PRACTICES

IX. EVALUATE ALL DATA WITHIN CULTURAL/LINGUISTIC CONTEXT

X. LINK ASSESSMENT WITH INTERVENTION

————— Pre-referral procedures (I. - V.)
===== Post-referral procedures (VI. - X.)

STAGE MODEL OF NONDISCRIMINATORY ASSESSMENT: PROCESSES AND PROCEDURES

I. ASSESS AND EVALUATE THE LEARNING ECOLOGY

Begin with the assumption that there exist an infinite number of reasons for why any given child is having learning difficulties and that a given disability only represents but one of those reasons. In other words, try first to eliminate all other potential reasons for learning difficulties, particularly those related to culture or the process of second language acquisition before entertaining the idea of testing for the presence of a suspected internal disability. Utilize ecological and ecosystems approaches to frame the child's school performance within the context of any cultural, linguistic, or other external factor that may be affecting the learning process. Sample starter hypotheses regarding why a child may be having academic difficulties include:

- the school curriculum does not provide cultural relevance and meaning for the student
- the student is not receiving or has not received instruction in a linguistically appropriate manner
- the school environment does not affirm the student's native language or culture
- the student's attendance has not been consistent and regular
- the student has not had sufficient experience with the school system
- the home-school relationship does not support the student's learning
- the family environment is not supportive and conducive to the student's learning
- the student's basic survival needs (e.g., food, clothing, shelter) have not been adequately met
- the match between current or previous teacher's teaching style and the student's learning style is not or has not been satisfactory
- the current or previous school or classroom environments are not or have not been conducive to learning
- the student's cultural learning style is not and has not been accommodated to promote learning
- standardized group achievement scores are comparable to other children of the same age, grade, and cultural or linguistic experience
- student's grades are comparable to other children of the same age, grade, and cultural or linguistic experience
- current work samples and classroom performance are comparable to other children of the same age, grade, and cultural or linguistic experience



CHARACTERISTICS OF ATTENTION DEFICIT DISORDER AND ENGLISH LANGUAGE LEARNERS IN THE CLASSROOM

| Characteristics of Attention Deficit Disorder and Common Manifestations in the Classroom | Characteristics of English Language Learners and Common Manifestations in the Classroom |
|--|--|
| Inattentive | ELLs may not understand what is being said in the classroom, they don't know when exactly to pay attention or what to pay attention to. |
| Hyperactive | ELLs may appear to be hyperactive because they are unaware of classroom rules and expected school behaviors. |
| Impulsive | ELLs may lack the ability to fully comprehend instructions so that they display a tendency to act impulsively in their work rather than following the instructions systematically. |
| Distractible | ELLs may not fully comprehend the language spoken in the classroom and therefore will move their attention to whatever they can comprehend appearing to be distractible in the process. |
| Disruptive | ELLs may exhibit disruptive behavior, particularly excessive talking—often with other ELLs, due to a need to try and figure out what is expected of them in the classroom or on assigned tasks. |
| Disorganized | ELLs often display work and work habits that appear disorganized because they don't always comprehend instructions on how to organize or arrange materials or what must be kept together. |
| Slow to begin tasks | ELLs may have limited comprehension of the classroom language so that they are not always clear on how to properly begin tasks or what must be done in order to start assignments. |
| Slow to finish tasks | ELLs, especially those with very limited English skills, often need to translate material from English into their native language in order to be able to work with it and then must translate it back to English in order to demonstrate it. This process extends the time for completion of many classroom tasks. |
| Forgetful | ELLs cannot always fully encode information into memory because of their limited comprehension of the language and will often appear to be forgetful when in fact the issue relates more to their lack of proficiency with English. |

STAGE MODEL OF NONDISCRIMINATORY ASSESSMENT: PROCESSES AND PROCEDURES

II. ASSESS AND EVALUATE LANGUAGE DEVELOPMENT AND PROFICIENCY

Knowledge of a child's language proficiency and language dominance forms the basis of any assessment and guides the appropriate collection of information and data. Language proficiency in both languages must be assessed and determined as such information is crucial to the interpretation of any assessment data that is gathered. Broadly speaking, there are essentially four general combinations of bilingual ability that can be identified and evaluated through testing. In general, children referred for evaluation will come from the Type 2 and Type 4 categories.

| | HIGH L1 (CALP) | LOW L1 (BICS) |
|-------------------|---|--|
| HIGH L2 (CALP) | <u>Type 1.</u> Equal Proficiency "true bilingual" | <u>Type 3.</u> Atypical 2nd Language Learner "acceptable bilingual" |
| LOW L2 (BICS) | <u>Type 2.</u> Typical 2nd Language Learner "high potential" | <u>Type 4.</u> At-risk 2nd Language Learner "difference vs. disorder" |



GENERAL GUIDELINES FOR DISTINGUISHING LANGUAGE DIFFERENCES FROM DISORDERS

- *The disorder must be present in the child's native language (L1) and English (L2) but this condition may occur for other reasons.*
- *Testing must be conducted in the native language (L1) and/or both the native language and in English (L2).*
- *Assessments must be conducted using both formal and informal measures.*
- *Language must be assessed in a variety of speaking contexts.*
- *Patterns of language usage must be described.*
- *Error patterns must be determined.*
- *The child's language performance must be compared to that of other bilingual speakers who have had similar cultural and linguistic experiences, i.e., the child should be compared to members of the same cultural group who speak the dialect and who have had similar opportunities to hear and use the language.*
- *Factors which may be contributing to the interruption of development in the native language must be identified.*

Adapted from the work of Hamayan & Damico, 1991; Mattes & Omark, 1984; and Ortiz & Maldonado-Colon, 1986.

STAGE MODEL OF NONDISCRIMINATORY ASSESSMENT: PROCESSES AND PROCEDURES

III. ASSESS AND EVALUATE OPPORTUNITY FOR LEARNING

The more a child's or their parent's culture differs from the dominant culture in which they live, the greater the chances that learning will be adversely affected. Likewise, the more a child's or parent's language differs from the dominant language in which they live, the greater the chances that learning will be adversely affected. The following factors are to be viewed as starter hypotheses that suggest whether or not and to what extent each one may or may not have contributed to a child's observed academic difficulties. They must be carefully examined to determine the extent that any such cultural and linguistic differences are present that could be inhibiting a child's learning.

- Current language(s) of the home
- Student's initial/primary language (L1)
- Student's total informal experience with L1 and L2
- Student's fluency in L1 and L2
- Student's birth order/sibling influence
- Parent's fluency in L1 and L2
- Parent's level of literacy in L1 and L2
- Parent's level of acculturation
- Parent's level of education
- Parent's socio-economic status



GENERAL CHARACTERISTICS ASSOCIATED WITH DIFFERENT LEARNING PATTERNS

| | SLOW LEARNER* | UNDER MOTIVATED | CULTURALLY DIFFERENT | LINGUISTICALLY DIFFERENT | LEARNING DISABLED |
|--------------------------|---|---|---|--|---|
| COGNITIVE ABILITY | ACHIEVEMENT IS COMMENSURATE WITH POTENTIAL. PUPIL IS DEFICIENT IN ACADEMIC AREAS BUT ABOUT EQUAL ACROSS ALL AREAS. | ACHIEVEMENT IS USUALLY FAR BELOW POTENTIAL, BUT FAIRLY EVEN ACROSS MOST AREAS. A PARTICULAR INTEREST MAY BE EVIDENT. | ACHIEVEMENT SHOULD BE COMMENSURATE WITH COGNITIVE ABILITY, MOTIVATION, QUALITY AND QUANTITY OF INSTRUCTION. | ACHIEVEMENT IN PRIMARY LANGUAGE IS COMMENSURATE WITH MEASURED COGNITIVE ABILITY AND LENGTH OF SCHOOL EXPERIENCE. PUPILS GENERALLY SCORE BETTER ON NONVERBAL SECTIONS OF COGNITIVE TASKS. | ACHIEVEMENT IS OFTEN FAR BELOW POTENTIAL IN SOME AREAS. USUALLY HAS A VERY UNEVEN LEARNING PROFILE. |
| PROGRESS | EVEN WITH ADDITIONAL ASSISTANCE, PROGRESS IS SLOW. PROBABLY WILL MAKE LESS THAN ONE YEAR'S PROGRESS PER YEAR REGARDLESS OF PLACEMENT IN REGULAR OR SPECIAL CLASS. | WHEN ATTENDS, OFTEN LEARNS NEW MATERIAL WITH EASE. MAY BE THE FIRST PERSON FINISHED WITH A TASK. MAY BE RECEIVING LOW GRADES, BUT STANDARDIZED ACHIEVEMENT TESTS INDICATE GOOD PROGRESS (UNDERACHIEVER) | AS WITH ALL OTHER PUPILS, PROGRESS IS DEPENDENT UPON QUALITY AND QUANTITY OF INSTRUCTION. | PROGRESS IN PRIMARY LANGUAGE IS CONTINGENT UPON ADEQUACY OF LANGUAGE OF INSTRUCTION. ACADEMIC PROGRESS IN ENGLISH WILL BE DEPENDENT UPON THE QUALITY AND QUANTITY OF ENGLISH INSTRUCTION. DURING THE TRANSITION PERIOD, ENGLISH PERFORMANCE MAY LAG. | MAY SHOW REMARKABLE PROGRESS IN SOME AREAS WHEN TASKS ARE ANALYZED, TAUGHT SEQUENTIALLY, AND INCLUDE HIGHER EXTENT OF TEACH-PUPIL INTERACTION. SKILLS MAY JUMP 1-2 YEARS IN ONE YEAR. |
| PRODUCTIVITY | IN A LESSON OR TASK INVOLVING MANY CONCEPTS, MAY FOCUS ON ONLY ONE. MAY NEED ASSISTANCE WITH WORDS OR DIRECTIONS. MAY REQUIRE GRAPHIC EXPLANATION. MAY HAVE JUST BEGUN A TASK WHEN TIME IS CALLED. MAY BE UNABLE TO SWITCH FROM TASK TO TASK. | MAY UNDERSTAND DIRECTIONS, BE ABLE TO READ SOME OF THE WORDS, YET RARELY COMPLETES TASK. OFTEN APPEARS DISINTERESTED. | VERBAL AND WRITTEN DIRECTIONS ARE GENERALLY UNDERSTOOD. PRODUCTIVITY, AS WITH ALL OTHER STUDENTS, WOULD DEPEND ON MOTIVATION AND OTHER FACTORS. | VERBAL AND WRITTEN DIRECTIONS MAY NOT BE UNDERSTOOD DUE TO INSUFFICIENT ENGLISH DEVELOPMENT. THIS MAY LEAD TO PUPILS NOT BEGINNING TASKS, OR SWITCHING TASKS WITHOUT ASSISTANCE. | VERBAL DIRECTIONS MAY BE TOO COMPLEX. MAY BE UNABLE TO READ WRITTEN DIRECTIONS. MAY WANT TO DO TASK, BE EMBARRASSED ABOUT LACK OF SKILL, NOT BE ABLE TO CONCENTRATE. MAY NOT BEGIN TASK WITHOUT ASSISTANCE. OFTEN UNABLE TO SWITCH FROM TASK TO TASK. |

*Not to be confused with mild retardation.

NOTE: These categories are not mutually exclusive. Culturally Different = Native and non-native English speakers who identify with non-mainstream culture. Linguistically different = Non-native English speakers who lack native-like skills in English.

SOURCE: Adapted from *Special edge*, California Department of Education, September/October/November, 1996.

GENERAL CHARACTERISTICS ASSOCIATED WITH DIFFERENT LEARNING PATTERNS (CONT.)

| | SLOW LEARNER | UNDER MOTIVATED | CULTURALLY DIFFERENT | LINGUISTICALLY DIFFERENT | LEARNING DISABLED |
|-------------------------|--|---|--|---|--|
| HEALTH | MAY HAVE MILD DELAY IN DEVELOPMENTAL MILESTONES. | MAY HAVE DYSFUNCTIONAL FAMILY, FREQUENT FAMILY MOVES, UNTRITIONAL AND FINANCIAL PROBLEMS. | NO SIGNIFICANT HEALTH CHARACTERISTICS FOR THIS GROUP, BUT CONSIDER DEVELOPMENTAL FACTORS IN CULTURAL CONTEXT. | NO SIGNIFICANT HEALTH CHARACTERISTICS FOR THIS GROUP BUT CONSIDER DEVELOPMENTAL FACTORS IN CULTURAL CONTEXT. | MAY HAVE A HISTORY OF RISK INFANCY, EAR INFECTIONS/HEARING PROBLEMS, SLEEP/EATING DISTURBANCES, INCONTINENCE AND FAMILY INCIDENCE OF LEARNING DISABILITY. |
| PEER INTERACTION | WILL OFTEN BE A FOLLOWER IN PEER GROUP. | MAY BE REJECTED DUE TO ANTISOCIAL TENDENCIES, OR ACCEPTED AS A LEADER. THIS LEADERSHIP MAY BE NEGATIVE. | PUPIL MAY TEND TO INTERACT WITH MORE STUDENTS FROM OWN CULTURAL GROUP. | PUPILS MAY EXPERIENCE SOCIAL ISOLATION BECAUSE OF UNFAMILIARITY WITH SOCIAL AND LINGUISTIC RULES AND THEY MAY BE LIKELY TO BE FOLLOWERS RATHER THAN LEADERS IN THE ENGLISH GROUP. PUPIL MAY TEND TO INTERACT WITH MORE PUPILS FROM CULTURAL GROUP. | MAY HAVE FREQUENT FIGHTS OR ARGUMENTS. OTHERS MAY COMPLAIN OF CLUMSINESS. MAY BE A CLASS ISOLATE. MAY PLAY WITH YOUNGER PUPILS. OCCASIONALLY PUPILS WILL BE SOCIALLY ADEQUATE. |
| LANGUAGE | SIMILAR TO THAT OF LEARNING DISABLED CHILD BUT MAY BE AT A LESSER DEGREE. TAKES LONGER TO LEARN A CONCEPT BUT WILL USUALLY RETAIN IT ONCE LEARNED. | USUALLY LANGUAGE-ADEQUATE, BUT FAILS TO APPLY SKILLS CONSISTENTLY IN THE CLASSROOM. | RECEPTIVE AND EXPRESSIVE LANGUAGE IS SIMILAR TO ALL OTHER PUPILS, HOWEVER, MAY EXHIBIT SOME SUB-GROUP DIALECTONAL DIFFERENCES. | PRIMARY LANGUAGE IS APPROPRIATE FOR AGE LEVEL WHILE ENGLISH SKILLS ARE STILL IN THE ACQUISITION STAGE. THE NONVERBAL COMMUNICATION SKILLS ARE APPROPRIATE FOR AGE LEVEL, I.E., EYE CONTACT, RESPONSE TO SPEAKER, CLARIFICATION OF RESPONSE, TURN TAKING, ETC. PUPIL DOES NOT KNOW SPECIFIC VOCABULARY ALTHOUGH IS FAMILIAR WITH ITEM OR CONCEPT. SENTENCE STRUCTURE AND GRAMMAR IS IN HIGHLY TRANSITIONAL STAGE THAT FOLLOWS SIMILAR PATTERNS OF NORMAL LANGUAGE DEVELOPMENT. STUDENT MAY PASS THROUGH PREDICTABLE PERIODS, I.E., SILENT PERIOD, SPEECH EMERGENCE, ETC. | AUDITORY PROCESSING IS USUALLY AT A LOW SKILL LEVEL. VOCABULARY AND WORD-FINDING SKILLS USUALLY DELAYED. SENTENCES ARE SIMPLIFIED AND LACK COMPLEXITY. COMMONLY CANNOT TRANSFER SKILLS LEARNED IN THE CLASSROOM INTO EVERYDAY USAGE. |

**Not to be confused with mild retardation.*

NOTE: These categories are not mutually exclusive. Culturally Different = Native and non-native English speakers who identify with non-mainstream culture. Linguistically different = Non-native English speakers who lack native-like skills in English.

SOURCE: Adapted from Special edge, California Department of Education, September/October/November, 1996.

STAGE MODEL OF NONDISCRIMINATORY ASSESSMENT: PROCESSES AND PROCEDURES

IV. ASSESS AND EVALUATE RELEVANT CULTURAL AND LINGUISTIC FACTORS

In order for a child to benefit from instruction, the language of instruction must be fully comprehensible to the child, the instruction must draw upon the child's existing cultural and linguistic foundations, the child must be able to identify and relate to the content of the curriculum, and the child must be made to feel that their personal language and culture are assets, not liabilities. Failure to accommodate these learning needs leads to the creation of a learning environment that can significantly inhibit academic achievement. Again, the following factors are to be viewed as starter hypotheses that suggest whether or not and to what extent each one may or may not have contributed to a child's observed academic difficulties. They must be carefully examined in order to determine the extent to which any such environmental factor is present that could have inhibited a child's learning.

- Attendance and experience with school setting
- Match between child's L1 and language of instruction
- Parent's ability to support language of instruction
- Years (duration) of instruction in L1 and L2
- Quality of L1/L2 instruction or bilingual program
- Cultural relevance of the curriculum
- Consistency in location and curriculum
- Teaching strategies, styles, attitudes, expectations
- System attitude regarding dual language learners
- Socialization with peers vs. isolation from peers



As stated previously, the more a child's culture differs from the dominant culture in which they live, the greater the chances that learning will be adversely affected. In order for a child to benefit from instruction, the community or neighborhood in which the family of the child lives must affirm, value, and allow for the expression of their native culture. Lack of support for cultural practices and beliefs can lead to the development of social interactions that can significantly inhibit academic achievement. Once more, the following factors are to be viewed only as starter hypotheses that suggest whether or not and to what extent each one may or may not have contributed to a child's observed academic difficulties. As with cultural, linguistic, and environmental factors, they must be carefully examined in order to determine the extent to which any such community factor is present that could have inhibited a child's learning.

- General demographic diversity within the community
- Parent's role/position in the community
- Match between parent/student's culture and surrounding community
- Community's attitude toward student's culture or language
- Opportunity and support for primary language within the community (friends, neighbors, etc.)
- Opportunity and support for expression of cultural practices and beliefs within the community
- Availability of community groups/agencies for assistance with acculturation processes
- Availability of community groups/agencies for assistance with home-school communication

STAGE MODEL OF NONDISCRIMINATORY ASSESSMENT: PROCESSES AND PROCEDURES

V. EVALUATE, REVISE, AND RE-TEST HYPOTHESES

Ensure that all potential factors that might be related to the child's learning difficulties have been thoroughly evaluated and ruled out as the "primary" cause of the observed learning problems. Except in cases where there are obvious physical disabilities, in general, it is only when you feel confident that there are no plausible or demonstrable external factors that can account for the child's learning difficulties would a referral for special education assessment be appropriate.

- Analyze pre-referral data to identify patterns of referral that differentiate between the needs of teachers, the needs for programs, and the individual needs of children
- Lack of knowledge, skills, confidence, or objectivity to teach CLD students effectively has been eliminated as primary cause of learning problems
- Cultural and linguistic differences as well as environmental and economic disadvantage have been eliminated as primary causes of learning problems
- Lack of school experience or poor attendance have been eliminated as primary causes of learning problems
- Parent(s) and general education teacher(s) continue as equal partners in the problem definition and assessment process
- Refer for special education assessment when external factors have been ruled out
- Student Study Team easily reconstitutes itself into Assessment Team



STAGE MODEL OF NONDISCRIMINATORY ASSESSMENT: PROCESSES AND PROCEDURES

VI. DETERMINE NEED FOR AND LANGUAGE(S) OF ASSESSMENT

The legal system recognizes that assessors need to consider the child's primary language ability (in addition to his or her ability in English). The interpretive validity of assessment data rests squarely on the proper identification and understanding of the child's entire linguistic history as well as other factors influencing the development of both languages. The Language or languages of assessment are determined collaboratively by the Assessment Team which selects appropriate tools and techniques on the basis of pre-referral data. The development of an appropriate assessment plan forms the transition from pre-referral to special education evaluation. However, up to this point, all activities could and should have been accomplished within the context of the pre-referral process. The following statements represent only the most general guidelines applicable to all children. There is simply no way to make specific guidelines to cover even a large majority of cases since each assessment must be made on the basis of the unique and individual circumstances of each child.

- All children who are LEP must be assessed in their primary language in addition to any English language testing that may be appropriate,
- Children who are FEP may be assessed in their primary language in addition to any English language testing that may be appropriate,
- All LEP and FEP children must be assessed by an assessor competent in both the language and culture of the pupil in order to ensure that results are evaluated in a non-discriminatory manner.



“BILINGUAL ASSESSMENT” OR “ASSESSMENT OF BILINGUALS”

BILINGUAL ASSESSMENT

- *refers to the assessment of bilinguals by bilingual school psychologists.*
- *the bilingual school psychologist is in a position to conduct assessment activities in a manner (i.e. bilingually) that is not available to the monolingual school psychologist even with the aid of interpreter.*
- *a competent and qualified bilingual school psychologist proficient in the same language of the student is the best option in assessment of bilinguals.*
- *bilingual assessment is a relatively new research tradition with little empirical support to guide appropriate practice.*
- *there are no truly “bilingual” tests or assessment protocols and not much is yet known about the performance of bilinguals on monolingual tests administered in the primary language.*

ASSESSMENT OF BILINGUALS

- *refers to the assessment of bilinguals by monolingual English speaking school psychologists.*
- *There is considerably more research about the performance of bilinguals as a group on tests given monolingually in English than in the native language.*
- *use of instruments whether or not designed or standardized for use with bilinguals must be conducted in a manner that seeks to reduce the discriminatory aspects in the use of such instruments to the maximum extent possible.*
- *the emphasis on bias reduction applies equally to tests given in the native language as well as English.*
- *a monolingual psychologist properly trained in nondiscriminatory assessment and competent in cultural and linguistic issues is the second best option for assessment when using a trained interpreter for communication.*
- *an untrained psychologist, whether monolingual or bilingual, who possesses no training in nondiscriminatory assessment or cultural and linguistic knowledge regarding test performance of bilinguals is the last option for assessment.*

STAGE MODEL OF NONDISCRIMINATORY ASSESSMENT: PROCESSES AND PROCEDURES

VII. REDUCE BIAS IN TRADITIONAL TESTING PRACTICES

Because there is no research regarding test performance of individuals on modified or adapted test administrations, it is generally best to administer tests in a standardized way first so that the data can be analyzed against known performance patterns of other similar individuals. Because adaptation of traditional tools and practices is rarely done in a systematic way, the validity and reliability of obtained results is questionable. Because there are no standardized tests that are truly appropriate for students who are culturally or linguistically diverse (due mainly to acculturation and language proficiency issues) maintaining standardization may seem unnecessary. But the goal isn't to eliminate all bias or find unbiased tests—this is unlikely and impractical. Rather, the goal is toward reduction of bias to the maximum extent possible. One established method for doing this is the CHC Culture-Language Matrix that is a part of the CHC Cross-Battery approach. This method balances the need to measure specific areas of functioning with attempts to reduce the biasing effects of acculturation and linguistic demands. By giving tests in a standardized manner, determination of the primary vs. contributory effects of culture and language may be accomplished. After such data are collected, examiners may then adapt and modify standardized tests in order to secure additional qualitative information about functioning that is extremely useful in instructional planning. In general, examiners should:

- Utilize best available tools with respect to the child's native and second languages
- Remember that direct test translation is poor practice and psychometrically indefensible
- Recognize that norming samples are not stratified on the basis of bilingual ability and are rarely applicable to the majority of CLD students being assessed thus invalidating scores
- Adapt test items, content, stimuli, administration, or performance criteria as necessary to ensure more valid responding by the student only after administering the test first in a standardized way
- Recognize that use of an interpreter can assist in collecting information and administering tests, however, score validity remains low even when the interpreter is highly trained and experienced
- Use systematic methods based on established literature for collecting and interpreting data in a nondiscriminatory way (e.g., CHC Culture-Language Matrix)

In addition to the difficulties associated with interpreting the validity and reliability of standardized test results with culturally and linguistically diverse children, the use of common classification schemes tend to accentuate misconceptions regarding the true meaning of this type of scores. Listed below is an alternative classification scheme that provides a less technical and more positive description of performance:

| CLASSIFICATION | STANDARD SCORE/PERCENTILE RANK RANGE | |
|--------------------------|--------------------------------------|------------------------------------|
| Highly Proficient | Standard Score = 110 or higher | Percentile Rank = 75%ile or higher |
| Proficient | Standard Score = 90 to 109 | Percentile Rank = 25%ile to 74%ile |
| Emergent | Standard Score = 80 to 89 | Percentile Rank = 9%ile to 24%ile |
| Problematic | Standard Score = 79 or lower | Percentile Rank = 8%ile or lower |

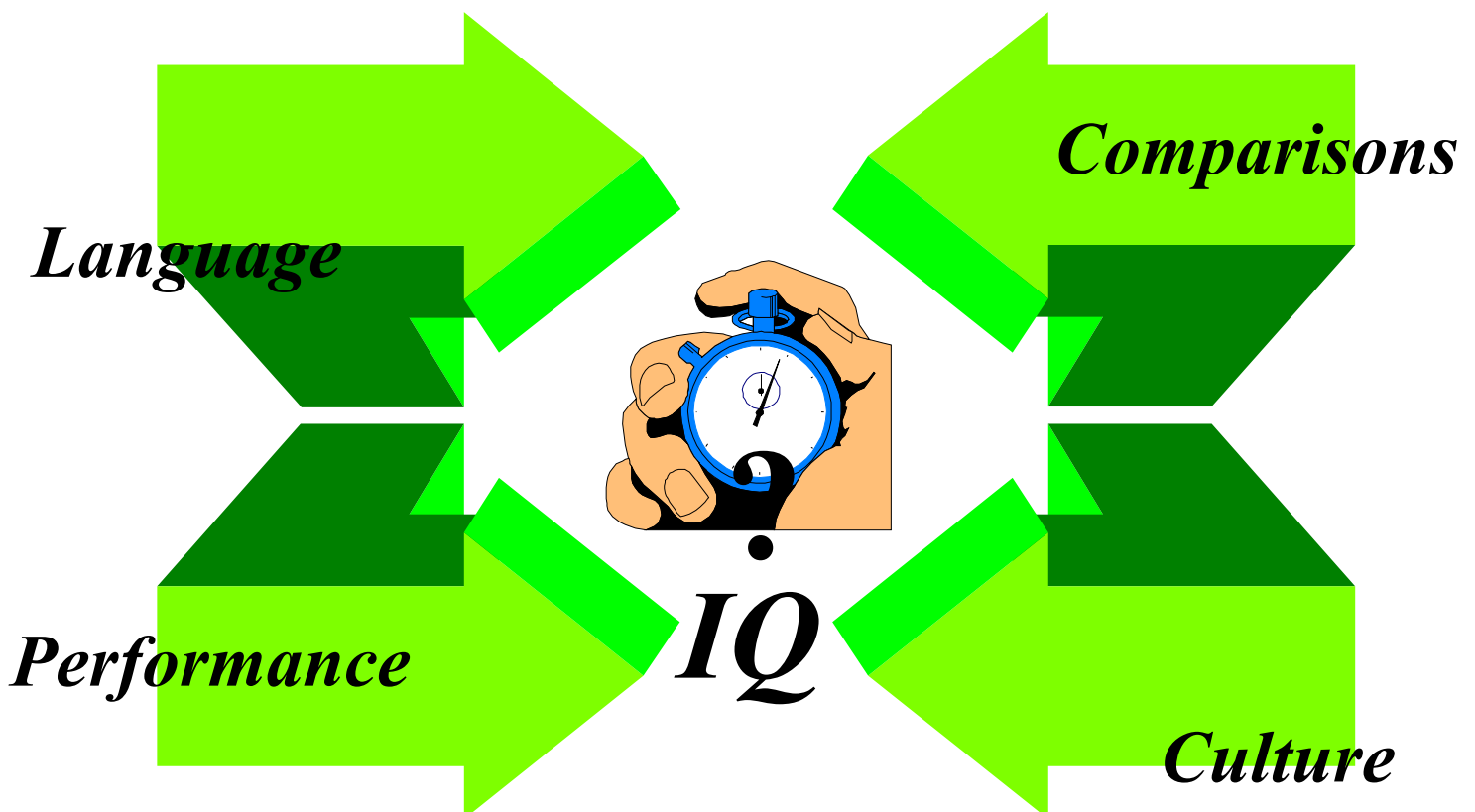
NORM-REFERENCED TESTS AND

THE ASSUMPTION OF COMPARABILITY

“When we test students using a standardized device and compare them to a set of norms to gain an index of their relative standing, we assume that the students we test are similar to those on whom the test was standardized; that is, we assume their acculturation [and linguistic history] is comparable, but not necessarily identical, to that of the students who made up the normative sample for the test.”

“When a child’s general background experiences differ from those of the children on whom a test was standardized, then the use of the norms of that test as an index for evaluating that child’s current performance or for predicting future performances may be inappropriate.”

Salvia & Ysseldyke, 1991



ACCULTURATION AND LANGUAGE DIFFERENCES

“The difficulty with norms in the case of culturally and linguistically diverse children rests with the issue of what constitutes “representative.” All too often, race and ethnicity are equated with culture. Culture is neither...[thus] measured performance is more likely to reflect varying levels of individual acculturation more so than variation in actual or “true” cognitive ability.”

“With respect to language proficiency, representation within the standardization sample is a similar issue. In the United States, every child entering school who does not speak English is immediately set on a path toward becoming a circumstantial bilingual. However, bilingual pupils along with their varying levels of dual-language proficiency are neither systematically included nor accommodated in the design and norming of any currently available test of intelligence or cognitive ability.”

Flanagan & Ortiz, 2001

THE NATURE OF BIAS IN TESTS

NO BIAS

- **Test items**
(content, novelty)
- **Test structure**
(sequence, order, difficulty)
- **Test reliability**
(measurement error/accuracy)
- **Factor structure**
(theoretical structure, cluster or composite scores)
- **Prediction**
(academic success or achievement)

BIAS

- **Test Validity**
(specificity and validity of measured constructs)

- **Test selection**
(matching examinee with test's dimensions of cultural loading or linguistic demand)
- **Test Interpretation**
(confidence in evaluative judgments and meaning assigned to derived scores)

"Intelligence tests are not tests of intelligence in some abstract, culture-free way. They are measures of the ability to function intellectually by virtue of knowledge and skills in the culture of which they are a sample"

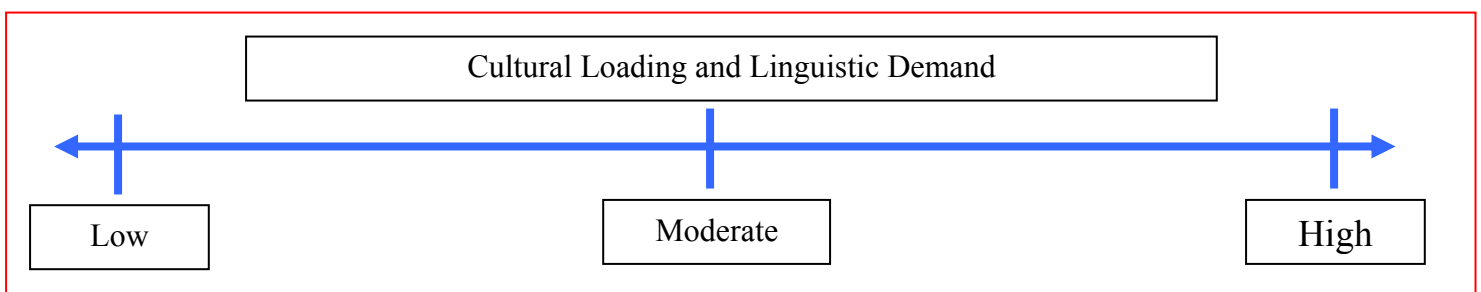
Scarr, 1978, p. 339.

"As long as tests do not at least sample in equal degree a state of saturation [assimilation of fundamental experiences and activities] that is equal for the 'norm children' and the particular bilingual child it cannot be assumed that the test is a valid one for the child."

Sanchez, 1934

DIMENSIONS OF STANDARDIZED TESTS RELATED TO BIAS

- **Tests are culturally loaded:**
 - the majority of tests used by psychologists were developed and normed in U.S. and inherently reflect native anthropological content as well as the culturally bound conceptualizations of the test developers themselves. Many tests require specific prior knowledge of and experience with mainstream U.S. culture
- **Tests require language (communication):**
 - linguistic factors affect administration, comprehension, responses, and performance on virtually all tests. Even nonverbal tests that reduce oral language requirements continue to rely on effective communication between examiner and examinee in order to measure optimal performance
- **Tests vary on both dimensions:**
 - Tests vary significantly with respect to the degree that they are culturally loaded as well as the degree of language required

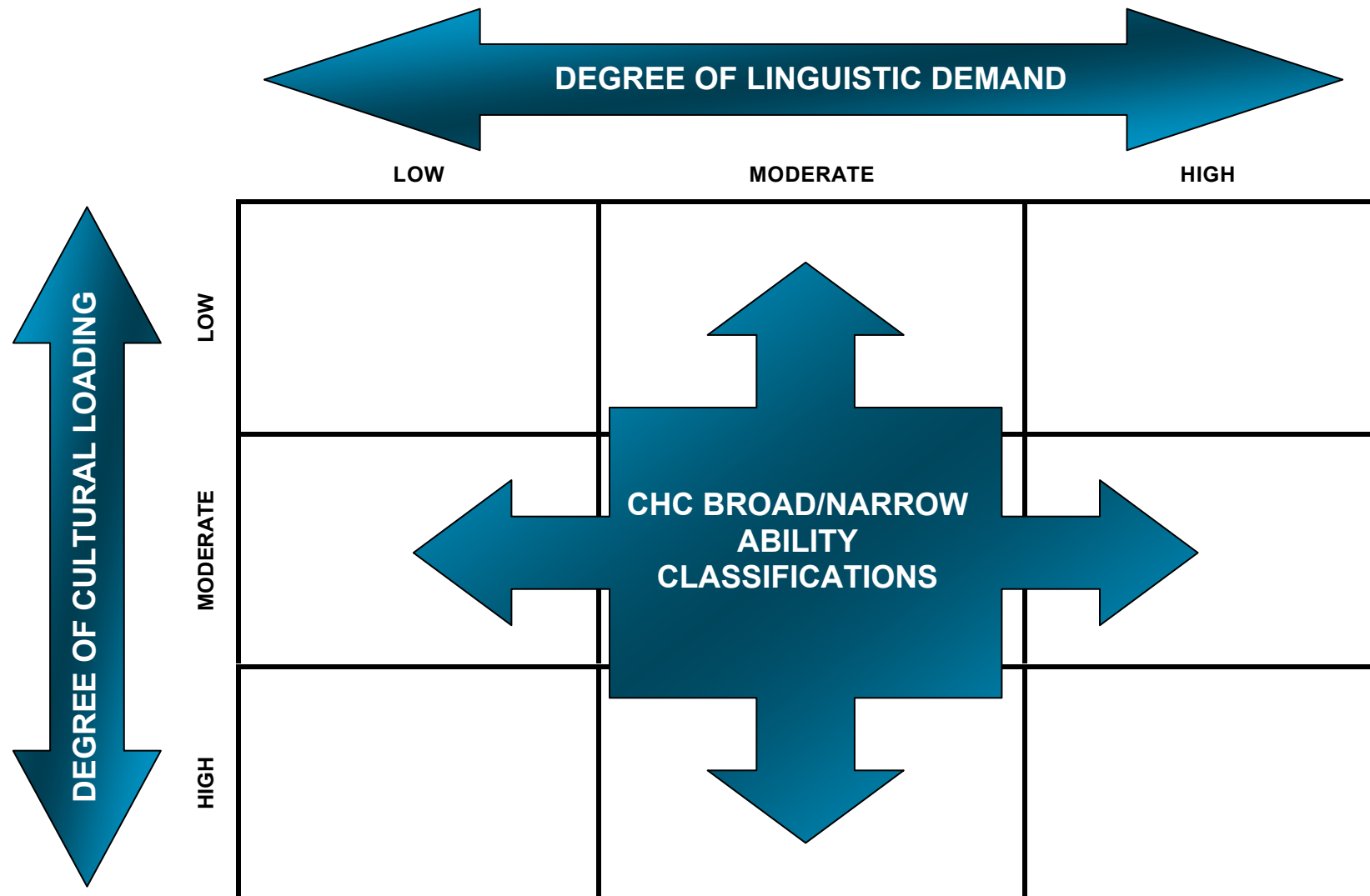


THE CHC CULTURAL AND LINGUISTIC CLASSIFICATION OF TESTS

- Categorization of cognitive ability tests according to **three** important test characteristics:
 - CHC broad (*stratum II*) and narrow (*stratum I*) abilities
 - degree of cultural loading
 - degree of linguistic demand
- **BOLD/CAPITAL** letters--empirically classified, strong loading on broad and narrow CHC abilities
- **Bold/Upper and Lower case** letters--empirically classified, moderate loading on broad and narrow CHC abilities
- Regular/Upper and Lower case letters--logically classified, moderate loading on broad and narrow CHC abilities
- Broad (*stratum I*) and narrow (*stratum II*) ability classifications:
 - *do not strictly represent an accommodation to an issue particular to cultural or linguistic diversity*
 - *are intended to reflect that the basis of any valid assessment, including those conducted on diverse individuals, must first and foremost rest on the best available and most solid theoretical and empirical grounds*

CULTURAL AND LINGUISTIC CLASSIFICATION OF TESTS

ADDRESSING BIAS IN TEST SELECTION



CHC CULTURE-LANGUAGE TEST CLASSIFICATIONS

| DEGREE OF CULTURAL LOADING – LOW | | | | |
|--|---|----------|--|------------------|
| | Battery | Age | Subtest | Gf-Gc Ability |
| DEGREE OF LINGUISTIC DEMAND LOW | CTONI | 6 - 18 | Geometric Sequences | Gf(I, RG) |
| | LEITER-R | 5 - 18+ | Design Analogies | Gf(I) |
| | LEITER-R | 2 - 18+ | Repeated Patterns | Gf(I) |
| | LEITER-R | 2 - 18+ | Sequential Order | Gf(I) |
| | LEITER-R | 11 - 18+ | Paper Folding | Gv(VZ) |
| | LEITER-R | 11 - 18+ | Figure Rotation | Gv(VZ, SR) |
| | UNIT | 5 - 17 | Cube Design | Gv(SR, VZ) |
| | UNIT | 5 - 17 | Mazes | Gv(SS) |
| | DAS | 6 - 17 | MATRICES | Gf(I) |
| | DAS | 6 - 17 | SEQUENTIAL & QUANTITATIVE REASONING | Gf(I, RG) |
| | DTLA-3 | 6 - 17 | Symbolic Relations | Gf(I) |
| | MAT | 5 - 17 | Matrix Analogies Test | Gf(I, RG) |
| | Raven's | 5 - 18+ | Raven's Progressive Matrices | Gf(I) |
| | TONI-3 | 5 - 17 | Test of Nonverbal Intelligence-3rd Edition | Gf(I) |
| | DAS | 3 - 17 | Pattern Construction | Gv(SR) |
| | DAS | 2 - 3 | Block Building | Gv(VZ) |
| | DAS | 4 - 5 | Matching Letter-Like Forms | Gv(VZ) |
| | DAS | 6 - 17 | RECALL OF DESIGNS | Gv(MV) |
| | K-ABC | 4 - 12 | TRIANGLES | Gv(VZ, SR) |
| | KAIT | 11 - 85+ | MEMORY FOR BLOCK DESIGNS | Gv(MV) |
| | SB:IV | 2 - 24 | PATTERN ANALYSIS | Gv(VZ) |
| | WPPSI-R | 3 - 7 | Geometric Design | Gv(VZ, P2) |
| | CAS | 5 - 17 | Figure Memory | Gv(CF, MV) |
| | DTLA-3 | 6 - 17 | Design Sequences | Gv(MV) |
| | DTLA-3 | 6 - 17 | Design Reproduction | Gv(MV) |
| | TOMAL | 5 - 19 | Facial Memory | Gv(MV) |
| | TOMAL | 5 - 19 | Abstract Visual Memory | Gv(MV) |
| | TOMAL | 5 - 19 | Manual Imitation | Gv(MV) |
| | TOMAL | 5 - 19 | Delayed Recall of Visual Selective Reminding | Gv(MV) |
| | WMS-III | 16 - 85+ | Visual Reproduction I | Gv(MV) |
| | CAS | 5 - 17 | Matching Numbers | Gs(P, R9) |
| | CAS | 5 - 17 | Planned Codes | Gs(R9) |
| | CAS | 5 - 17 | Number Detection | Gs(R7, R9) |
| | DEGREE OF LINGUISTIC DEMAND MODERATE | DAS | 3 - 17 | Recall of Digits |
| K-ABC | | 2 - 12 | NUMBER RECALL | Gsm(MS) |
| SB:IV | | 7 - 24 | MEMORY FOR DIGITS | Gsm(MS) |
| WAIS-R | | 16 - 74 | DIGIT SPAN | Gsm(MS) |
| WISC-III | | 6 - 16 | DIGIT SPAN | Gsm(MS) |
| K-SNAP | | 11 - 85 | Number Recall | Gsm(MS) |
| LAMB | | 20 - 60 | Digit Span | Gsm(MS) |
| TOMAL | | 5 - 19 | Digits Forward | Gsm(MS) |
| TOMAL | | 5 - 19 | Letters Forward | Gsm(MS) |
| WMS-III | | 16 - 85+ | Digit Span | Gsm(MS, MW) |
| CMS | | 5 - 16 | Dot Locations | Gv(MV) |
| CMS | | 5 - 16 | Numbers | Gsm(MS) |
| WRAML | | 5 - 17 | Number/Letter Memory | Gsm(MS) |
| WJ-R | | 2 - 85+ | MEMORY FOR NAMES | Glr(MA) |
| WJ-R | | 4 - 85+ | DELAYED RECALL-MEMORY FOR NAMES | Glr(MA) |
| WRAML | | 5 - 17 | Sound Symbol | Glr(MA) |
| DAS | | 6 - 17 | Speed of Information Processing | Gs(R7) |
| DEGREE OF CULTURAL LOADING - LOW | | | | |

| | Battery | Age | Subtest | Gf-Gc Ability |
|------------------------------------|----------------|------------|--|----------------------|
| DEGREE OF LINGUISTIC DEMAND | DTLA-3 | 6 - 17 | Word Sequences | Gsm(MS) |
| | TOMAL | 5 - 19 | Word Selective Reminding | Glr(M6) |
| | TOMAL | 5 - 19 | Delayed Recall of Word Selective Reminding | Glr(M6) |
| | SB:IV | 7 - 24 | MATRICES | Gf(I) |
| | SB:IV | 2 - 24 | Bead Memory | Gv(MV) |
| | WISC-III | 6 - 16 | Mazes | Gv(SS) |
| | WPPSI-R | 3 - 7 | Mazes | Gv(SS) |
| | WECHSLERS | 3 - 74 | BLOCK DESIGN | Gv(SR) |
| | LAMB | 20 - 60 | Simple Figure | Gv(MV) |
| | LAMB | 20 - 60 | Complex Figure | Gv(MV) |
| | WRAML | 5 - 17 | Design Memory | Gv(MV) |
| | WISC-III | 6 - 16 | Symbol Search | Gs(P, R9) |
| | WAIS-R | 16 - 74 | DIGIT SYMBOL | Gs(R9) |
| | WISC-III | 6 - 16 | CODING | Gs(R9) |
| | WJ-R/III | 4 - 85+ | VISUAL MATCHING | Gs(P, R9) |
| | WJ-R | 4 - 85+ | CROSS OUT | Gs(P, R9) |
| | WJ-III | 4-85+ | PLANNING | Gv(SS) |
| DEGREE OF LINGUISTIC DEMAND | SB:IV | 7 - 24 | Number Series | Gf(RQ) |
| | WJ-R/III | 4 - 85+ | CONCEPT FORMATION | Gf(I) |
| | WJ-R/III | 4 - 85+ | ANALYSIS SYNTHESIS | Gf(RG) |
| | WMS-III | 16 - 85+ | Letter-Number Sequencing | Gsm(MW) |
| | WJ-III | 4 - 85+ | AUDITORY WORKING MEMORY | Gsm(MW) |
| | WJ-III | 4 - 85+ | PAIR CANCELLATION | Gs(R9) |
| | LAMB | 20 - 60 | Supraspan Digit | Gsm(MS) |
| HIGH | | | | |

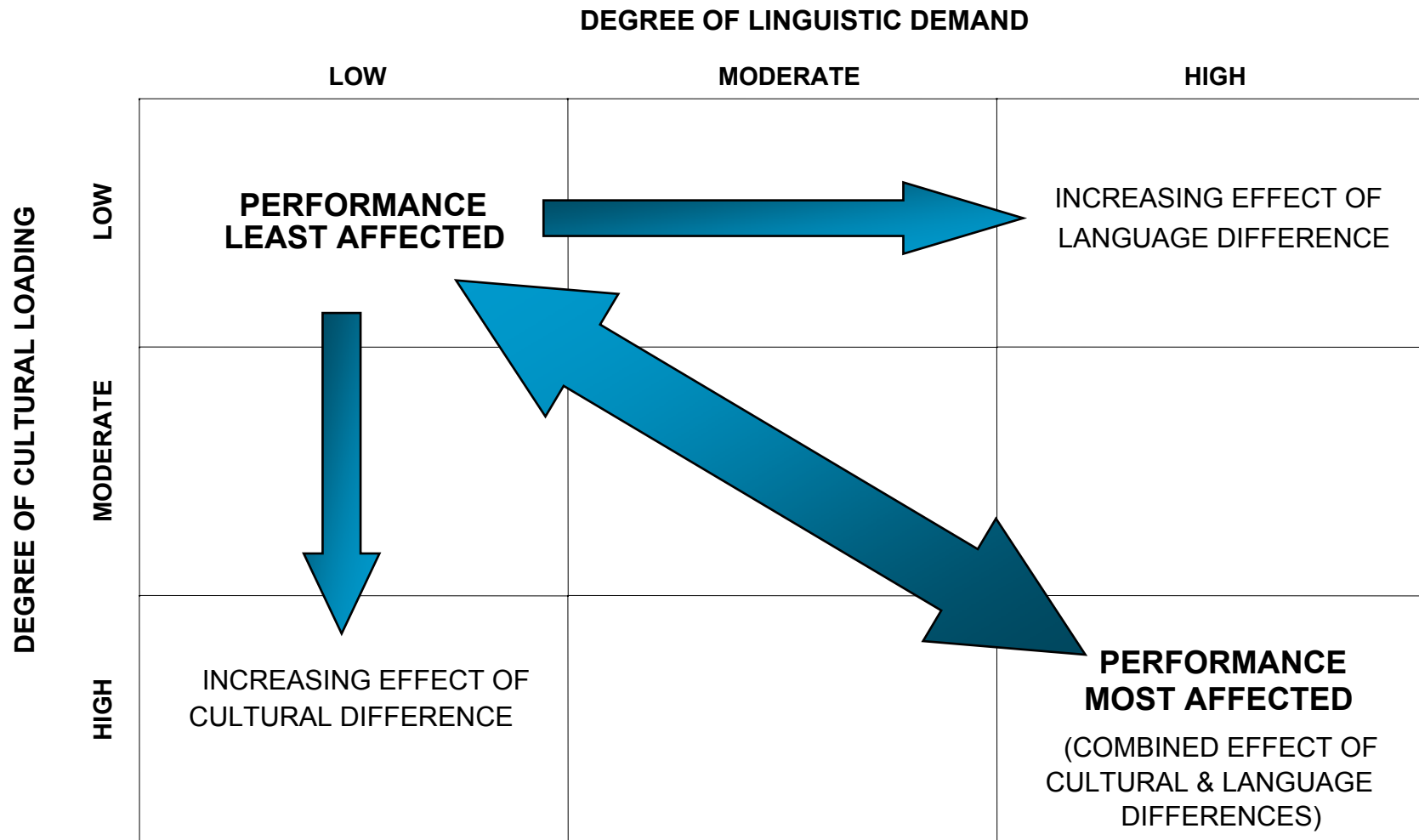
| DEGREE OF CULTURAL LOADING - MODERATE | | | | |
|---|---|----------|--|-------------------------|
| | Battery | Age | Subtest | Gf-Gc Ability |
| DEGREE OF LINGUISTIC DEMAND LOW | LEITER-R | 6 - 18+ | Visual Coding | Gf(RG) |
| | LEITER-R | 2 - 10 | Matching | Gv(VZ) |
| | LEITER-R | 2 - 18+ | Attention Sustained | Gs(P, R9) |
| | DAS | 2 - 5 | Picture Similarities | Gf(I) |
| | CAS | 5 - 17 | Geometric Sequences | Gf(I) |
| | DAS | 3 - 7 | Recognition of Pictures | Gv(MV) |
| | K-ABC | 2 - 4 | Face Recognition | Gv(MV) |
| | SB:IV | 7 -24 | Memory for Objects | Gv(MV) |
| | WECHSLERS | 3 - 74 | OBJECT ASSEMBLY | GV(CS) |
| | WJ-R | 4 - 85+ | Picture Recognition | Gv(MV) |
| | K-ABC | 2 - 4 | WORD ORDER | Gsm(MS) |
| | CAS | 5 - 17 | Receptive Attention | Gs(P, R4) |
| | WJ III | 4 - 85+ | PAIR CANCELLATION | Gs(R9) |
| | WJ III | 4 - 85+ | PLANNING | Gv(SS) |
| | K-ABC | 2 - 4 | Magic Window | Gv(PI) |
| | K-ABC | 2 - 12 | Gestalt Closure | Gv(CS) |
| | WJ-R | 2 - 85+ | Visual Closure | Gv(CS) |
| | DAS | 4 - 17 | Recall of Objects | Glr(M6) |
| | TOMAL | 5 - 19 | Paired Recall | Glr(MA) |
| | DEGREE OF LINGUISTIC DEMAND MODERATE | CAS | 5 - 17 | Word Series |
| KAIT | | 11 - 85+ | REBUS LEARNING | Glr(MA) |
| KAIT | | 11 - 85+ | REBUS DELAYED RECALL | Glr(MA) |
| WJ-R/III | | 4 - 85+ | VISUAL-AUDITORY LEARNING | Glr(MA) |
| WJ-R/III | | 4 - 85+ | Delayed Recall-Visual Auditory Learning | Glr(MA) |
| KAIT | | 11 - 85+ | MYSTERY CODES | Gf(I) |
| K-SNAP | | 11 - 85 | Four-letter Words | Gf(I) |
| CMS | | 5 - 16 | Word Pairs | Glr(MA) |
| CMS | | 5 - 16 | Word Pairs | Glr(MA) |
| WMS-III | | 16 - 85+ | Verbal Paired Associates I | Glr(MA) |
| WMS-III | | 16 - 85+ | Verbal Paired Associates II | Glr(MA) |
| WPPSI-R | | 3 - 7 | Animal Pegs | Gs(R9) |
| KAIT | | 11 - 85+ | LOGICAL STEPS | Gf(I) |
| LAMB | | 20 - 60 | Word Pairs | Glr(MA, FI) |
| DAS | | 3 - 5 | Early Number Concepts | Gq(A3, KM) |
| SB:IV | | 2 - 4 | QUANTITATIVE | Gq(A3) |
| WJ-III | | 4 - 85+ | RETRIEVAL FLUENCY | Glr(FI) |
| WJ-III | | 4 - 85+ | RAPID PICTURE NAMING | Glr(NA) |
| WECHSLERS | | 3 - 74 | ARITHMETIC | Gq(A3) |
| DEGREE OF LINGUISTIC DEMAND HIGH | | WJ-R/III | 2 - 85+ | INCOMPLETE WORDS |
| | WJ-R/III | 4 - 85+ | SOUND BLENDING | Ga(PC-S) |
| | TOPA | 5 - 8 | Test of Phonological Awareness | Ga(PC) |
| | SB:IV | 12 - 24 | EQUATION BUILDING | Gf(RQ) |
| | WPPSI-R | 3 - 7 | Sentences | Gsm(MS) |
| | WJ-R | 4 - 85+ | MEMORY FOR WORDS | Gsm(MS) |
| | CMS | 5 - 16 | Sequences | Gsm(MW) |
| | CMS | 5 - 16 | Word Lists | Glr(M6) |
| | CMS | 5 - 16 | Word Lists 2 | Glr(M6,MA) |
| | WMS-III | 16 - 85+ | Word Lists I | Glr(M6) |
| | WJ-III | 4 - 85+ | AUDITORY ATTENTION | Ga(UR) |
| | WJ-III | 4 - 85+ | DECISION SPEED | Gs(R7) |
| | WRAML | 5 - 17 | Verbal Learning | Glr((M6) |

| DEGREE OF CULTURAL LOADING - HIGH | | | | |
|---|-----------|----------------------|---|----------------|
| | Battery | Age | Subtest | Gf-Gc Ability |
| DEGREE OF LINGUISTIC DEMAND LOW | LEITER-R | 2 - 6 | Classification | Gf(I) |
| | LEITER-R | 2 - 10 | Picture Context | Gf(RG) |
| | UNIT | 5 - 17 | Analogic Reasoning | Gf(I) |
| | LEITER-R | 2 - 18+ | Form Completion | Gv(VZ, SR) |
| | LEITER-R | 4 - 10 | Immediate Recognition | Gv(MV) |
| | LEITER-R | 2 - 18+ | Forward Memory | Gv(MV) |
| | LEITER-R | 2 - 18+ | Figure Ground | Gv(CF) |
| | LEITER-R | 4 - 10 | Delayed Recognition | Glr(MA) |
| | LEITER-R | 2 - 18+ | Associated Pairs | Glr(MA, MM) |
| | LEITER-R | 6 - 18+ | Delayed Pairs | Glr(MA, MM) |
| | K-BIT | 4 - 90 | Matrices | Gf(I) |
| DEGREE OF LINGUISTIC DEMAND MODERATE | DAS | 2 - 5 | Verbal Comprehension | Gc(LD, LS) |
| | WRAML | 5 - 17 | Picture Memory | Gv(MV) |
| | DAS | 2 - 5 | Naming Vocabulary | Gc(LD, VL) |
| | KAIT | 11 - 85+ | FAMOUS FACES | Gc(K2) |
| | WJ-R | 4 - 85+ | ORAL VOCABULARY | Gc(VL, LD) |
| | WJ-R | 4 - 85+ | PICTURE VOCABULARY | Gc(VL, K0) |
| | DTLA-3 | 6 - 17 | Word Opposites | Gc(LD) |
| | K-BIT | 4 - 90 | Expressive Vocabulary | Gc(VL, K0, LD) |
| | DTLA-3 | 6 - 17 | Picture Fragments | Gv(CS) |
| | K-SNAP | 11 - 85 | Gestalt Closure | Gv(CS) |
| WMS-III | 16 - 85+ | Mental Control | Glr(MW) | |
| DEGREE OF LINGUISTIC DEMAND HIGH | CMS | 5 - 16 | Stories 2 | Glr(MM) |
| | DAS | 6 - 17 | SIMILARITIES | Gc(LD) |
| | DAS | 6 - 17 | WORD DEFINITIONS | Gc(VL, LD) |
| | SB:IV | 2 - 24 | VOCABULARY | Gc(LD, VL) |
| | SB:IV | 2 - 14 | Absurdities | Gc(LD) |
| | WECHSLERS | 3 - 74 | SIMILARITIES | Gc(LD) |
| | WECHSLERS | 3 - 74 | VOCABULARY | Gc(LD, VL) |
| | WECHSLERS | 3 - 74 | INFORMATION | Gc(K0) |
| | DTLA-3 | 6 - 17 | Story Construction | Gc(LD) |
| | DTLA-3 | 6 - 17 | Basic Information | Gc(K0) |
| | PPVT-3 | 2 - 85 | Peabody Picture Vocabulary Test-Third Edition | Gc(VL, K0, LD) |
| | WJ-R | 4 - 85+ | LISTENING COMPREHENSION | Gc(LS, LD) |
| | WJ-III | 4 - 85+ | ORAL COMPREHENSION | Gc(LS) |
| | WJ-III | 2 - 85+ | VERBAL COMPREHENSION | Gc(VL, LD) |
| | WJ-III | 2 - 85+ | GENERAL INFORMATION | Gc(K0) |
| | EVT | 2 - 85+ | Expressive Vocabulary Test | Gc(VL, LD) |
| | LAMB | 20 - 60 | Wordlist | Glr(M6, MA) |
| | SB:IV | 12 - 24 | VERBAL RELATIONS | Gc(LD) |
| SB:IV | 2 - 24 | Comprehension | Gc(LD, K0) | |
| WECHSLERS | 3 - 74 | COMPREHENSION | Gc(LD, K0) | |
| WMS-III | 16 - 85+ | Logical Memory II | Glr(MM) | |

NOTE: CAS= Cognitive Assessment System; CMS= Children's Memory Scale; DAS= Differential Ability Scales; DTLA-3= Detroit Tests of Learning Aptitude -3; DTLA-4= Detroit Tests of Learning Aptitude-4; G-FTA= Goldman-Fristoe Test of Articulation; G-FTAD= Goldman-Fristoe-Woodcock Test of Auditory Discrimination; K-ABC= Kaufman Assessment Battery for Children; KAIT= Kaufman Adolescent and Adult Intelligence Test; Leiter-R= Leiter International Performance Scale-Revised; SB:IV= Stanford-Binet Intelligence Scale: Fourth Edition; TOPA= Test of Phonological Awareness; TPAT= The Phonological Awareness Test; UNIT= Universal Nonverbal Intelligence Test; W-ADT= Wepman's Auditory Discrimination Test - 2nd Edition; WMS-III= Wechsler Memory Scale-Third Edition; WJ-R= Woodcock-Johnson Psychoeducational Battery- Revised; WJ-III= Woodcock- Johnson Psychoeducational Battery-Third Edition.

CULTURAL AND LINGUISTIC CLASSIFICATION OF TESTS ADDRESSING BIAS IN TEST VALIDITY AND INTERPRETATION

Pattern of Expected Performance of Culturally and Linguistically Diverse Children



MATRIX OF CULTURAL LOADING AND LINGUISTIC DEMAND

CLASSIFICATIONS OF THE WISC-IV SUBTESTS

DEGREE OF LINGUISTIC DEMAND

| | | LOW | MODERATE | HIGH |
|----------------------------|----------|---|--|--|
| DEGREE OF CULTURAL LOADING | LOW | MATRIX REASONING (<i>Gf-RG</i>) Cancellation (<i>Gs-P,R9</i>) | BLOCK DESIGN (<i>Gv-SR, Vz</i>) SYMBOL SEARCH (<i>Gs-P,R9</i>) DIGIT SPAN (<i>Gsm-MS, MW</i>) CODING (<i>Gs-R9</i>) | LETTER-NUMBER SEQUENCING (<i>Gsm-MW</i>) |
| | MODERATE | | ARITHMETIC (<i>Gq-A3</i>) Picture Concepts (<i>Gc-K0, Gf-I</i>)* | |
| | HIGH | Picture Completion (<i>Gc-K0, Gv-CF</i>)* | | INFORMATION (<i>Gc-K0</i>) SIMILARITIES (<i>Gc-LD, VL</i>) VOCABULARY (<i>Gc-VL, LD</i>) COMPREHENSION (<i>Gc-K0, LS</i>) Word Reasoning (<i>Gc-VL, Gf-I</i>)* |

*These tests demonstrate mixed loadings on the two separate factors indicated.

MATRIX OF CULTURAL LOADING AND LINGUISTIC DEMAND CLASSIFICATIONS OF THE WJ III

| | | DEGREE OF LINGUISTIC DEMAND | | |
|----------------------------|----------|--|--|--|
| | | LOW | MODERATE | HIGH |
| DEGREE OF CULTURAL LOADING | LOW | SPATIAL RELATIONS (<i>Gv-VZ,SR</i>) | VISUAL MATCHING (<i>Gs-P,R9</i>) NUMBERS REVERSED (<i>Gsm-MW</i>) | CONCEPT FORMATION (<i>Gf-I</i>) ANALYSIS SYNTHESIS (<i>Gf-RG</i>) AUDITORY WORKING MEMORY (<i>Gsm-MW</i>) |
| | MODERATE | Picture Recognition (<i>Gv-MV</i>) PLANNING (<i>Gv-SS</i>) PAIR CANCELLATION (<i>Gs-R9</i>) | VISUAL-AUDITORY LEARNING (<i>Glr-MA</i>) Delayed Recall – Visual Auditory Learning (<i>Glr-MA</i>) RETRIEVAL FLUENCY (<i>Glr-FI</i>) RAPID PICTURE NAMING (<i>Glr-NA</i>) | MEMORY FOR WORDS (<i>Gsm-MS</i>) INCOMPLETE WORDS (<i>Ga-PC</i>) SOUND BLENDING (<i>Ga-PC</i>) AUDITORY ATTENTION (<i>Ga-US/U3</i>) DECISION SPEED (<i>Gs-R4</i>) |
| | HIGH | | | VERBAL COMPREHENSION (<i>Gc-VL,LD</i>) GENERAL KNOWLEDGE (<i>Gc-K0</i>) |

CHC CULTURE-LANGUAGE MATRIX WORKSHEET

Name of Examinee: _____ Age: _____ Grade: _____ Date: _____

DEGREE OF LINGUISTIC DEMAND

| | | LOW | MODERATE | HIGH |
|----------------------------|--|--|--|--|
| | | | | |
| DEGREE OF CULTURAL LOADING | LOW | Test Name: _____ Score: _____ | Test Name: _____ Score: _____ | Test Name: _____ Score: _____ |
| | | _____ () _____ () | _____ () _____ () | _____ () _____ () |
| | | _____ () _____ () | _____ () _____ () | _____ () _____ () |
| | | _____ () _____ () | _____ () _____ () | _____ () _____ () |
| | | _____ () _____ () | _____ () _____ () | _____ () _____ () |
| | | _____ () _____ () | _____ () _____ () | _____ () _____ () |
| | | Cell Average = <input style="width: 50px;" type="text"/> | Cell Average = <input style="width: 50px;" type="text"/> | Cell Average = <input style="width: 50px;" type="text"/> |
| | MODERATE | Test Name: _____ Score: _____ | Test Name: _____ Score: _____ | Test Name: _____ Score: _____ |
| | | _____ () _____ () | _____ () _____ () | _____ () _____ () |
| | | _____ () _____ () | _____ () _____ () | _____ () _____ () |
| | | _____ () _____ () | _____ () _____ () | _____ () _____ () |
| | | _____ () _____ () | _____ () _____ () | _____ () _____ () |
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| | | Cell Average = <input style="width: 50px;" type="text"/> | Cell Average = <input style="width: 50px;" type="text"/> | Cell Average = <input style="width: 50px;" type="text"/> |
| | HIGH | Test Name: _____ Score: _____ | Test Name: _____ Score: _____ | Test Name: _____ Score: _____ |
| _____ () _____ () | | _____ () _____ () | _____ () _____ () | |
| _____ () _____ () | | _____ () _____ () | _____ () _____ () | |
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| | Cell Average = <input style="width: 50px;" type="text"/> | Cell Average = <input style="width: 50px;" type="text"/> | Cell Average = <input style="width: 50px;" type="text"/> | |

Matrix of Cultural Loading and Linguistic Demand Case Study

Example 1

WISC-III/WJ-R CROSS-BATTERY DATA FOR LUIS

| | | DEGREE OF LINGUISTIC DEMAND | | |
|------------------|---------|--|--|---|
| | | LOW | MODERAT | HIG |
| CULTURAL LOADING | LO | | WISC-III DIGIT <i>Gsm-</i> WISC-III BLOCK <i>Gv-</i> SB-IV Bead <i>Gv-</i> WISC-III <i>Gs-</i> WJ-R VISUAL <i>Gs-</i> WJ-R MEMORY FOR <i>Glr-</i> x = | WJ-R CONCEPT <i>Gf-</i> WJ-R ANALYSIS- <i>Gf-</i> x = |
| | MODERAT | WISC-III OBJECT <i>Gv-</i> WJ-R Visual <i>Gv-</i> x = | WISC-III <i>Gq-</i> WJ-R VISUAL-LEARNIN <i>Glr-</i> x = | WJ-R INCOMPLETE <i>Ga-</i> WJ-R SOUND <i>Ga-</i> WJ-R MEMORY FOR <i>Gsm-</i> x = |
| | HIG | | WJ-R ORAL <i>Gc-</i> WJ-R PICTURE <i>Gc-</i> x | WISC-III <i>Gc-</i> WISC-III <i>Gc-</i> WISC-III <i>Gc-</i> WISC-III <i>Gc-</i> WJ-R LISTENING <i>Gc-</i> x = |

Matrix of Cultural Loading and Linguistic Demand Case Study

Example 2

Woodcock-Johnson Revised: Tests of Cognitive Ability (English Administration)

| | <u>SS</u> | <u>PR</u> | | <u>SS</u> | <u>PR</u> |
|--------------------|-----------|-----------|--------------------------|-----------|-----------|
| Memory for Names | 105 | 64 | Visual-Auditory Learning | 91 | 28 |
| Visual Matching | 101 | 54 | Memory for Words | 99 | 46 |
| Incomplete Words | 85 | 15 | Cross-Out | 111 | 77 |
| Visual Closure | 96 | 39 | Sound Blending | 84 | 14 |
| Picture Vocabulary | 79 | 8 | Oral Vocabulary | 90 | 25 |
| Analysis-Synthesis | 92 | 31 | Concept Formation | 96 | 40 |

Wechsler Intelligence Scale for Children, Third Edition (English Administration)

| | <u>Scaled Score</u> | <u>PR</u> | <u>Standard Score</u> | | <u>Scaled Score</u> | <u>PR</u> | <u>Standard Score</u> |
|---------------|---------------------|-----------|-----------------------|-----------------|---------------------|-----------|-----------------------|
| Information | 6 | 9 | 80 | Block Design | 11 | 65 | 105 |
| Similarities | 4 | 2 | 70 | Object Assembly | 13 | 84 | 115 |
| Vocabulary | 4 | 2 | 70 | Symbol Search | 10 | 50 | 100 |
| Comprehension | 7 | 16 | 85 | Coding | 11 | 65 | 105 |
| Arithmetic | 9 | 38 | 95 | Mazes | 9 | 38 | 95 |
| Digit Span | 9 | 38 | 95 | | | | |

Leiter International Performance Scale - Revised (Nonverbal Administration)

| | <u>Standard Score</u> | <u>Percentile Rank</u> |
|-------------------|-----------------------|------------------------|
| Design Analogies | 122 | 92 |
| Repeated Patterns | 114 | 83 |
| Associated Pairs | 94 | 35 |
| Delayed Pairs | 89 | 24 |

Matrix of Cultural Loading and Linguistic Demand Case Study

Example 2

WISC-III & LEITER-R BASED CROSS-BATTERY DATA FOR ELIZABETH (ENGLISH)

| | | DEGREE OF LINGUISTIC DEMAND | | |
|----------------------------|---------|--|---|---|
| | | LOW | MODERAT | HIG |
| DEGREE OF CULTURAL LOADING | LO | Leiter-R Design <i>Gf-</i> Leiter-R Repeated <i>Gf-</i> $x =$ | WISC-III BLOCK <i>Gv-</i> WISC-III SYMBOL <i>Gs-</i> WISC-III <i>Gs-</i> WISC-III DIGIT <i>Gsm-</i> $x =$ | |
| | MODERAT | WISC-III OBJECT <i>Gv-</i> WISC-III <i>Gv-</i> $x =$ | WISC-III <i>Gq-</i> $x =$ | |
| | HIG | Leiter-R Associated <i>Glr-</i> Leiter-R Delayed <i>Glr-</i> $x =$ | | WISC-III <i>Gc-</i> WISC-III <i>Gc-</i> WISC-III <i>Gc-</i> WISC-III <i>Gc-</i> $x =$ |

Matrix of Cultural Loading and Linguistic Demand Case Study

Example 2

WJ-R & LEITER-R BASED CROSS-BATTERY DATA FOR ELIZABETH (ENGLISH)

| | | DEGREE OF LINGUISTIC DEMAND | | |
|----------------------------|----------|--|--|--|
| | | LOW | MODERATE | HIGH |
| DEGREE OF CULTURAL LOADING | LOW | Leiter-R Design Analogies <i>Gf-122</i> Leiter-R Repeated Patterns <i>Gf-114</i> $x = 118$ | WJ-R VISUAL MATCHING <i>Gs-101</i> WJ-R MEMORY FOR NAMES <i>Glr-105</i> WJ-R CROSS-OUT <i>Gs-111</i> $x = 106$ | WJ-R CONCEPT FORMATION <i>Gf-96</i> WJ-R ANALYSIS-SYNTHESIS <i>Gf-92</i> $x = 94$ |
| | MODERATE | WJ-R Visual Closure <i>Gv-96</i> $x = 96$ | WJ-R VISUAL-AUDITORY LEARNING <i>Glr-91</i> $x = 91$ | WJ-R INCOMPLETE WORDS <i>Ga-85</i> WJ-R SOUND BLENDING <i>Ga-84</i> WJ-R MEMORY FOR WORDS <i>Gsm-99</i> $x = 90$ |
| | HIGH | Leiter-R Associated Pairs <i>Glr-94</i> Leiter-R Delayed Pairs <i>Glr-89</i> $x = 92$ | WJ-R ORAL VOCABULARY <i>Gc-90</i> WJ-R PICTURE VOCABULARY <i>Gc-79</i> $x = 85$ | |

Matrix of Cultural Loading and Linguistic Demand Case Study

Example 2

BATERÍA-R DATA FOR ELIZABETH (SPANISH)

| | | DEGREE OF LINGUISTIC DEMAND | | |
|----------------------------|----------|---|---|--|
| | | LOW | MODERATE | HIGH |
| DEGREE OF CULTURAL LOADING | LOW | | BAT-R VISUAL MATCHING <i>Gs-92</i> BAT-R MEMORY FOR NAMES <i>Glr-100</i> BAT-R CROSS-OUT <i>Gs-96</i> $x = 96$ | BAT-R CONCEPT FORMATION <i>Gf-93</i> BAT-R ANALYSIS-SYNTHESIS <i>Gf-88</i> $x = 91$ |
| | MODERATE | BAT-R Visual Closure <i>Gv-96</i> $x = 96$ | BAT-R VISUAL-AUDITORY LEARNING <i>Glr-86</i> $x = 86$ | BAT-R INCOMPLETE WORDS <i>Ga-78</i> BAT-R SOUND BLENDING <i>Ga-76</i> BAT-R MEMORY FOR WORDS <i>Gsm-76</i> $x = 77$ |
| | HIGH | | BAT-R ORAL VOCABULARY <i>Gc-79</i> BAT-R PICTURE VOCABULARY <i>Gc-65</i> $x = 72$ | |

**Note: Cross-Battery analysis of data obtained in a language other than English with the Culture-Language Matrix is for illustration purposes only. Unlike data from English language tests, there is no research to guide interpretation of other language data according to level of acculturation or linguistic demands. It is believed, however, that the effects will like follow the data patterns seen in English language testing, primarily because the norm samples for native language tests are subject to the same limitations and criticisms as described before.*

Matrix of Cultural Loading and Linguistic Demand Case Study

Example 2

CROSS-BATTERY ANALYSIS OF ALL DATA FOR ELIZABETH (for illustration only)

| | | DEGREE OF LINGUISTIC DEMAND | | |
|----------------------------|----------|--|---|--|
| | | LOW | MODERATE | HIGH |
| DEGREE OF CULTURAL LOADING | LOW | Leiter-R Design Analogies <i>Gf-122</i> Leiter-R Repeated Patterns <i>Gf-114</i> <p style="text-align: right;">$x = 118$</p> | WISC-III BLOCK DESIGN <i>Gs-105</i> WISC-III SYMBOL SEARCH <i>Glr-100</i> WISC-III CODING <i>Gs-105</i> WISC-III DIGIT SPAN <i>Gs-95</i> WJ-R VISUAL MATCHING <i>Gs-101</i> WJ-R MEMORY FOR NAMES <i>Glr-105</i> WJ-R CROSS-OUT <i>Gs-111</i> <p style="text-align: right;">$x = 103$</p> | WJ-R CONCEPT FORMATION <i>Gf-96</i> WJ-R ANALYSIS-SYNTHESIS <i>Gf-92</i> <p style="text-align: right;">$x = 94$</p> |
| | MODERATE | WISC-III BLOCK DESIGN <i>Gv-115</i> WISC-III Mazes <i>Gv-95</i> WJ-R Visual Closure <i>Gv-96</i> <p style="text-align: right;">$x = 102$</p> | WISC-III ARITHMETIC <i>Gq-95</i> WJ-R VISUAL-AUDITORY LEARNING <i>Glr-91</i> <p style="text-align: right;">$x = 93$</p> | WJ-R INCOMPLETE WORDS <i>Ga-85</i> WJ-R SOUND BLENDING <i>Ga-84</i> WJ-R MEMORY FOR WORDS <i>Gsm-99</i> <p style="text-align: right;">$x = 90$</p> |
| | HIGH | Leiter-R Associated Pairs <i>Glr-94</i> Leiter-R Delayed Pairs <i>Glr-89</i> <p style="text-align: right;">$x = 92$</p> | WJ-R ORAL VOCABULARY <i>Gc-90</i> WJ-R PICTURE VOCABULARY <i>Gc-79</i> <p style="text-align: right;">$x = 85$</p> | WISC-III SIMILARITIES <i>Gc-80</i> WISC-III VOCABULARY <i>Gc-70</i> WISC-III INFORMATION <i>Gc-70</i> WISC-III COMPREHENSION <i>Gc-85</i> <p style="text-align: right;">$x = 76$</p> |

Matrix of Cultural Loading and Linguistic Demand Case Study

Example 3

WECHSLER ONLY DATA FOR YUQUITA

| | | DEGREE OF LINGUISTIC DEMAND | | |
|----------------------------|----------|--|--|--|
| | | LOW | MODERATE | HIGH |
| DEGREE OF CULTURAL LOADING | LOW | | WISC-III BLOCK DESIGN <i>Gv-75</i> WISC-III SYMBOL SEARCH <i>Gs-70</i> WISC-III CODING <i>Gs-65</i> WISC-III DIGIT SPAN <i>Gsm-85</i> $x = 73$ | |
| | MODERATE | WISC-III OBJECT ASSEMBLY <i>Gv-80</i> WISC-III Mazes <i>Gv-80</i> $x = 80$ | WISC-III ARITHMETIC <i>Gq-90</i> $x = 90$ | |
| | HIGH | | | WISC-III SIMILARITIES <i>Gc-75</i> WISC-III VOCABULARY <i>Gc-80</i> WISC-III INFORMATION <i>Gc-90</i> WISC-III COMPREHENSION <i>Gc-85</i> $x = 83$ |

GENERAL GUIDELINES FOR EXPECTED PATTERNS OF TEST PERFORMANCE FOR DIVERSE INDIVIDUALS

Degree of Linguistic Demand

| | | Low | Moderate | High |
|----------------------------|----------|--|---|---|
| Degree of Cultural Loading | Low | Slightly Different: 3-5 points Different: 5-7 points Markedly Different: 7-10 points | Slightly Different: 5-7 points Different: 7-10 points Markedly Different: 10-15 points | Slightly Different: 7-10 points Different: 10-15 points Markedly Different: 15-20 points |
| | Moderate | Slightly Different: 5-7 points Different: 7-10 points Markedly Different: 10-15 points | Slightly Different: 7-10 points Different: 10-15 points Markedly Different: 15-20 points | Slightly Different: 10-15 points Different: 15-20 points Markedly Different: 20-25 points |
| | High | Slightly Different: 7-10 points Different: 10-15 points Markedly Different: 15-20 points | Slightly Different: 10-15 points Different: 15-20 points Markedly Different: 20-25 points | Slightly Different: 15-20 points Different: 20-30 points Markedly Different: 25-35 points |

Slightly Different: Includes individuals with high levels of English language proficiency (e.g., advanced BICS/emerging CALP) and high acculturation, but still not entirely comparable to mainstream U.S. English speakers. Examples include individuals who have resided in the U.S. for more than 7 years or who have parents with at least a high school education, and who demonstrate native-like proficiency in English language conversation and solid literacy skills.

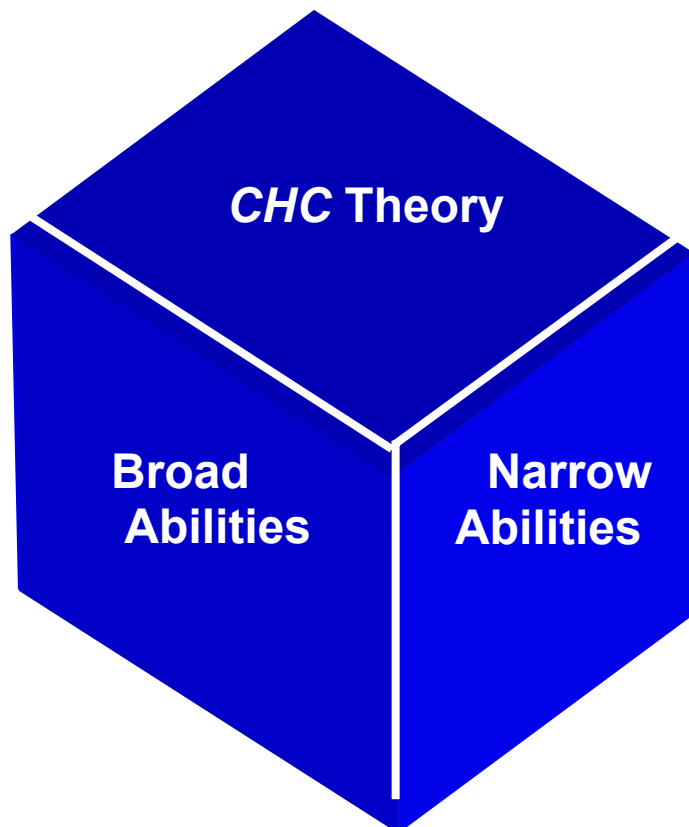
Different: Includes individuals with moderate levels of English language proficiency (e.g., intermediate to advanced BICS) and moderate levels of acculturation. Examples include individuals who have resided in the U.S. for 3-7 years and who have learned English well enough to communicate, but whose parents are limited English speakers with only some formal schooling, and improving but below grade level literacy skills.

Markedly Different: Includes individuals with low to very low levels of English language proficiency (e.g., early BICS) and low or very low levels of acculturation. Examples include individuals who recently arrived in the U.S. or who may have been in the U.S. 3 years or less, with little or no prior formal education, who are just beginning to develop conversational abilities and whose literacy skills are also just emerging.

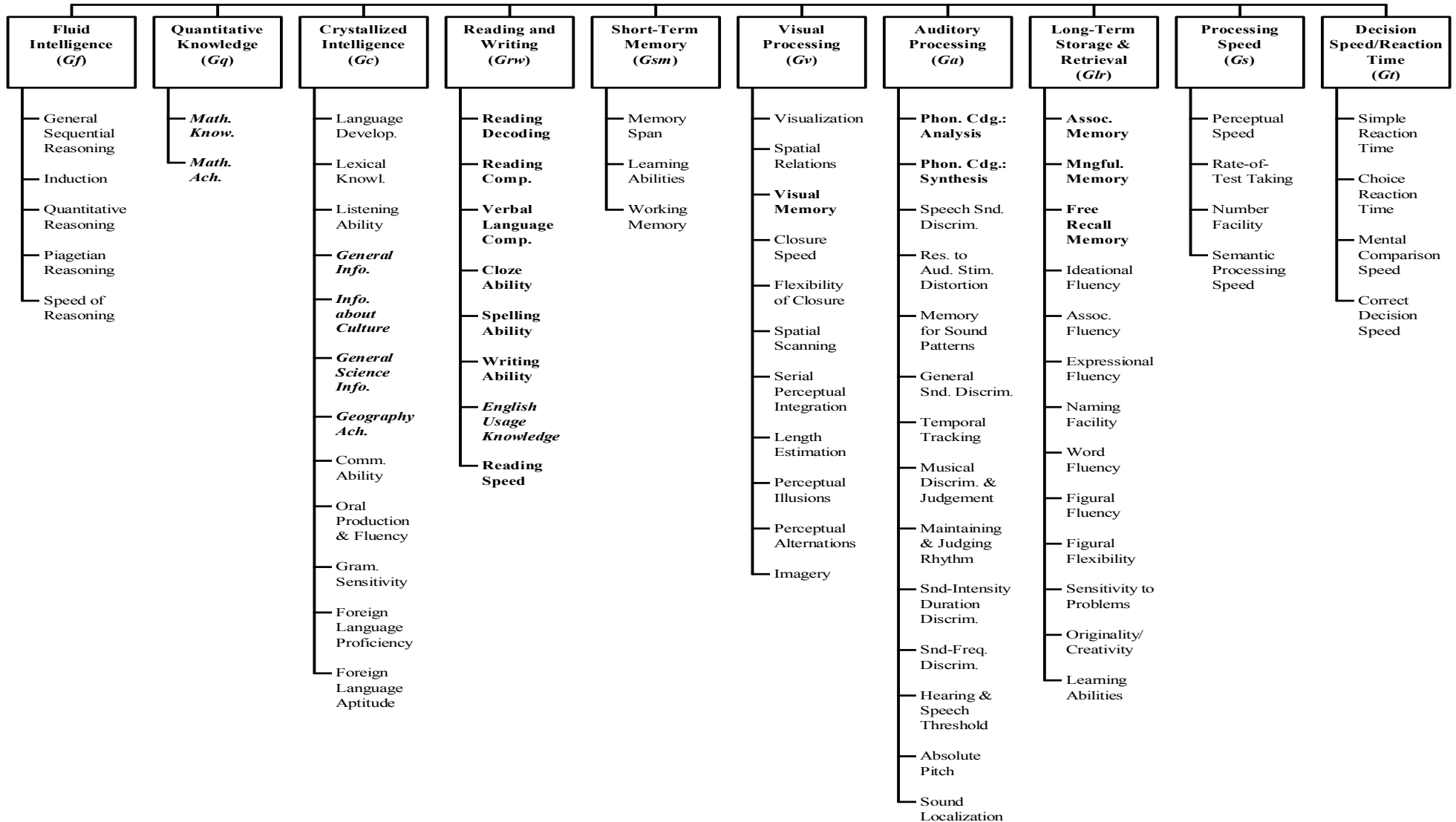
CHC CROSS-BATTERY ASSESSMENT

A FOUNDATION FOR DEFENSIBLE INTERPRETATION

The CHC Cross-Battery approach (Flanagan, McGrew & Ortiz, 2000; Flanagan & Ortiz, 2001; Flanagan, Ortiz, Alfonso & Mascolo, 2002; McGrew & Flanagan, 1998) rests upon the application of modern cognitive theory (CHC) as the basis for valid and reliable interpretation of results from testing. Because theory specifies the existence of specific constructs and the relationships among them, predictions regarding expectations of performance or functioning in the various ability areas can be hypothesized and tested. In addition, use of a common language to describe abilities, coupled with extensive empirical support for the theoretical specifications, creates a highly defensible and systematic approach to interpretation that may assist in increasing the degree of consistency among professionals viewing the same data. When test results for individuals are believed to be valid and accurate representations of true ability or performance, interpretation via the CHC Cross-Battery approach represents one of the most advanced and defensible methods of drawing meaning from the collected test data.



AN INTEGRATED CATTELL-HORN-CARROLL (CHC) THEORETICAL MODEL OF COGNITIVE ABILITIES



THE CHC CULTURE-LANGUAGE MATRIX: CAVEATS AND CONCLUSIONS

- Used in conjunction with other information relevant to appropriate bilingual, cross-cultural, nondiscriminatory assessment...
 - level of acculturation
 - language proficiency
 - socio-economic status
 - academic history
 - familial history
 - developmental data
 - work samples
 - curriculum based data
 - intervention results, etc.

...the matrix and the classifications upon which it is based should prove to be of practical value in decreasing bias inherent in both test selection and interpretation and by helping to answer the basic question in assessment:

“Are the student’s observed learning problems due to cultural or linguistic differences or disorder?”

NONDISCRIMINATORY ASSESSMENT AND STANDARDIZED TESTS:

FINAL THOUGHT

“Probably no test can be created that will entirely eliminate the influence of learning and cultural experiences. The test content and materials, the language in which the questions are phrased, the test directions, the categories for classifying the responses, the scoring criteria, and the validity criteria are all culture bound.”

Jerome M. Sattler, 1992



STAGE MODEL OF NONDISCRIMINATORY ASSESSMENT: PROCESSES AND PROCEDURES.

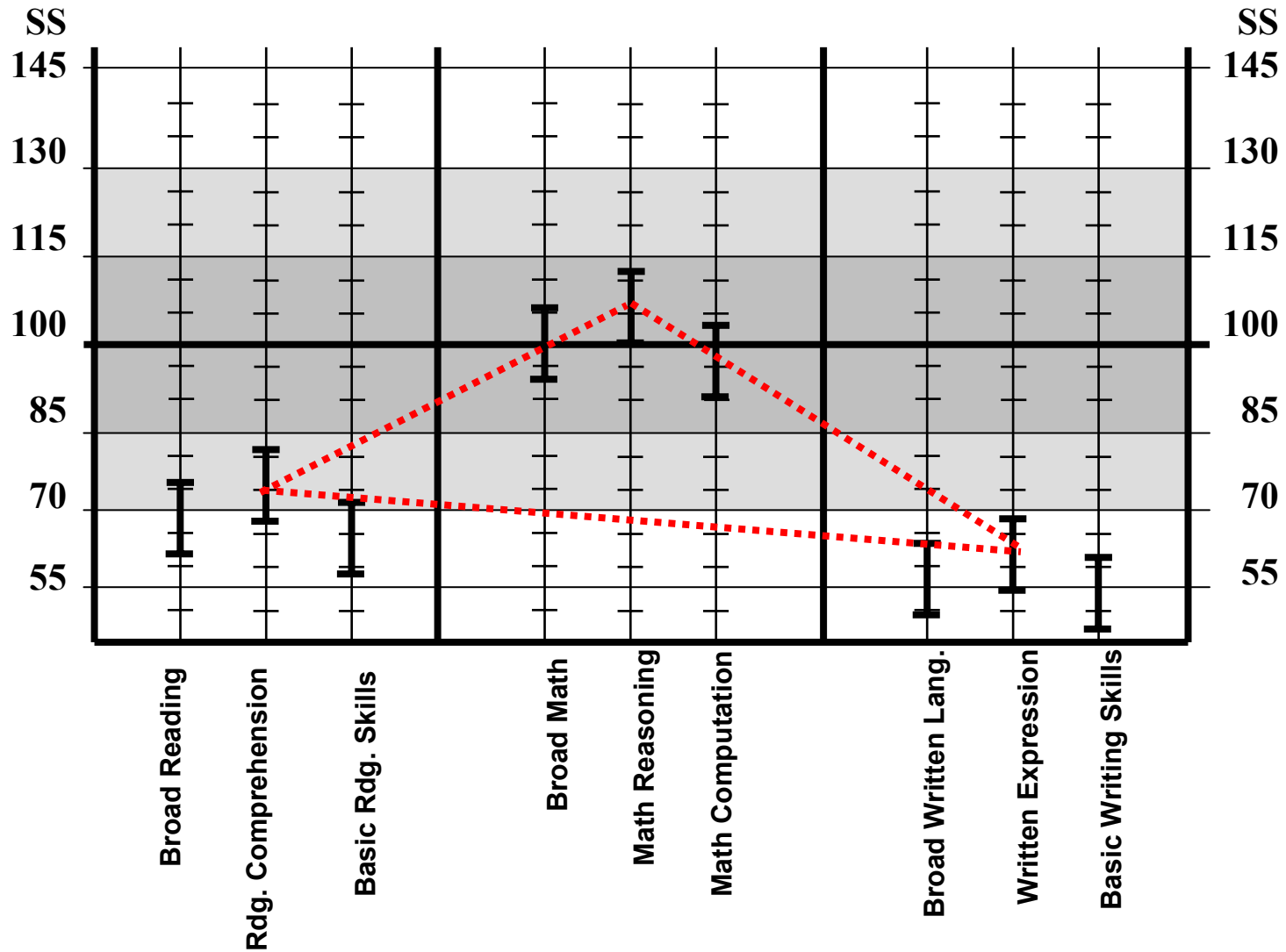
VIII. UTILIZE AUTHENTIC AND ALTERNATIVE ASSESSMENT PROCEDURES

Standardized methods of assessment are largely symbolic in nature because they evaluate only a sample of what an individual should have been taught or exposed to. They cannot, however, cover adequately the entire scope of information covered by all the various curricula used in the schools. Non-standardized, alternative assessment strategies are often less discriminatory because they provide information regarding the true difference between what an individual has actually been taught and what they have actually learned. It is, therefore, a more authentic form of assessment can provide crucial information that assists in determining the presence or absence of a disability for any student. Moreover, authentic measures have the advantage of providing information that readily translates into psychoeducational interventions and modifications. Assessment for special education involves not only the identification of a qualifying disability but the development of an appropriate instructional program to meet the disabled child's specific needs. Therefore, whether or not any standardized testing is done, appropriate assessment of diverse children should include authentic and alternative forms of assessment.

- Curriculum Based Assessment - authentic measures of academic skills
- Portfolio Assessment - developmental documentation of skills learning and academic progress
- Symbolic Dynamic Assessment - assess learning potential, cognitive strengths and weaknesses
- Authentic Dynamic Assessment - assess learning style and instructional needs



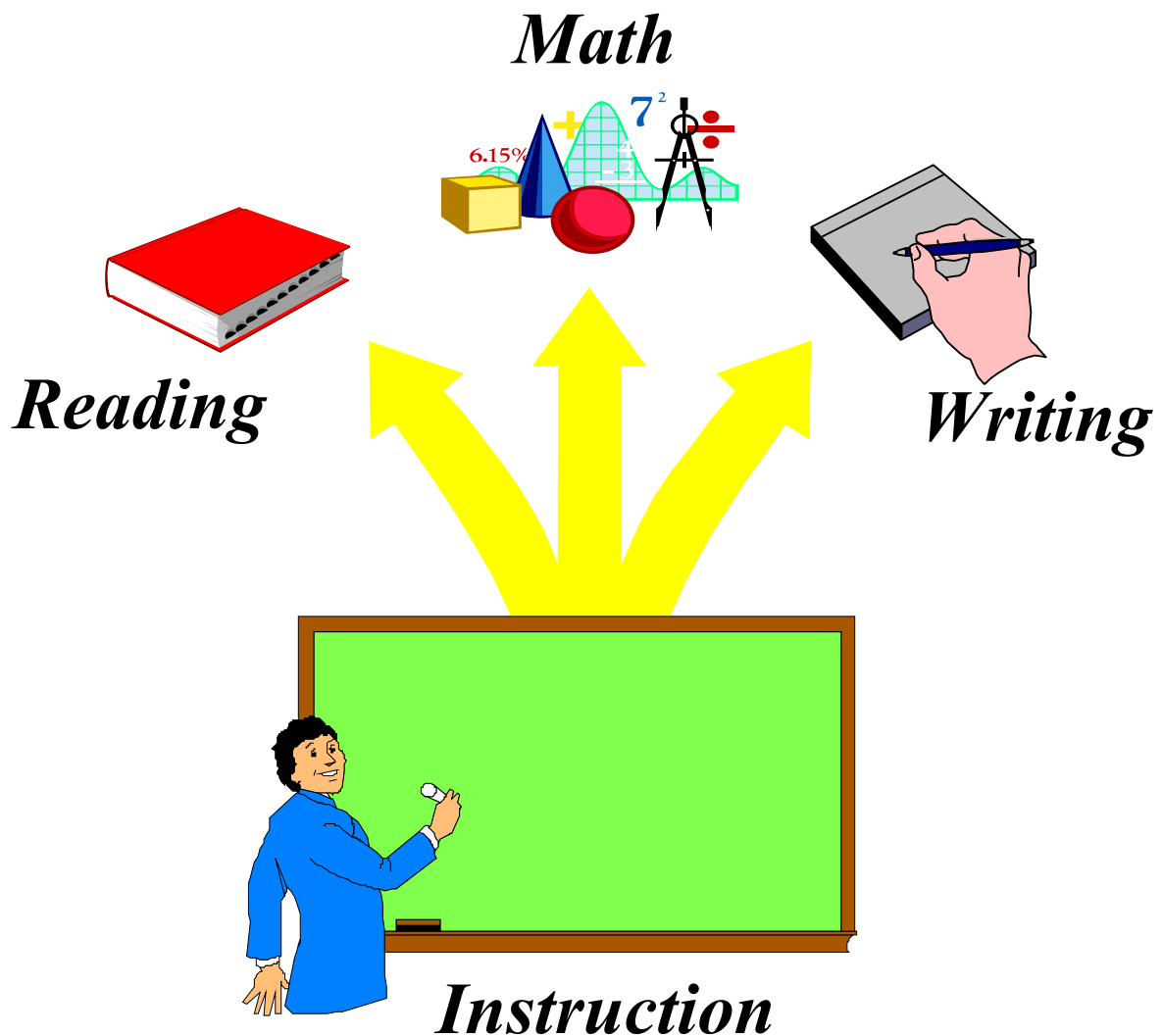
CULTURAL LOADING AND LINGUISTIC DEMAND IN ACHIEVEMENT TESTING: THE “BILINGUAL BERMUDA TRIANGLE”



AUTHENTIC VS. SYMBOLIC ASSESSMENT

The Importance of Authentic Assessment

Assessment of a child's academic skills and abilities must directly examine the child's skills and abilities with respect to the actual materials and content used to instruct that child. Thus, authentic assessment seeks to uncover whether learning difficulties can be ascribed to experiential differences rather than ability differences. Not only does this ensure greater validity of the assessment, it provides valuable information necessary to develop specific and effective instructional strategies. In general, evidence of lack of opportunity for learning, ineffective prior instruction, and linguistically inappropriate curricula, are all factors that increase the likelihood that no disability exists.



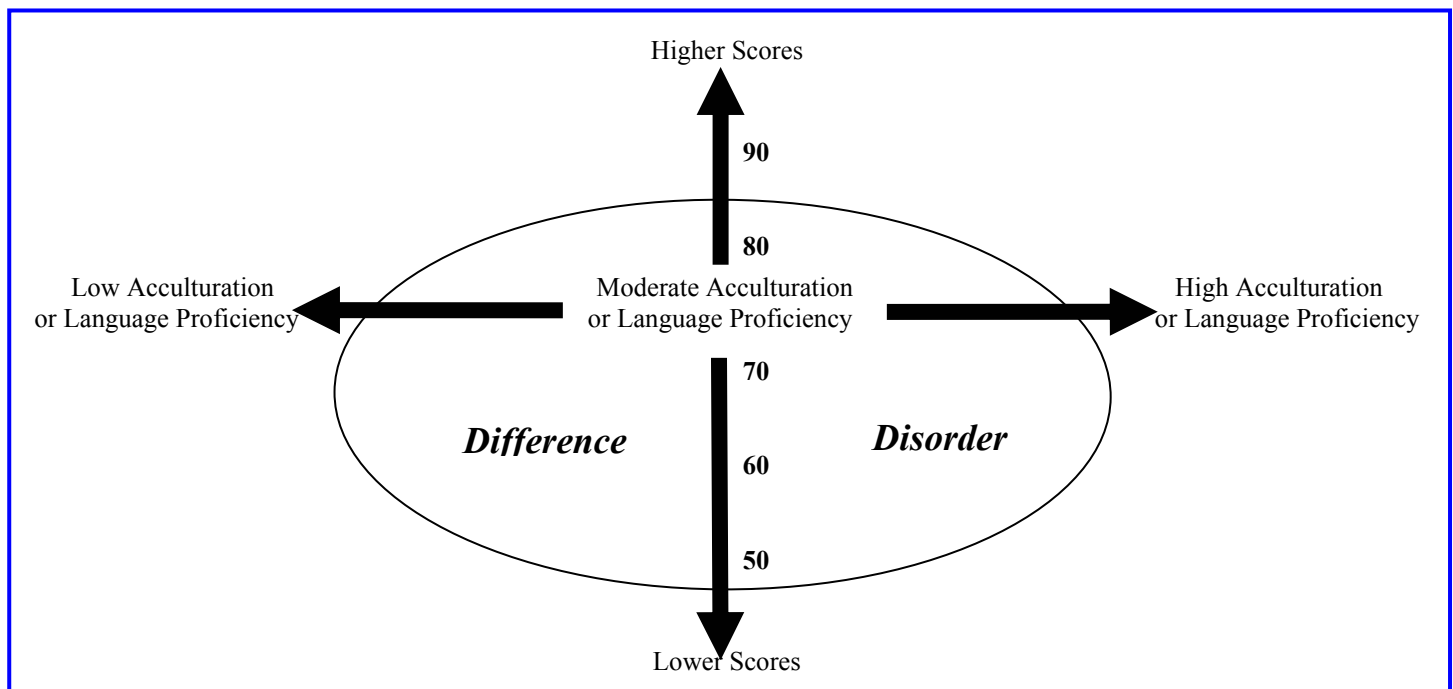
STAGE MODEL OF NONDISCRIMINATORY ASSESSMENT: PROCESSES AND PROCEDURES

IX. EVALUATE AND INTERPRET DATA WITHIN CONTEXT OF LEARNING ECOLOGY

Once an assessment is completed, it is imperative that knowledge of both the individual's cultural and linguistic experiences be used to frame the patterns seen in the data. Frequently, in bilingual assessment, only linguistic considerations are made and cultural considerations are all but ignored. Remember, linguistically appropriate assessment is only a small part of the equation. Cultural knowledge on the other hand forms the necessary context for understanding performance. With respect to standardized testing:

- Evaluate cultural and linguistic differences (large differences = more adverse effect on performance)
- Evaluate inhibiting factors (many inhibiting factors = more adverse effect on performance)
- Evaluate non-discriminatory data (is child capable of learning normally if given the chance?)
- Evaluate opportunity for learning (less opportunity = lower probability of disability)
- Base all decisions on all available data

The figure below provides an illustration that can help distinguish between difference or disorder. It is important to note that the probability or likelihood of one vs. the other is based primarily on data regarding cognitive functioning generated from standardized tests compared against the information regarding the relative influence of cultural or linguistic differences and the presence of inhibitory factors (environmental and community). Decisions concerning difference vs. disorder must ultimately be bolstered by other information including that derived from direct observation, interviews with people familiar with the child, informal or authentic assessment, and analysis of actual work samples. This figure should not be used for making definitive conclusions about performance, rather it should be viewed only as a guide for evaluating data.



STAGE MODEL OF NONDISCRIMINATORY ASSESSMENT: PROCESSES AND PROCEDURES

X. LINK ASSESSMENT TO INTERVENTION

The final step in nondiscriminatory assessment is also the most important: link results from assessment with intervention. Once assessment is completed, the child is not going to be “cured” of his or her learning problems merely because a diagnosis or label has been applied. Therefore, the role of assessment should not be limited to identification only, rather it should be extended to inform appropriate instructional interventions, modifications, and program development.

- Utilize collected data to guide instructional interventions, modifications, and program development
- Ensure that instructional goals and objectives are culturally and linguistically appropriate

Linguistically appropriate goals and objectives have the following characteristics:

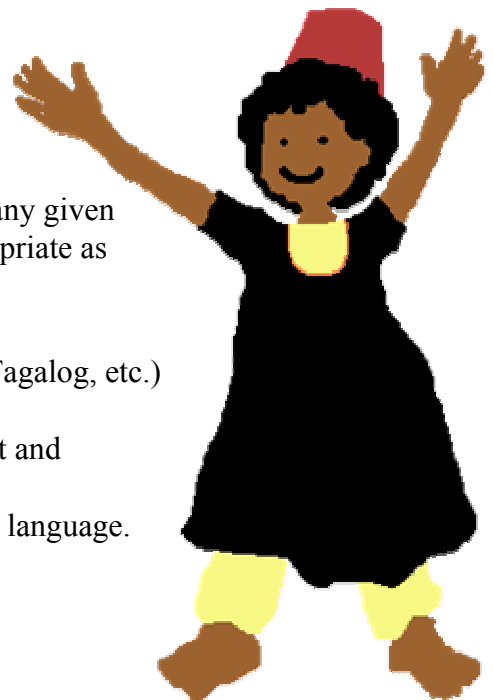
- They are appropriate for the cognitive level of the student
- They are appropriate for the linguistic level of the student
- They match the developmental level of the student's primary (L1) or secondary (L2) language
- They match the student's general education transition criteria and re-designation policy (i.e., from LEP to FEP)

Culturally appropriate goals and objectives have the following characteristics:

- They access the student's prior knowledge and experiences
- They incorporate culturally relevant materials and experiences
- They affirm the student's cultural heritage

The following rubric needs to be followed in order to ensure that any given goal or objective meets the definition of being linguistically appropriate as specified above.

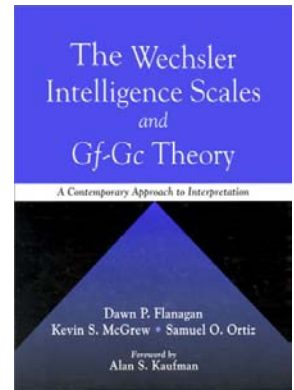
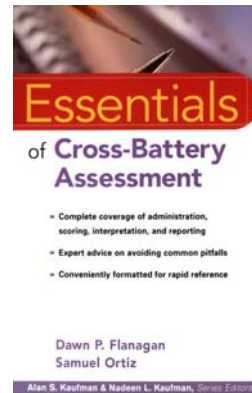
- It states specifically in what language (Spanish, Vietnamese, Tagalog, etc.) the particular goal and objective will be accomplished.
- It is appropriate to the student's level of linguistic development and proficiency in that language.
- It is consistent with the known developmental structure of that language.
- It provides cultural relevance in the curricular framework.



CHC CROSS-BATTERY RESOURCES

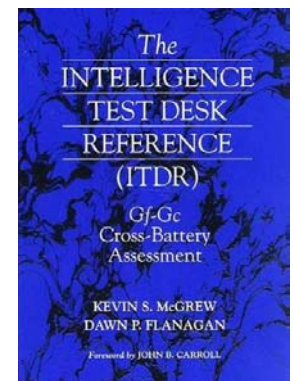
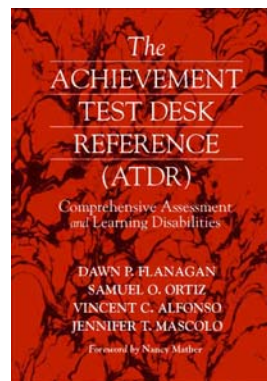
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ONLINE:

CHC Cross-Battery Online
<http://www.crossbattery.com/>



The Institute for Applied Psychometrics
<http://www.iapsych.com/>



Ron Dumont and John Willis' website
<http://alpha.fdu.edu/psychology/>



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