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ABSTRACT

Intelligence quotient (IQ) scores are widely accepted as measures of academic potential. However, both hereditary and environmental factors also play a role in performance. The limitations of IQ tests require that they be handled differently when administered to students from backgrounds other than the dominant cultural group. In addition, teachers, administrators, and psychologists must be weary of assigning labels to test results because these labels often tend to shape teachers' expectations. Although these facts are accepted, there is evidence that this acceptance does not readily transfer into educational practice. In some educational contexts, a disproportionate number of immigrant and minority language students are being assigned to special education classes and vocational streams as a combined result of the indiscriminate use of mental tests and the cultural and linguistic orientation of school programs. This report reviews Canadian literature on this topic and relates the findings of a study in which teacher referral forms and psychological assessments of more than four hundred New Canadian children were analyzed. The report discusses (1) the origins of bias in IQ tests, (2) the Canadian context, (3) quantitative and qualitative analyses of the teacher referral, (4) the psychological assessment, and (5) policy implications. (Author/JK)

PSYCHOLOGICAL ASSESSMENT OF MINORITY LANGUAGE STUDENTS

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Many people have contributed to this study in a variety of ways. The study could not have taken place were it not for the concern of the psychologists and administrators in the participating school board about the implications of trying to assess the learning potential of ESL students, and their willingness to allow this process to be examined. Narry Osietko and Donna Tanaka assisted in the initial data gathering; Jutta Keylworth and Roma Chumak helped in the coding and qualitative analysis of the data while Wladislaw Cichochi carried out the quantitative analyses. Discussions with Jean Handscombe and Marcela Duran of the North York Board of Education and with Daina Green and Roma Chumak of OISE have contributed to many of the views and suggestions contained in the report. Finally, a two-year Visiting Professorship in the Modern Language Centre, OISE, awarded by the Multiculturalism Directorate of the Secretary of State, Ottawa, and the research grant which accompanied this professorship, made it possible to complete the study.

Psychological Assessment of Minority Language Students[1]

Jim Cummins

The Ontario Institute for Studies
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> "... the number of aliens deported because of feeble-mindedness ...increased approximately 350 per cent in 1913 and 570 per cent in 1914.... This was due to the untiring efforts of the physicians who were inspired by the belief that mental tests could be used for the detection of feeble-minded aliens..."
>
> H.H. Goddard, "Mental Tests and the Immigrant," Journal of Delinquency, no. 2, 1917, p.271.

Most western educators would consider that the assumptions underlying the widespread use of ability and achievement tests in our schools are very far removed from the naive assumptions of the early practitioners of IQ testing. In contrast to the early assumption that IQ tests measure "innate potential", modern educators will agree that IQ tests are measures of an individual's "academic potential", as evidenced by the high correlations between IQ and academic achievement tests, and that performance is determined by both hereditary and environmental factors. They will also readily agree that IQ tests have certain limitations. For example, extreme caution is necessary in assessing the intelligence of students from backgrounds other than the dominant cultural group because of the possibility of cultural or linguistic bias. Labelling such children as "low IQ" can adversely affect their academic progress because of the way labels tend to shape teachers' expectations.

All of this is "known" by most teachers, psychologists, and administrators in our school systems because they have learnt it in university courses they have taken in educational or clinical psychology. However, there is abundant evidence that this "knowledge" about the dangers of testing

culturally and linguistically different students does not readily translate into educational practice and that, in some educational contexts, a disproportionate number of immigrant and minority language students are being "deported" into special education classes and vocational streams as a combined result of the indiscriminate use of mental tests and the cultural and linguistic orientation of school programs.

The present report will review the recent Canadian literature on this topic and report on the findings of a study in which teacher referral forms and psychological assessments of over 400 New Canadian children were analysed. First, however, in order to place current educational practices in perspective, the processes through which bias against minority groups is built into IQ tests will be briefly examined.

The Origins of Bias in IQ Tests

IQ tests were intended to measure individuals' potential for academic success. The basic assumption underlying these tests is very simple, and, in principle, valid. This assumption is that an individual's future rate of learning (i.e. "academic potential") can be predicted from his/her past rate of learning. Thus, verbal IQ tests attempt to measure what knowledge individuals have acquired through linguistic interaction (e.g. information about the world, vocabulary/concept knowledge, etc.) and what linguistically-based cognitive operations individuals have learned how to perform (e.g. verbal analogies).

Within groups whose background experiences are relatively homogeneous and consonant with the assumptions of schools, IQ tests perform their predictive function extremely well, although it is debatable whether this is a useful or desirable function (see e.g. Beck, 1976/77; Kamin, 1974). However, when used with linguistic and/or cultural minority groups whose background experiences are significantly different from those of the majority group, the construct validity of IQ tests automatically disappears. In other words, the test can no

longer claim to measure the construct of "academic potential" because the previous learning experiences of minority groups have not been adequately assessed. This is true even when the test is normed on a representative sample, i.e. when the proportion of minority groups in the norming sample is equivalent to their proportion in the general population. When the test items are developed to reflect the learning experiences of a representative sample, the prior experiences of the majority groups will be reflected in the majority of items, and those of the individual minority groups in a very small proportion of items.

The biasing process is completed by the effort to ensure that the test has predictive and/or concurrent "validity". The only items that will be retained in the final version are those that reflect success in school under present instructional conditions, or relate to other criterion measures with the same inbuilt biases against minorities. Since schools, by and large, are designed to reinforce the background experiences and values of the majority group, these further "validation" procedures will ensure that virtually none of the test items reflect the unique experiences of minority group children. Thus, IQ tests may very well have high predictive validity for minority students, and thus be said to measure "academic potential", because the linguistic and cultural biases that are built into the test accurately reflect the biases that are inherent in our school systems. The strong opposition to bilingual and multicultural education policies (see e.g. Masemann, 1978/79) suggests that many educators and members of the general public are reluctant to acknowledge these biases as undesirable.

The consequences of the combined biases of tests and school programs against minority children are illustrated in the disproportionate numbers of such children assigned to vocational streams and classes for the educable mentally retarded (EMR). Several studies have shown, for example, that there

are approximately twice as many Mexican-American students in EMR classes in the United States as would be expected on the basis of proportion in the school population (see Gaarder, 197?; Mercer, 1973, 1976). Mercer (1976) has shown that the preponderance of Mexican-American children in EMR classes is not a result of over-referral from teachers and principals, but rather results from the diagnostic process itself. In addition to biases in the test instruments, Mercer (1973) points to the ignorance of teachers, psychologists and other school personnel about the factors that influence learning among various SES and ethnic groups, as contributing to the low academic placement of minority students.

The Canadian Context

In Canada, the assessment and placement of minority language children first became a matter of public debate in the late 1960's when the Dante Society, a cultural organization for Italian-Canadians in Metropolitan Toronto, accused the Toronto Board of Education of streaming immigrant children to vocational and technical schools. Although according to Costa and DiSanto (1973), the Society was consistently denied the right to know the exact number of Italians in special education classes and vocational schools, it estimated that 70 per cent of students in these schools were from immigrant families (Toronto Star, July 30, 1976).

Objective information on the placement of different SES and ethnic groups in the school system was provided by the Toronto Board of Education's "Every Student" surveys carried out in 1969 and 1975 (Deosaran, 1976; Wright, 1971). In general, these surveys showed a disproportionate number of low SES students, as well as immigrant students who learnt English as a second language, in special education classes in elementary school and in vocational streams at the secondary level. However, as is evident from Tables 1 and 2, there were large differences in program placement between ethnic groups, and

Table 1

Special Class Placement of Selected Language Groups in the Toronto Board of Education Every Student Survey, 1969
(Adapted from Wright, 1971, Tables 1,3,7 & 8)

Mother Tongue	Elementary				Secondary					
	N		% in Special Class (low academic)		N		% in Special Vocational Program		% in 5 Year (high academic)	
A. Born in Canada	SES 2	SES Total	SES 2	SES Total	SES 2	SES Total	SES 2	SES Tot.	SES 2	SES Tot.
French	196	591	7.7	7.1	193	487	18.7	16.6	27.46	38.0
Portuguese	630	820	1.6	1.5	*	*	*	*	*	*
Italian	4,454	5,987	3.0	3.0	441	703	8.8	8.0	58.04	59.3
Chinese	1,184	1,912	0.1	1.1	78	237	1.28	1.3	84.61	86.1
English	12,503	38,787	5.0	3.8	4,091	16,141	10.33	6.6	40.65	57.1
B. Born outside Canada										
French	64	153	1.6	2.0	55	124	1.81	1.6	54.5	60.5
Portuguese	2,089	2,808	5.9	5.6	651	950	15.8	15.9	31.2	34.7
Italian	3,145	3,992	5.9	6.2	2,188	2,933	11.6	12.2	39.9	40.5
Chinese	461	938	1.3	0.9	370	776	2.4	1.5	71.4	77.1
English	1,006	3,504	4.3	3.0	609	1,953	8.2	5.3	43.8	57.2

* Only 7 students fell into this category.

1. Data on these groups were selected for presentation in order to show the full range of program placement among minority groups.

Table 2

Special Class Placement of Selected Language Groups in the Toronto Board of Education Every Student Survey, 1975
(Adapted from Deosaran, 1976, Tables 1, 3, 7 & 8)

Mother Tongue	Elementary				Secondary					
A. Born in Canada	N		% in Special Class (low academic)		N		Levels 1 & 2* (low academic) (%)		Level 5* (high academic) (%)	
	SES 2	SES Total	SES 2	SES Total	SES 2	SES Tot.	SES 2	SES Tot	SES 2	SES Tot.
French	157	531	8.3	6.8	122	489	7.4	4.5	31.1	52.1
Portuguese	1,094	1,495	3.4	3.5	139	217	8.7	6.4	38.1	41.9
Italian	2,711	3,755	4.5	4.4	1,640	2,455	2.4	2.3	51.6	54.3
Chinese	1,377	2,213	1.0	1.1	402	750	1.7	1.0	86.8	88.9
English	8,129	27,619	6.9	5.0	2,956	12,226	6.2	4.2	40.0	61.4
B. Born outside Canada										
French	49	136	0.0	0.7	59	146	3.4	3.4	47.5	60.3
Portuguese	2,514	3,404	6.3	7.0	1,273	1,801	12.2	11.5	32.4	36.0
Italian	859	1,132	11.5	10.7	1,529	2,105	4.4	4.6	41.2	42.2
Chinese	842	1,501	1.1	0.9	512	1,182	0.4	0.5	80.3	84.1
English	1,858	4,747	4.2	3.3	677	2,059	7.6	4.8	50.5	64.4

* Although the Toronto secondary schools underwent some organizational changes between 1970 and 1975 these categories are generally similar to those in the 1969 Survey.

SES appeared to exert less effect among third language groups than among English and French mother-tongue (L1) groups. In the 1975 survey, 55.5 percent of the total number of ESL immigrant students in secondary schools were in Level 5 programs compared to 64.4 percent of immigrant students whose L1 was English. The equivalent percentages for students born in Canada were 67.8 (ESL) and 61.4 (English L1).

Parental aspirations for their children's educational success appear to play a major role in determining ethnic differences in program placement. For example, Chinese parents are reported to strongly encourage their children's academic advancement (Chan, 1976) whereas Portuguese students, especially those whose families come from rural backgrounds, often seek full-time employment at an early age (Coelho, 1976). It seems likely that the higher overall program placement of third language students born in Canada is also related to parental aspirations. This parental aspiration factor is presumably also present among immigrant third language groups but clearly other factors mitigate against their academic success. In addition to the insensitivity of school programs to linguistic and cultural diversity in the past, an important factor mitigating against the academic success of immigrant students has been the process of assessment and placement which has tended to take very little account of the limitations of standardized ability and achievement tests when used with minority groups.

Recent Developments. During the past ten years several of the school systems in Metropolitan Toronto have begun to reorient their programs to take account of the cultural diversity of their student population. Two developments have combined to bring about this reorientation process. First, the federal policy of multiculturalism, and second, the extremely rapid increase in the numbers of immigrant students in the Metropolitan Toronto area. For example,

in several Toronto systems more than half the students have learned English as a second language.

This reorientation process has given rise to a greater awareness of the obvious dangers associated with testing immigrant and minority language students. Most Toronto boards have adopted a policy of delaying the administration of formal diagnostic tests and group tests of ability and achievement until students have been in Canada for at least two years. The rationale for this policy is expressed in the Report of the Work Group on Multiculturalism for the York Board of Education (1977, p. 36):

> Of particular concern to the Work Group is the inclusion of immigrant students in grade or school-wide group tests of academic ability. Linguistic and cultural factors will render results of such tests meaningless in the case of immigrant students and these results, if recorded in the student's records, can have an adverse influence on the student's future academic progress. Therefore, immigrant students should be excluded from such mass testing during their first two years in Canada.

This sensitivity to the possible misuses of tests clearly represents an advance on previous procedures. However, a recent survey of assessment and placement of ethnic minority students in Ontario schools (Samuda, 1980; Samuda & Crawford, 1980) suggests that policy changes in this area are limited to several Metropolitan Toronto boards with high concentrations of minority students. Only these few Toronto boards out of the 34 in the survey had "well-defined and well-articulated policies concerned with the reception, assessment and placement of ethnic minority students" (Samuda, 1980, p. 47). However, even in these boards there were marked discrepancies between responses given by board officials and school principals, suggesting that practitioners are resistant to recent changes in policy. The inconsistency between board policy and school practice was further evident in the assimilationist comments made by many school personnel in Metro Toronto (Samuda, 1980). Thus, it appeared that practice often appeared to be at

variance with stated policy even in those few boards that had instituted well-defined policies in regard to assessment and placement of minority students.

Tests were seldom used as part of the initial placement process by boards with high and meduim ethnic populations; however, boards with low ethnic concentration frequently (38.1 per cent) used tests in initial placement of minority students. Review of a student's initial placement was most frequently brought about as a result of low academic achievement and difficulties with English. Teacher-made and standardized tests were frequently used during reassessment of initial placement, the Wechsler Intelligence Test for Children (WISC) being the most common ability or conceptual test in use. However, cultural differences were often taken into account in interpreting the test score, the two most frequent means being to indicate that the score was not precise or that it should be ignored in making decisions.

Difficulties in assessment were identified by respondents as the most problematic part of the placement process for New Canadian students, especially in the 11-15 age bracket. When respondents expanded on assessment they often commented on the difficulty of identifying the student's level of functioning and on deciding whether the student's problem was one of language or of learning.

Samuda (1980) points to the crucial role of the classroom teacher in the assessment process, particularly in terms of monitoring students' progress after initial placement, identifying students for referral, and preparing and administering tests. He raises the question of "whether teachers have the experiential background and training for carrying out these tasks competently" (p. 48).

The Samuda and Crawford (1980) report clearly shows that the increased sensitivity to the assessment and placement process evidenced in the stated policies of the larger Metro Toronto boards does not accurately reflect the practice of assessment and placement in the province as a whole. Also, many questions can be raised regarding the assumptions underlying these recent policy changes. For example, when teachers monitor students' rate of learning after initial placement, what criteria are used to determine whether or not a student's progress is satisfactory? What stages do students of different ages go through in acquiring English proficiency, and how long are academic difficulties likely to persist? What is the basis for delaying psychological testing for two years as opposed to one, three or four years? How valid are diagnostic tests administered to minority language children after two years of learning English? What criteria are used to distinguish between reading difficulties which arise from the fact that English is a second language and as yet inadequately developed, and those that reflect specific learning disabilities which may require specialized remediation procedures? To what extent does the delay of formal diagnostic procedures deny minority language children the possibility of early identification and remediation of specific learning disabilities?

This last question has added significance in the Ontario context since the Ministry of Education (1978/79) has made it mandatory for school boards to institute procedures for early identification of learning disabilities. However, the difficulties of identifying learning disabilities in New Canadian students have received scant attention in this regard, despite the fact that such students constitute a sizable proportion of the school population in the large urban boards. Given the general insensitivity to this problem across the province, there is a danger that the increased screening and monitoring of student performance will result in overinclusion of minority children

in special education classes (see Keeton, 1978-79).

THE EMPIRICAL STUDY

Samuda and Crawford (1980) point out that their survey is limited by the fact that they were unable to obtain first-hand data on the students themselves, and therefore had to rely on the perceptions, competence and openness of the respondents. Thus, their survey identifies current procedures of testing, assessment, counselling and placement of minority students but provides no data based directly on actual assessments of students. It was possible to do this in the present study in which the teacher referral forms and psychological assessments of over 400 students from non-English-speaking backgrounds were analysed. The study provides data on the validity of assessment instruments for minority language students as well as on the assumptions which teachers and psychologists bring to the assessment process.

The data base was made available by a large urban Canadian school board whose psychologists were concerned about the problematic nature of assessing New Canadian students. Thus, in May 1978, the board responded favourably to a proposal to analyse the teacher referral forms and psychological assessments of New Canadian students who had been assessed between 1975 and 1978. The board hoped to obtain systematic feedback on the patterns of test scores exhibited by New Canadian students, on the factors which influenced their academic progress, and on the ways in which psychologists and teachers decided whether an ESL child's problem was due to English language difficulties or to learning disability. The board involved was probably similar to many of the Ontario boards outside of Metro Toronto in Samuda and Crawford's survey in that it did not have a formal policy on assessment and placement of New Canadian students. Testing of ESL students was undertaken when teachers requested it and when psychologists felt that the child's English was

adequate to perform the test.

At the time when the assessments were carried out there was no formal ESL program, presumably because numbers were not perceived to warrant it. There were one or two itinerant ESL teachers who gave advice to teachers and special ESL instruction to students on a withdrawal basis, but their capacity to deal with the numbers involved appears to have been limited. Thus the main placement options for ESL students consisted in (a) retention in a regular class at age-appropriate grade level; (b) retention in regular class but repeating a grade; (c) resource room, i.e. withdrawal assistance for students with academic difficulties; (d) opportunity room for students diagnosed as retarded; (e) learning centre for children with specific learning disabilities; (f) "language assistance program" for students with academic difficulties at the junior high (grade 7-8) level. Options (c) and (f) were designed primarily for monolingual students with academic difficulties, but these were the programs that received the majority of ESL students who were diagnosed as having either learning disability or English language-related problems. A psychological assessment was necessary for entry into any special class.

The data will be analysed in three ways. First the analysis of quantitative data will be presented in order to describe the sample, the reasons for referral, and the actions that were taken prior to referral. The patterns of WISC-R scores of the students and the determinants of WISC-R performance will also be examined. Then the assumptions that teachers and psychologists make in regard to the academic progress of New Canadian children, their bilingualism, and the assessment process itself will be analysed. Finally, logical and empirical problems in the assessment of New Canadian children will be discussed.

QUANTITATIVE ANALYSIS: THE TEACHER REFERRAL

Characteristics of the Sample

The sample consisted of 428 students who had been referred for psychological, reading or speech and hearing assessment. There were 270 (63%) males and 158 (37%) females. Of the 367 students for whom data on place of birth were available, 54% were born outside Canada and 46% were Canadian-born. Children from Italian backgrounds constituted the largest group (42%), followed by Portuguese (25%) and South American (mainly Chilean refugees) (12%). Eighty per cent of the Italian-background students were born in Canada, whereas only 26% of the Portuguese and none of the South Americans were. Students ranged from kindergarten through grade 9, with 85% in grade 6 or lower at the time of the referral.

The greater number of male than female referrals is a typical finding (see e.g. Rogers,1969), while the more recent immigration of the Portuguese and South American groups, as compared to the Italians, is evidenced in the Birthplace figures.

Reasons for Referral

The teacher referral form provided four referral categories, i.e. Attendance, Psychology, Reading, Speech and Hearing, more than one of which could be checked by the teacher. Teachers were asked three questions on the referral form: 1. What is the child's problem from your point of view? 2. What has been done up until now to help resolve the student's problem? 3. What questions do you want answered?

The largest referral category was Psychology (53% followed by Reading (28%) and Speech and Hearing (15%), with Attendance accounting for only 4%.

In coding the teachers' perceptions of the child's problem, we used

similar categories to those used by Rogers (1969) in a study of referrals to child adjustment services in the Toronto Board of Education, in order to facilitate comparison of results. The categories and percentage of referrals in each category are as follows:[2]

(a)	Academic referral reasons: (78%)	1.	psychometric request	(9%)
		2.	poor school progress	(24%)
		3.	special learning difficulty	(16%)
		4.	school placement	(6%)
		5.	poor work habits	(1%)
		6.	speech or perceptual difficulty	(11%)
		7.	language problem	(14%)
(b)	Behaviour referral reasons: (12%)	8.	attendance problem	(4%)
		9.	resentful of authority	(1%)
		10.	behaviour disorders	(4%)
		11.	excessively restless	(1%)
(c)	Companionship referral reason: (2%)	12.	poor social relationships	(2%)
(d)	Personality referral reasons: (7%)	13.	marked immaturity	(4%)
		14.	nervous habits	(1%)
		15.	anxiety	(1%)
		16.	daydreaming	(2%)
		17.	bizarre behaviour	(0%)
		18.	emotional problem	(0%)
(e)	Home referral reasons: (1%)	19.	poor home conditions	(0%)
		20.	poor family relations	(0%)

The only notable sex difference was in category 10 where 85% of behaviour disorders involved boys. There was a slightly greater likelihood for children born outside of Canada to be referred for language (68%) and attendance (63%) problems whereas these children were less likely to be referred for special learning difficulties (41%) and speech or perceptual difficulties (37%). There were no notable differences in referral reasons between the different language groups.

Summary and Comment. The New Canadian children in the sample were referred predominantly as a result of academic difficulties, with poor school progress, special learning difficulties, and language problems the most frequent sub-categories. Rogers (1969) reports that ESL students were more likely than monolingual students to be referred for language problems and poor school progress. He also reports that boys were more likely than girls to be referred for behaviour disorders. The percentage of students in the present sample referred for academic problems is greater than in Rogers' study where only 64% of the total number of referrals (both ESL and monolingual groups) were for academic reasons.

Actions Taken Prior to Referral

The most frequently reported action (29% of responses) taken by teachers prior to referral was discussion of the problem with parents and/or other school personnel. The provision of extra help in a general way was cited in 21% of responses followed by the provision of a special individualized academic program (17%). In 14% of cases the child had already been placed in a resource room and in 19% of cases the child had either repeated a grade or been placed in a lower level grouping. Some of these actions were instituted on the basis of prior testing.

Questions Teachers Want Answered

There were 723 questions cited in the referral forms, the most frequent being unelaborated requests for IQ or reading assessment (27%) and requests related to placement (23%). Many teachers also stated that they wanted the child's "real learning ability" established (21%) in order to set realistic goals and expectations, or to discover whether the child's academic problem was due to English language deficits or a specific learning disability. Teachers also requested suggestions in regard to remedial techniques or

programs (13%). Seven percent of the questions were concerned with whether or not the child had a speech or hearing problem.

THE PSYCHOLOGICAL ASSESSMENT

Of particular interest in the present context is the teacher's expectation that psychological assessment is capable of establishing the child's "real learning ability". This expectation is not surprising since IQ tests purport to measure a child's academic potential. However, in the case of minority language students, inferences about students' "real learning ability" are problematic, due to the fact that the assumptions of the tests frequently have not been met.

Presumably because of teachers' desire to discover the student's academic potential and their expectation that psychological assessment is capable of doing this, psychologists both in the present sample and elsewhere (Samuda & Crawford, 1980) typically include an individual IQ test as a major component of their diagnostic procedures. Samuda and Crawford report that the WISC-R was the most frequently used IQ test in Ontario, and in the present sample the WISC-R was almost invariably the individual IQ test administered to New Canadian students, although the WPSSI was administered to a small number of kindergarten and grade 1 students. A Performance IQ was calculated in 264 cases (62%) and a Verbal IQ in 234 (55%). Students who were not administered a WISC-R (or WPSSI) were usually referred for Speech and Hearing or behavioural disorders.

The Validity of WISC-R Subtests

The means, standard deviations, and medians of the 11 WISC-R subtests administered to the sample are presented in Table 3 and the medians are represented graphically in Figure 1.

Table 3

Patterns of WISC-R Scores for ESL Students

	ESL				
	N	Mean	Standard Deviation (SD)	Median	Percentage of Sample with Scale Score of 6 or Below *
Full Scale IQ	230	81.9	14.6	83.9	
Verbal Scale	234	77.9	14.3	77.7	
Performance Scale	264	89.1	16.6	90.2	
Information	242	5.1	3.0	4.9	70
Similarities	235	6.4	3.0	6.5	50
Arithmetic	243	7.4	2.7	7.4	37
Vocabulary	239	6.1	3.1	6.0	57
Comprehension	173	6.7	2.9	6.8	46
Digit Span	104	7.3	2.7	7.6	35
Picture Completion	262	8.7	2.9	8.6	22
Picture Arrangement	263	8.0	3.7	8.2	33
Block Design	266	8.0	3.1	8.1	30
Object Assembly	152	8.4	3.2	8.2	26
Coding	260	8.9	3.1	9.0	20

* 16% of the WISC-R norming sample obtained a scale score of 6 or below while 2.5% had scale scores of 3 or below. In the present sample more than one third of the students obtained scale scores of 3 or below on the Information subtest.

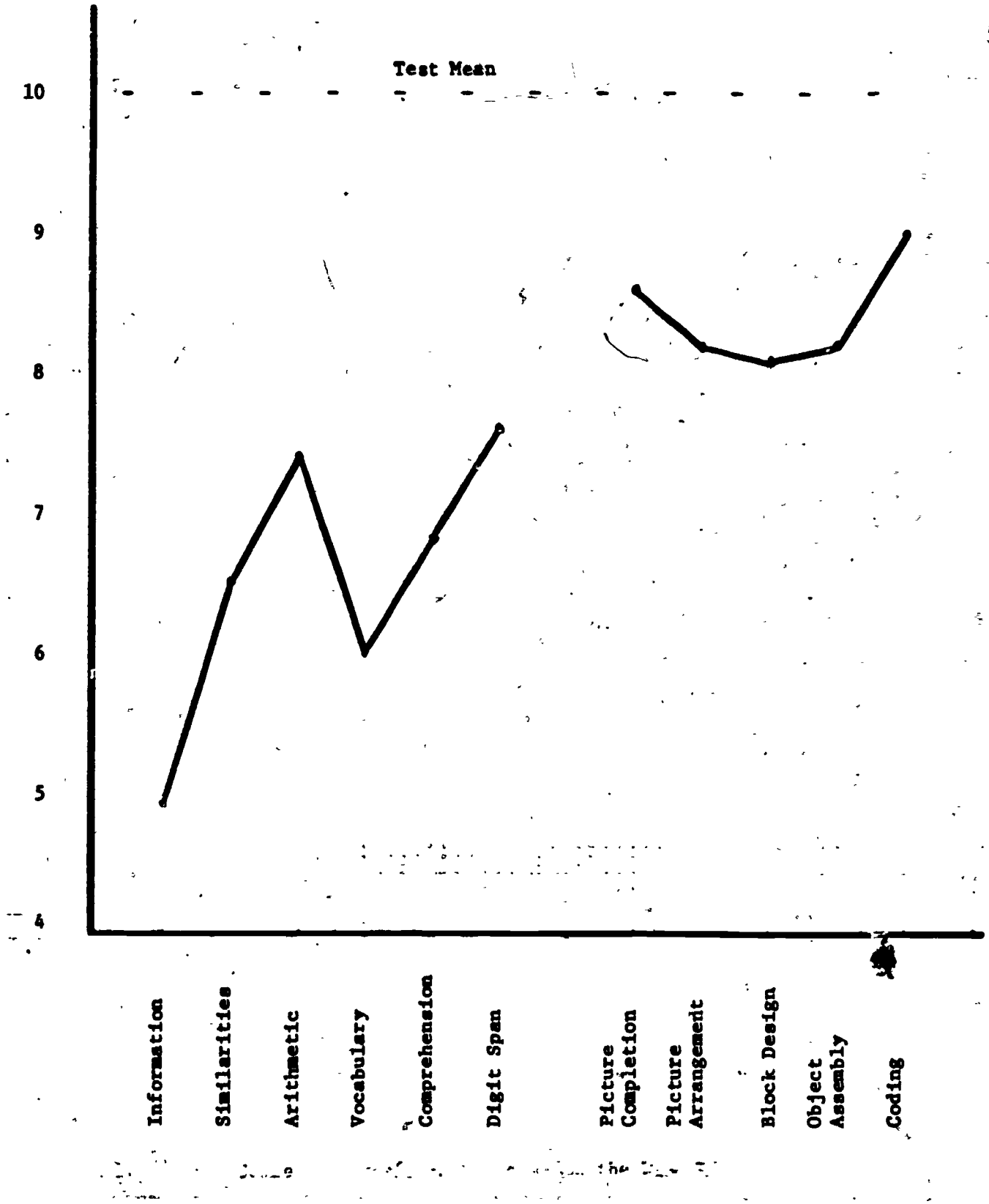

Figure 1. Median Scale Scores of ESL Children on the WISC-R

Several things emerge clearly from the patterns of WISC-R subtest scores. First, students perform much closer to the average range on Performance as compared to Verbal subtests. There is relatively little variation among Performance subtests, although students tend to perform best on Coding where the median score is within one scale point of the mean.

In contrast to the Performance subtests, there is considerable variation among Verbal subtests. Arithmetic and Digit Span appear to be somewhat less culturally/linguistically biased against ESL students than the other Verbal subtests. The worst offender in this regard is Information where the median scale score is only 4.9. This is hardly surprising in view of the fact that the Information subtest is the one which most obviously reflects the prior learning experiences of middle-class anglophone children, and consequently excludes the learning experiences of those who have grown up in a different cultural and linguistic milieu. For example, to what extent can items such as the following be considered to assess the "real learning ability" of students who have been exposed to the English language and Canadian culture for a considerably shorter period of time than the test norming group.

5. How many pennies make a nickel?

12. Who discovered America?

24. How tall is the average Canadian man?

Examination of the percentage of students who obtained a scale score of 6 or below also shows clearly the comparative bias in the different subtests. Whereas all the Performance subtests had less than one third of the students

in this category, only Arithmetic and Digit Span of the Verbal subtests had less than 40%, while Information had 70%. More than one third of the sample scored 3 or less on the Information subtest, yet these scores were invariably used in the computation of Verbal and Full Scale IQ's. It is ironic that the Information subtest is almost always administered in the assessment of ESL children, whereas Digit Span, which with Arithmetic is the least biased of the Verbal tests, is often omitted. Comprehension too is often omitted, although it is much less biased than Information.

Clearly these results cast considerable doubt on the validity of the Verbal scale as a whole, and the Information subtest in particular, when used with ESL students. The Verbal-Performance discrepancy and the fact that the median Verbal IQ is in the educable mentally retarded (EMR) range raise important questions about how psychologists interpret these scores. This question will be examined in detail in a later section and placed in the context of research data both on how long it takes immigrant ESL children to approach grade norms in English academic skills as well as patterns of WISC-R performance among monolingual children diagnosed as reading or learning disabled. First, however, a principal components analysis of WISC-R subtest scores is presented in order to examine more closely what the WISC-R is measuring in the ESL sample.

Principal Components Analysis of WISC-R Subtests

Factor analyses of the WISC and WISC-R (e.g. Cohen, 1959; Kaufman, 1975) have typically produced three factors, Verbal, Performance, and what has been termed "Freedom from Distractibility". The first two factors correspond to the Verbal and Performance scales while the third has loadings from the Arithmetic and Digit Span subtests and occasionally also from Coding and Information (Kaufman, 1975). Interpretation of the third factor is not altogether clear and it has been suggested that it assesses numerical ability

rather than distractibility (Osborne and Lindsay, 1967).

Two principal components analyses with factors rotated to a varimax criterion are presented in Table 4. The first involved pairwise deletion of missing data and the second listwise deletion (Nie, Hull, Jenkins, Steinbrenner & Bent, 1975). Under pairwise deletion a case is omitted from the computation of a given correlation coefficient only if the value of either of the variables being considered is missing. Listwise deletion, on the other hand, causes a case to be omitted from the calculation of all coefficients when that case contains a missing value on any variable.

In both analyses Verbal and Performance factors emerge clearly. However, Arithmetic, Digit Span and Picture Completion show loadings on both factors. An additional analysis was carried out using listwise deletion but omitting the Comprehension subtest. This had the effect of increasing the N to 72. In this analysis the same three subtests all loaded .40 or greater on both factors.

Summary and Comment. Although the typical third factor did not emerge among the ESL sample, the Arithmetic and Digit Span subtests, which normally load on that factor, showed a different pattern from the other Verbal subtests. The analyses suggest that the abilities tapped by the Performance battery can be used by ESL students, to some extent, in carrying out the Arithmetic and Digit Span tasks. This interpretation is consistent with the fact that the sample performed comparatively better on these subtests than on the other Verbal subtests. The extremely low scores of the sample on the other Verbal subtests suggests that the Verbal factor is tapping English language knowledge in addition to, or instead of, verbal intellectual ability.

Determinants of IQ and Achievement Test Performance

It was possible to assess the effects of three independent variables

Table 4

Principal Components Analysis of WISC-R Subtest Scores (Varimax Rotation)

	Pairwise Deletion*		Listwise Deletion (N=41)*	
	Factor 1	Factor 2	Factor 1	Factor 2
Information	.84	.20	.86	.23
Similarities	.78	.24	.79	.20
Arithmetic	.51	.53	.71	.40
Vocabulary	.87	.19	.81	.35
Comprehension	.75	.35	.76	.37
Digit Span	.26	.60	.46	.47
Picture Completion	.40	.65	.31	.78
Picture Arrangement	.33	.70	.47	.66
Block Design	.20	.77	.43	.73
Object Assembly	.35	.67	.27	.76
Coding	.01	.73	.13	.73

*Variance explained: Pairwise: 62%; Listwise: 67%

on test performance. The variables were Sex, Birthplace and Language Group. In addition to WISC-R scores, standardized achievement and ability test scores were available for the students from system-wide testing. Gates-McGinitie (GMG) Reading Test, Vocabulary and Comprehension grade equivalents were available from grades 1 through 4, Canadian Tests of Basic Skills (CTBS), Mathematics, Reading, Vocabulary and Punctuation subtests from grades 4 through 8, Primary Mental Abilities (PMA) IQ at grade 1 and Lorge-Thorndike (LT) Full Scale, Verbal and Nonverbal IQ's at the grade 4 level.

The scores on all dependent variables were analysed by one-way analysis of variance and those for the WISC-R variables were also analysed by three-way analyses of variance using the SPSS (Nie et al., 1975) program. The N was between 100 and 200 for PMA IQ, LT IQ, and GMG grades 1-3, and between 50 and 70 for CTBS grades 4-7 and GMG grade 4. Data on CTBS grade 8 was not anaysed due to small N. Because of the large number of variables and the fact that the results are relatively clearcut, only the general trends will be summarized.

Birthplace. Students born in Canada performed consistently better than those born abroad on the IQ and achievement tests. Differences were significant on PMA IQ, LT Full-Scale, Verbal and Performance IQ's, GMG Vocabulary and Comprehension at grades 1 and 3, CTBS Reading and Vocabulary at grades 4 and 5, WISC-R Verbal IQ and Information, Vocabulary, Comprehension and Picture Completion subtests.

These data are consistent with those of the Toronto Board of Education 1969 and 1975 Every Student Surveys (Deosaran, 1976; Wright, 1971) which showed that ESL students who immigrated to Canada performed worse academically and were in lower academic streams than those who were born in Canada.

Language Group. In the initial analyses of Language Group differences four categories of student were compared: Italian (N = 174), Portuguese (N = 103), South American (N = 48), and Others (N = 89). The largest component in the "Others" category was comprised of students from Eastern Europe (N = 38). The pattern of findings for the majority of IQ and achievement tests was for "Others" to score highest, closely followed by Italian background students, with South American and Portuguese students scoring considerably lower. As with the "Birthplace" analyses, differences in WISC-R Performance IQ were not statistically significant.

Subsequent analyses compared the two largest groups and it was found that Italian background students performed significantly better than Portuguese on LT Full-Scale, Verbal and Nonverbal IQ, WISC-R Full-Scale and Verbal IQ, all WISC verbal subtests as well as Picture Completion, GMG Vocabulary grade 3, CTBS Vocabulary and Reading grades 4, 5 and 6, and CTBS Math grade 5.

Again these findings are consistent with Toronto Board of Education data (Deosaran, 1976) showing relatively poor academic performance by Portuguese background students. It should be noted that in the present case Language Group is confounded with Birthplace since the majority of Italian background students were born in Canada while the majority of Portuguese background students were born abroad. Interactions among the independent variables were investigated by means of three-way analysis of variance and it was found that only one interaction was significant. This was a Language Group by Birthplace interaction for Picture Completion, indicating that, on this subtest, Portuguese children born outside Canada did comparatively worse than Italian children born outside Canada. Portuguese children performed especially poorly on the Information subtest, obtaining a mean score of only 3.7.

Sex. Surprisingly, there was a tendency for boys to perform better than girls on achievement and IQ varibales. Differences in favour of boys attained significance on WISC Full Scale IQ, WISC Verbal IQ, Information, Similarities, Vocabulary and Comprehension.

These findings may reflect a tendency for teachers to refer girls for psychological assessment less frequently than boys; thus, those girls who are referred are characterized by lower academic and cognitive performance than equivalent boys.

In summary, students who were born outside Canada and those from Portuguese and, to a lesser extent, South American backgrounds tended to perform more poorly than other groups on the IQ and achievement tests. Although considerably fewer girls than boys were referred for assessment, those that were referred tended to perform at a lower level than boys on the tests.

Summary of Quantitative Analyses

The quantitative analyses have shown that New Canadian students in the present sample were referred for assessment predominantly for academic reasons. One of the most common concerns of teachers was to discover the student's true academic potential in order to set realistic goals and expectations. Psychologists typically administered a WISC-R in order to assess the student's academic potential. The analysis of student performance on this test suggested that the majority of Verbal subtests were tapping ESL students' knowledge of the English language and Canadian culture in addition to, or instead of, verbal cognitive/academic ability. The Information subtest was the worst offender in this regard in that more than one third of the sample obtained a scaled score of 3 or less and 70% obtained 6 or less. The Arithmetic and Digit Span subtests were less culturally/linguistically biased that the rest of the Verbal battery, and their moderate

loadings on the Performance factor in the principal components analysis suggested that nonverbal cognitive abilities were of some use in carrying out these tasks. Finally, students born outside Canada, those of Portuguese background, and girls, tended to perform more poorly than other groups on the IQ and achievement tests.

QUALITATIVE ANALYSIS: THE TEACHER REFERRAL

The qualitative analysis of the referral forms provided data on teachers' expectations and assumptions in regard to both the ESL child's academic progress and the psychological assessment. These expectations and assumptions will be illustrated by means of examples from the transcripts.

In general, the transcripts revealed considerable concern on the part of teachers as to what is the source of the ESL child's academic difficulty, what expectations should be set for the child, and what types of academic program or remedial procedures would be appropriate. Considerable faith in the ability of the psychological assessment to provide answers to these questions was also evidenced in the transcripts. Teachers appeared to assume that assessment was feasible when the child's English proficiency had progressed sufficiently that s/he could function adequately in English in everyday interpersonal contexts, e.g. follow directions, respond appropriately to questions, etc. If academic (mainly reading) difficulties persisted after the child's English had reached this stage then teachers began to wonder whether the academic difficulties might not be a function of a learning rather than a language (English) problem. Througout the teachers' referral forms there are references to the fact that New Canadian children's English communicative skills are considerably better developed than their academic skills.

These trends are illustrated in the following examples:

A. General Expectations of Psychological Assessments

1. DM (102):[3] DM was born in Portugal and referred for psychological assessment in November of the grade 1 year. Her teacher explained the reason for referral as follows:

> DM is experiencing considerable difficulty in her "academic" subjects. We are uncertain of the extent to which this is the result of English language deficits or of a genuine learning disability. An intellectual assessment would help us to better understand the nature of the difficulties being encountered and could provide some basis for meeting her needs more adequately. (VIQ: 52; PIQ: 74)

2. VA (382): VA was born in Portugal and referred for psychological assessment in November of the grade 1 year. The teacher stated that

> VA comes from a Portuguese speaking family. He is having difficulty with grade 1 readiness skills. Is the problem one of ability? language development? or a second language problem? What remedial steps would be helpful?

3. FI (158): FI, born in Canada, was referred in December of the grade 1 year. According to the teacher

> FI has had no kindergarten and is having a lot of difficulty with grade 1. What are FI's capabilities? Is her problem due to maturation lag in learning, or a second language problem (Portuguese) or basic learning ability?

The administration of the WISC was abandoned due to the child's shy and withdrawn behaviour in the test situation.

4. DE (101): DE, of Portuguese background, was born in Canada and referred for reading and psychological assessment in grade 2. The teacher stated that

> DE has difficulty in reading. Being a new Canadian has caused much of her difficulty. Where is her weakness? What can I do to help her? What is she capable of doing - ability? (VIQ: 69; PIQ: 111).

5. AM (010): Although AM had been in Canada for only about a year, she was referred by her grade 3 teacher because

> Although she has learned her consonants, and vowels, in spelling she is not able to correctly write even the first letter of the word... In reading MA memorizes words, but often cannot sound them out... Does MA have a learning disability?

Testing was not carried out by the psychologist on the grounds that "testing at this time would be unjust due to the English (language) difficulty".

6. AA (007): AA arrived in Canada from Portugal in the grade 5 year and was referred in October by his grade 6 teacher who stated:

> AA has been in Canada for about a year now. I don't know if his slow progress is due to language or whether he is lacking intellectually. Could we please have an assessment.

These examples are typical of the problems teachers have in attempting to provide appropriate learning experiences and set realistic goals for New Canadian students. In order to help the student, they feel that it is necessary to know the child's academic potential and the source of the child's academic difficulties (learning disability, English language deficit, or low overall ability). This information is what they hope the psychological assessment will provide. However, not surprisingly, few teachers display an awareness of the assumptions underlying IQ tests or of their limitations in assessing New Canadian children. It is common for children to be referred for assessment during their first year in Canada. It is likely that teachers assume that children are capable of taking IQ tests as soon as their English proficiency is sufficiently developed to understand questions and respond appropriately in interpersonal situations. As the examples below illustrate, for most children, English interpersonal communicative skills appear to develop quite rapidly during the first year or so in Canada.

B. Differences in Rate of English Communicative and Academic Skills Acquisition

1. GG (184): GG was born in Italy and had been in Canada for less than a year when he was referred for psychological assessment by his grade 1 teacher who commented:

> He speaks Italian fluently and English as well. He did not attend kindergarten and he seems to be somewhat limited in his background experience.... he is having a great deal of difficulty with the grade 1 program. His attention span is very short. He is always very easily distracted. His auditory memory and discrimination skills seem to be below average but his visual memory is better, and his visual discrimination skills seem to be fairly good.... I wondering if GG has specific learning disabilities or if he is just a very long way behind children in his age group. I would like to know if he should be placed in a special program, and I would like specific suggestions as to how I can help him if he should stay in a regular class setting. (VIQ: 65; PIQ: 85).

2. DM (105): DM arrived from Portugal at age 10 and was placed in a grade 2 class. three years later, in grade 5, her teacher commented that

> her oral answering and comprehension is so much better than her written work that we feel a severe learning problem is involved, not just her non-English background. (PIQ: 101; VIQ: less than 70, exact score not entered).

3. PS (094): PS was referred for reading and arithmetic difficulties in grade 2. His teacher commented that

> since PS attended grade 1 in Italy, I think his main problem is language, although he understands and speaks English quite well. (VIQ: 75; PIQ: 84).

4. BM (017): This grade 1 child was born in Canada and referred for poor school progress. On the referral form the teacher asked

> How can BM, 7 years old, speak such good Engligh when mother can speak only Italian, little English, and father canspeak only Czechoslovakian, little English?" (VIQ: 79; PIQ: 74).

5. DJ (122): DJ arrived in the school system at the age of 10 and was placed in a grade 4 class. His early school years were spent in a small multi-graded classroom in rural Portugal and he subsequently spent one year in Quebec where instruction was through French. He had been in the school system for 16 months and had been receiving ESL help when he was referred for reading assessment. The teacher commented that

> Although he speaks and understands English, he cannot read or write English very well.

In quite a few referral forms the teacher does not mention the child's ESL background as a possible factor in her/his academic difficulties. This indicates that the ESL background is not obvious in the child's English communication. This is illustrated in the following example:

6. AT (425): AT's grade 1 teacher stated on the referral form:

> AT is having extreme difficulty with all her oral reading skills.... she cannot recognize all the letters of the alphabet or distinguish their phonetic sounds. Her oral speech is quite poor and she has limited vocabulary.... How can I help AT to improve her oral vocabulary and have greater success with her phonics and oral reading?

The child's ESL background is however mentioned by the psychologist:

> After the first test AT said "I'm smart", and perhaps she is -- at least average in ability. She claims Portuguese is spoken at home but nonetheless chats easily in English albeit incorrect English at times. (VIQ: 85; PIQ: 104).

Comment. These examples illustrate the influence of the environment in developing English communicative skills. Television and peer interaction are likely to be the major factors. Although it is obviously not possible to generalize from the children in the present study, it is clear that among these children acquisition of fluent English speaking and listening skills does not necessarily imply commensurate development of English conceptual or academic abilities. The comments of teachers suggest that among most immigrant

students who arrive after school age, English communicative skills appear to be relatively well developed within about a year of arrival. English academic skills, on the other hand, appear to develop more slowly. This raises the problem for teachers of what expectations to set for students and what is a normal rate of English academic skills acquisition among ESL students? How can teachers tell if the child's slow academic progress (in comparison to the acquisition of communicative skills) is indicative of a learning disability? Is it justified to assume, as some teachers do, that continued academic difficulties cannot be attributed to English language deficits after a child has attained a reasonable degree of fluency in English?

Research evidence relating to these questions is available and will be considered in a later section. However, in the absence of any knowledge of research in this area, it is natural for the teacher to turn to the psychologist for assistance in planning the child's educational program.

THE PSYCHOLOGICAL ASSESSMENT

The approaches that psychologists take to the assessment of ESL children's academic potential are categorized in Figures 2A and 2B (pages 32 and 46). The major distinction is whether the psychologist makes allowance for the child's ESL background in administering and interpreting the test and in inferring academic potential on the basis of test scores. The majority of assessments did make some such allowance, but a substantial minority showed little understanding of the role of the child's cultural/linguistic background in test and academic performance. The different "inferential paths" that are involved within each of these categories will be illustrated by examples from the assessments.

(A1) ESL Background Ignored

Because New Canadian children often manifest no obvious deficits

Figure 2A

The Inferential Process in Assessment of Academic Potential in ESL Children

A. Psychologist takes no account of ESL background in inferring academic potential (i.e. assumes that test score = potential)

	(A1) ESL background essentially ignored in test score interpretation	(A2) Attributes deficiencies in academic ability to ESL background and/or bilingualism
Test Score Pattern	Aa. Low V[1], Low P[1]	Ab. Low V, Average P
Inference	Low potential (retarded)	Low potential (learning disabled)
Placement Recommendation	Opportunity class	Resource room or learning centre

1. V = Verbal IQ

2 P = Performance IQ

in English fluency, teachers sometimes fail to note on the referral form that the children they are referring have learnt English as a second language. The psychologist, likewise, is sometimes unaware of the child's linguistic/cultural background and consequently interprets the test performance as though the child were from a monolingual Anglo-Saxon background. However, even when the psychologist is aware that English has been learned as a second language, there are many instances where this fact is ignored in test score interpretation. Perhaps in response to teachers' expectations, psychologists sometimes make inferences regarding ESL students' potential which are logically inadmissable, given the assumptions of the test. This is illustrated in the following examples:

C1. LT (225): LT was referred by his grade 2 teacher who noted that he "appears to be of average intelligence but is only at a primer instructional level". No mention was made of an ESL background. On the WISC-R LT's VIQ was 70 and PIQ 102. The Verbal subtest scores were: Information 3, Similarities 3, Arithmetic 10, Vocabulary 4, Comprehension 6, Digit Span 13. The psychologists's report read as follows:

> Psychometric rating as determined by the WISC-R places LT in the low average range of intellectual development. An extreme discrepancy between verbal and performance abilities is indicated. The low verbal ability IQ may be collectively attributed to limited general information fund or long term learning; poor ability to form generalizations or make abstractions; poor verbal expressive abilities and limited meaningful vocabulary in comparison with peers of similar age range; and poor judgement with respect to practical solutions to everyday problems or common sense....
>
> With regard to general test behaviour, LT made no attempt to volunteer information or initiate conversation, and tended to require some prodding to make responses.
>
> In general, it is felt that LT's capabilities are greater than that indicated by the Full Scale IQ score. Poor academic performance would be accountable by the very low verbal abilities scoring relative to performance abilities. It is recommended that LT be considered for definite resource room placement for next year; and if possible a learning centre placement would seem preferable.

Ten days later the following entry appeared in the child's file:

> Telephoned the mother and gave a brief summary of the testing results. Mrs. -- indicated that Portuguese is normally spoken at home and this would certainly at least partially account for LT's low verbal abilities development.

Later in the month the child's case was discussed with the school principal and reading specialist and the lack of an appropriate program in the school system for children with LT's difficulty was noted. The possibility of setting up a 40 minute period consisting of a language experience program was suggested since there were a number of students in the school with similar difficulties.

Comment. This example shows how easy it is for psychologists to interpret test scores automatically when they are not sensitized to manifestations of cultural/linguistic differences. After speaking to the child's mother, the psychologist qualifies the previous interpretation of test results but it is interesting to note that "deficit semantics" still persist in that the child's "low verbal abilities development" rather than "present level of cognitive/academic functioning in English" is attributed to the use of Portuguese at home. There are many examples of this tendency in the transcripts and they are considered in the next section.

C2. PR (289): PR was first referred by her grade 1 teacher who noted that

> PR is experiencing considerable difficulty with grade 1 work. An intellectual assessment would help her teacher to set realistic learning expectations for her and might provide some clues as to remedial assistance that might be offered.

No mention was made of the child's ESL background; this only emerged when the child was referred by the grade 2 teacher in the following year. Thus, the psychologist did not consider this as a possible factor in accounting for the discrepancy between a WISC VIQ of 64 and PIQ of 108. The assessment

report reads as follows:

> Although overall ability level appears to be within the low average range, note the significant difference between verbal and nonverbal scores.... It would appear that PR's development has not progressed at a normal rate and consequently she is, and will continue to experience much difficulty in school. Teacher's expectations (at this time) should be set accordingly.

Comment. As in the previous example, the psychologist does not suspect an ESL background because the referral form makes no mention of it. This fact together with the VIQ of 54 suggests that superficial aspects of English communicative skills develop more rapidly (in relation to native-speaker norms) than academic English skills.

C3. CL (088): CL was born in Toronto and referred by his grade 4 teacher for poor academic progress. The teacher wanted to know if CL had a learning disability and was there a better placement for him than a regular grade 4 class. She noted that the mother does not understand English -- only the children do. CL obtained a VIQ of 75 and a PIQ of 98. The psychologist commented:

> He seems to have overall poorly developed verbal cognitive skills (borderline range) .... Much of CL's difficulty may be attributed to a developmental lag in the verbal-expressive area. Considerable stimulation in this area is required.

Comment. Again, the WISC scores have been interpreted as though the child were from a monolingual Anglo-Saxon background, despite the fact that the teacher notes the ESL background on the referral form. Note the tautological "pseudo-explanation" of attributing the difficulty to "a developmental lag in the verbal-expressive area" which means only that the child scored low on the Verbal scale.

C4. AC (005) AC was born in Portugal and referred for psychological assessment in grade 1 because of reading difficulties. In referring the child, the principal noted that "AC learned English adequately while in the kindergarten but the teacher felt she would still have learning difficulties in grade 1". On the WISC, administered in May of the grade 1 year, the VIQ was 74, PIQ, 93, and Full Scale (FS) IQ 82. The psychologist commented:

> Psychometric rating as determined by the WISC-R places AC in the low average range of intellectual classification. There is a significant spread of 19 scale points between Verbal and Performance scores indicating higher aptitude for learning in the latter area of abilities...Overall, it is recommended that AC be considered for a resource room placement.

Comment. Logically, it is inadmissable to claim that the child's "aptitude for learning" is greater in the performance than verbal areas since the linguistic and cultural assumptions of the test are not met. This child was reassessed on the WISC five months later and her scores were several points higher on both Verbal and Performance scales (VIQ, 80; PIQ, 100; FSIQ, 88).

C5. PR (283): PR was referred for psychological assessment because he was experiencing difficulty in the regular grade 1 work despite the fact that he was repeating grade 1. The principal noted that "although PR was in Portugal for part (6 months) of the year there is a suspicion of real learning disability. WISC testing would be a great help in determining this". PR's scores on the WISC-R were VIQ, 64; PIQ, 101; FSIQ, 80. After noting that "English is his second language but the teacher feels that the problem is more than one of language", the psychologist continued:

> Psychometric rating, as determined by the WISC-R places PR in the dull normal range of intellectual development. Assessment reveals performance abilities to be normal while verbal abilities fall in the mentally deficient range. It is recommended that PR be referred for resource room placement for next year and if no progress is evident by Christmas, a Learning Centre placement should be considered.

Comment. This assessment illustrates well the abuses to which psychological tests can be put. It does not seem at all unreasonable that a child from a non-English background who has spent six months of the previous year in Portugal should perform very poorly on an English Verbal IQ test. Yet, rather than admitting that no conclusions regarding the child's academic potential can be drawn, the psychologist validates the teacher's "suspicion" of learning disability by means of a "scientific" assessment and the use of inappropriate terminology ("dull normal", "mentally deficient"). An interesting aspect of this assessment is the fact that neither the teacher nor the psychologist makes any reference to difficulties in English as a second language and both considered that the child's English proficiency was adequate to perform the test. This again implies no obvious deficiencies in English communicative skills despite a severe lag in English academic proficiency.

C6. CR (085): CR was referred for assessment in grade 1 and obtained a WISC VIQ of 79, PIQ of 98, and FS IQ of 87. The psychologist noted that CR's overall ability was at the low average range and went on:

> Due to the fact that English is a second language for CR, I would consider the Verbal IQ as a minimal score and overall results somewhat invalid.
>
> CR has a slow methodical style in working with tasks presented to him... His vocabulary is low relative to his peer group; as well his general fund of knowledge is below expectancy for his age. I think CR would be an excellent candidate for resource room placement.

Comment. Here we see an almost ritual acknowledgement of the child's ESL background and the fact that it invalidates the Verbal IQ score, followed by an interpretation of the meaning of the child's low Information and Vocabulary subtest scores which completely ignores the child's ESL background! The psychologist's logically inadmissable interpretation of the Verbal scores and recommendation of resource room placement will very likely exert a negative effect on teachers' academic expectations of the child.

In summary, these assessments show that some psychologists have an extremely superficial understanding of the assumptions and consequent limitations of IQ tests. Because children's linguistic and cultural learning experiences were different from those assumed by the test, no inferences should have been drawn from the Verbal score. However, psychologists uncritically accepted the validity of WISC-R test scores, and consequently interpreted a low V, average-range P test pattern as indicative of low academic potential or learning disability. The usual recommendation was for resource room or learning centre placement. It is of course possible that this inference is correct, but it is equally possible that the low Verbal score is a temporary function of inadequate development of English language skills.

A variation of the first pattern is where the psychologist attributes the child's low academic potential (which has been inferred on the basis of test performance) to the negative influence of the child's ESL background.

(A2) Low Potential Attributed to ESL Background

When psychologists do take note of the child's ESL background, there is a tendency to assume that the test score is nonetheless a valid indicator of academic competence (as opposed to performance) and to attribute deficiencies in this competence to the child's ESL or bilingual background. The assumptions that some psychologists make about the role of bilingulalism in ESL children's development and about the use of the L1 at home emerge from many of these assessments.

D1. MF (237): MF was referred for psychological assessment by her grade 1 teacher, who noted that she has difficulty in all aspects of learning. MF was given both speech and hearing and psychological assessments. The former assessment found that all structures and functions pertaining to speech were within normal limits and hearing was also normal. The findings were

summarized as follows: "MF comes from an Italian home where Italian is spoken mainly. However, language skills appeared to be within normal limits for English."

The psychologist's conclusions, however, were very different. On the Wechsler Preschool and Primary Scale of Intelligence (WPPSI), MF obtained a VIQ of 89, a PIQ of 99, and a FS IQ of 93. The report to MF's teacher read as follows:

> MF tended to be very slow to respond to questions, particularly if she were unsure of the answers. Her spoken English was a little hard to understand, which is probably due to poor English models at home (speech is within normal limits). Italian is spoken almost exclusively at home, and this will be further complicated by the coming arrival of an aunt and grandmother from Italy.
>
> There is little doubt that MF is a child of low average ability whose school progress is impeded by lack of practice in English. Encourage MF's oral participation as much as possible, and try to involve MF in extra-curricular activities where she will be with her English-speaking peers.

Comment. Despite the fact that the speech assessment revealed no deficiencies in MF's spoken English, the psychologist has no hesitation ("There is litte doubt...") in attributing MF's academic problems to the use of Italian in the home. The implicit message to the teacher is clear: MF's communication in L1 with parents and relatives detracts from her school performance, and the aim of the school program should be to expose MF to as much L2 as possible in order to compensate for these deficient linguistic and cultural background experiences.

D2. FA (146): FA was referred by his grade 2 teacher for short attention span and poor word attack skills. The psychological assessment showed a VIQ of 80 and PIQ of 93. The report read as follows:

> Psychometric rating places FA in the dull normal range of intellectual classification. A discrepancy of 13 scaled points was noted between verbal and performance IQ's with the greater competency in the nonverbal abilities. This

is likely a result of FA's exposure to both Italian and English languages.

This theme is echoed in many other assessments that show a Verbal-Performance discrepancy:

D3. DR (110): "A discrepancy of 20 points between the verbal and performance IQ's would indicate inconsistent development, resulting in his present learning difficulties.... It is quite likely that the two spoken languages have confused the development in this area" (VIQ 94, PIQ 114; grade 1).

D4. BC (024): "BC, born in Italy, speaks Italian at home and this may be contributing to her problems at school... poor verbal abilities development is most certainly influenced by her Italian background " (VIQ 65, PIQ 78; grade 1).

D5. CG (057): "The verbal IQ is 12 points lower than the performance IQ, although this is likely due to the effect of speaking both Italian and English.... there is very poor development indicated in the area of general inf nation fund " (VIQ 74, PIQ 86; grade 4).

D6. PE (282): "It was noted that PE continues to have difficulty understanding and using the English language probably because the family speaks Italian at home. This seems to be a major handicap in PE's development of verbal skills" (PIQ 72, grade 2).

D7. DA (125): "DA came to Canada from Italy at age 5 and learned English at school. Italian is spoken in the home and this likely is contributing to overall below average verbal abilities development" (VIQ 80, PIQ 96; grade 7).

D8. RF (318): "Overall, RF scored in the slow learner range of intellectual ability for her age level, although she is probably of low average

ability given the language deficit (RF speaks fluent Italian). RF needs assistance in developing her vocabulary and comprehension of English. At present she gets little practice in English outside of school, and this has quite likely slowed down her progress in school" (VIQ 81, PIQ 93; grade 1, 4 months in school at time of assessment).

Comment. All of these assessments share the more or less explicit assumption that the child's experience with another language outside school exerts a detrimental effect on her verbal abilities development and on her school progress. What is wrong with this assumption? First, it assumes erroneously (see quantitative analysis) that the WISC verbal scale is a valid measure of verbal intellectual and academic abilities rather than indicative of present level of academic functioning in English. No attempt is made to ascertain what the child's verbal abilities might be in the mother tongue.

Second, there is no evidence that bilingualism or a home-school language switch, in themselves, have any negative effects on children's academic development. Witness the superior academic performance of ESL children born in Canada in the Toronto Board of Education's Every Student Surveys considered earlier. The research evidence, in fact, suggests that when continued development of minority children's L1 is promoted (either in home or school), the resulting bilingualism is educationally enriching (see Swain & Cummins, 1978).

Thus, the only conclusion that is logically possible in situations such as those considered above is that the child's poorer cognitive/academic functioning in both test and school situations in comparison to middle-class monolingual Anglo-Saxon peers, may (or may not) be due to the fact that her cultural experiences are different from those assumed by the test and school, and that her English language vocabulary, information and concepts are as yet inadequately developed. No inferences can logically be made about verbal abilities, aptitudes, or potential on the basis of test scores or present

academic functioning.

One of the most potentially damaging consequences of the assumption that ESL children's L1 experience impairs their acquisition of English academic skills derives from the communication of this belief to parents. Minority parents are often encouraged by teachers and psychologists to expose the child to as much English as possible in the home and to minimize exposure to L1. Evidence of this type of communication to parents emerges in several transcripts. Another assumption that emerges is that if parents are not fluent in English, their ability to contribute to the child's academic development is extremely limited (see example D1).

D9. PR (289): "Basically PR has some very significant language problems. The family speaks Italian at home, and is not especially capable of supporting PR at home with reading and conversation" (VIQ 64, PIQ 108; grade 2).

D10. SR (364): "SR was tested three years ago and scored in the slow learner range of ability on the WISC (VIQ 80, PIQ 97; grade 1). At that time SR was experiencing difficulty with language (Italian is still spoken at home but they are trying to use more English)" (VIQ 70, PIQ 77; grade 4).

D11. (DM (118): DM was experiencing reading and speech problems. The grade 2 teacher's student progress report noted that "Parents are unable to help DM due to the fact that Italian is their first language.... They are very concerned about him". DM was referred for speech therapy and the therapist stated: "Since Italian is the primary language spoken in the home, it was felt that the slight language delay was due to a lack of stimulation in the home environment" (VIQ 93, PIQ 126).

D12. CD (079): CD received both speech and hearing and psychological assessments in grade 1. The former assessor noted: "His general language abilities seem to be up to an almost average level... This child seems to be assimilating the English language -- Italian is still required at home. It is felt that more exposure to English during the school year may improve his verbal skills and vocabulary" (VIQ 84, PIQ 89).

Comment. What is implied in all these statements is a Separate Underlying Proficiency (SUP) model of bilingualism in which the proficiency underlying the development of cognitive/academic skills in L2 is assumed to be separate from the proficiency underlying L1 development (see Cummins, 1980c). Given this assumption, stimulation of cognitive/academic skills in L1 by parents in the home (e.g. reading or telling L1 stories) does not contribute to the development of English cognitive/academic skills (or verbal "aptitude"). Thus, it is not surprising that school personnel advise parents to switch to English in the home, or, if parents speak very little English, assume that they "are not especially capable" of supporting their child at home with reading and conversation (see D9).

Research findings show that whether the language of the home is the same or different from the language of the school matters very little in comparison to the quality of interaction children experience with adults. In a longitudinal study recently conducted in England, Wells (1979) has shown that children's acquisition of reading skills in school is strongly related to the extent to which parents responded to and expanded upon the child's utterances. If parents are not comfortable in English, the quality of interaction with their children in English is likely to be less than in L1. Research from a variety of contexts also clearly shows that the Separate Underlying Proficiency model of bilingualism has little validity and must be replaced by a Common Underlying Proficiency (CUP) model in which experience with either

language is capable of developing the conceptual abilities which underlie both (Cummins, 1980c). For example, it has been shown that under home-school language switch conditions both majority and minority language children can readily transfer concepts developed in L1 in the home to L2 in the school, provided the school attempts to build on the conceptual knowledge the child brings to school.

Thus, rather than encouraging minority parents to switch to English in the home, teachers should encourage them to strongly promote the development of L1 through such activities as telling or reading stories to their children and generally spending time with them. "Conversation" is not an activity that occurs only among speakers of English.

Conclusion

The assessments considered above reveal a lack of appreciation of the assumptions underlying IQ tests such as the WISC-R and a lack of understanding of the ways in which a bilingual or ESL background influences academic development in an all-English school program. The psychologists and teachers, represented above, observe the fact that students from ESL backgrounds show low academic functioning in a school program oriented towards the linguistic and cultural experiences of middle-class Anglo-Saxon monolingual children, and perform poorly on IQ tests constructed specifically to reflect these same middle-class Anglo-Saxon experiences; they ignore the relativistic perspective within which tests and schools operate and make absolute statements about ESL children's academic abilities, aptitude, competence or potential; and finally, many of them interpret the correlation between ESL background and low achievement as a causal relationship.

B. Allowance Made for ESL Background in Test Interpretation

The inferential paths that were evidenced when psychologists made allowance for children's ESL background in interpreting WISC-R scores are outlined in Figure 2(B). The first decision that the psychologist must make is whether to administer both Verbal and Performance batteries or only the Performance battery. If both batteries are administered then a decision must be made as to the appropriate interpretation of the Verbal score. The assessments that fall into the present category are distinguished from those considered earlier in that caution was always exercised and recommended in the interpretation of Verbal scores. In some cases Verbal IQ's were not entered on the assessment report, in others they were entered but were clearly marked as minimal or invalid, while in the remainder, although the Verbal IQ was entered in the normal way on the referral form, inferences were made only in regard to the child's present level of academic functioning rather than in regard to academic potential or aptitude.

When only the Performance battery was administered, the interpretation of the test score was relatively straightforward, mainly because the screening it provided was relatively crude. There was no possibility, for example, of early detection of learning disabilities (other than low overall ability) since Verbal-Performance discrepancies are usually interpreted as a potent indicator of this type of dysfunction.

Each of the inferential paths outlined in figure 2B will be illustrated with examples from the assessment transcripts.

B1. Both Verbal and Performance Scales Administered

(B1a) No Verbal-Performance Discrepancy

E1. CL (212): CL was referred in grade 1 for possible placement in a special education class. His WISC-R scores on all subtests ranged between 2 and 5. The psychologist commented:

Figure 2B

The Inferential Process in Assessment of Academic Potential in ESL Children

B. Psychologist takes account of ESL background in inferring academic potential

	B1. Both V and P administered			B2. Only P administered		B3. L1 Measures administered
	(B1a) No V-P Discrepancy		(B1b) V-P Discrepancy	(B2a)	(B2b)	
Test Score Pattern	Low V Low P	Average V Average P	Low V Average P	Low P	P average	
Inference	Low potential	Average potential	Average potential	Low potential	Average potential	
Placement/ Remedial Recommendation	Opportunity class or resource room	Provide individualized help in regular classroom and review progress	Provide individualized ESL and academic help either in regular class or resource room and review progress	Opportunity class or resource room	Provide individualized help either in regular class or resource room and review progress	

V = Verbal Scale

P = Performance Scale

> CL is learning English as a second language. He appears to have difficulty in comprehending simple directions and simple commands. Psychological assessment indicated CL is presently functioning at a very low level of mental ability. However, his true IQ may be higher due to the reason mentioned above.... I will be looking into the possibility of placing CL in an opportunity room" (VIQ 54, PIQ 61).

Later an attempt was made to administer the Cattell Culture Fair Test by giving directions in Italian but the psychologist reported that the child was not able to understand the tasks.

E2. MT (245): MT was born in Yugoslavia and arrived in the school system in grade 3. Her grade 4 teacher noted on the referral that MT "is having difficulty with her school work, particularly written expression and comprehension. She tends to be inattentive and has poor work habits". The teacher wanted to know whether or not MT would benefit from repeating grade 4, and whether or not language was still a barrier, and if so, to what extent. MT's VIQ was 73 (4th percentile) and PIQ was 84 (17th percentile). The psychologist placed an asterix opposite the VIQ and FSIQ and indicated that "these scores are suspect due to foreign language origin of student". The report read as follows:

> MT appears to have low average ability -- about 10-20 percentile. Verbal is of course suspect due to language but did not do much better on nonverbal tasks. Language mastery was considered more than adequate to grasp directions for nonverbal part of the test.

The psychologist suggested that language was still a barrier and made several recommendations for remedial assistance among which was use of the resource room facility for areas such as reading and written and expressive language.

E3. WC (387): WC, of Chinese background, was referred as a candidate for the grade 7 Language Assistance Program (LAP) because he seemed slow intellectually. The WISC-R scores were: VIQ 85, PIQ 86. The psychologist commented:

> Results of this assessment place him within the low average range of intellectual ability. Although cultural background would have some influence on test results (verbal functioning), I would think that this assessment is still a good indication of WC's overall ability. This is evidenced by the low nonverbal (Performance) score. If WC is having a great deal of trouble with grade 7 work, I would think a LAP placement appropriate.

Comment. In these examples, the psychologists carefully consider the possible effects of cultural and linguistic background factors and interpret the Performance IQ as an indicator of the child's potential. When PIQ is low, special class placement is usually recommended; when PIQ is average or high, specific remedial suggestions are usually made for helping the child within the regular classroom. Because there is not a significant discrepancy between VIQ and PIQ, difficulties in interpreting test performance are reduced. However, as is illustrated in the next section, interpretation of low VIQ, average or high PIQ test patterns is essentially a matter of intuition.

(B1b) Significant Verbal-Performance Discrepancy

Before considering the ways in which psychologists interpret V-P discrepancies among ESL children, it is useful to examine current views on the significance of V-P discrepancies among monolingual children.

Language Proficiency and Reading Disabilities. Although the etiology of reading disabilities is still inadequately understood, several researchers have argued that a major subgroup of reading disabled (RD) children consists of those who show deficits in verbal processing (see Cummins & Das, 1977; Vellutino, 1977, 1979 for reviews). Support for this position comes from the fact that a large proportion of RD children have been found to perform more poorly on the Verbal than on the Performance subtests of the WISC. For example, Warrington (1967) reported that 83% of her sample of RD children showed lower Verbal than Performance scores. A similar pattern was found by

Belmont and Birch (1966) who reported that retarded readers performed especially poorly in the Information, Arithmetic and Vocabulary subtests of the WISC Verbal scale. Owen et al. (1971) also reported poorer Arithmetic, Coding, and to a lesser extent Information and Digit Span scores among learning disabled children.

On the basis of these and many other studies, Vellutino (1977, 1979) has argued that with the exception of children whose reading problems are the result of extrinsic variables (e.g. sensory deficit, socioeconomic deprivation, etc.) or of specific dysfunction in visual-verbal association, "virtually all poor readers may be characterized by significant deficits in verbal ability" (1979, p.311). He suggests that in addition to adequate command of syntax and phonetic coding "an elaborate network of verbal concepts, ready access to those concepts and the ability to interrelate them would seem to be necessary conditions for successful reading" (1979, p.344). Vellutino (1977, 1979) also points out that RD children usually have no ostensible abnormalities in language that can be detected in spoken discourse.

In summary, a large proportion of children in a monolingual context who are characterized as suffering from specific reading disability, manifest low scores on the Verbal subtests of the WISC-R although no impairment is usually detectable in the surface aspects of interpersonal communicative skills.

The WISC-R Manual provides statistical criteria for evaluating the significance of V-P discrepancies. It states that a difference of 12 points is needed to be considered statistically significant at the 5% level. MacIntyre, Keeton and Agard (1980) recommend extreme caution in interpreting V-P discrepancies as abnormal, and suggest that 12 points discrepancy is the minimum that should be used as an index of relative weaknesses in cognitive functioning.

They are sceptical of the common assumption that a V-P discrepancy is indicative of learning disability caused by "a lateralized dysfunction of the cerebral hemisphere". Their overall conclusion, however, that no one test can claim to distinguish "learning disabled" and normal achievers is not surprising given their initial demonstration that there exists no adequate or generally accepted definition of "learning disability" (see also, Coles, 1978).

Despite the fact that considerable conceptual confusion surrounds the notions of "learning disability" and "reading disability" and their clinical signs, there is certainly evidence (e.g. Vellutino, 1979) that a significant subgroup of children who experience academic difficulties manifest low Verbal IQ skills. Certainly, most psychologists in the field interpret the pattern of low VIQ, average PIQ as clinically significant. Thus, the problem arises of how they identify "genuine" learning disabilities among ESL children whose VIQ is likely to be temporarily depressed as a result of inadequately developed English language skills. The answer is that there is little logical or empirical basis for deciding whether a child's difficulties are a result of a learning problem or an English language problem, although some suggestions in this regard will be made later in this report. The assessments considered in sections C and D above revealed no awareness of this dilemma. Those considered here show considerable sensitivity to this problem. However, because of the logical dilemma, psychologists are basically reduced to intuition in suggesting a diagnosis and remedial procedures.

F1. BI (044): BI arrived from Portugal in grade 3 and was referred by her grade 5 teacher because of reading difficulties. Her WISC scores were VIQ 73, PIQ 106. The assessment report read as follows:

> BI recently came from Portugal (1 1/2 years ago). This to a large extent is reflected in a low overall Verbal score. I believe BI to be of at least average potential as can be inferred from the 106 IQ on the Performance

> subtests. BI requires enriched language arts experience. As with most new Canadians it is doubtful they can achieve at their grade placement. Resource room help is recommended.

F2. RJ (312): RJ was a Chilean refugee who entered the school system in grade 3. The grade 3 teacher referred him in January noting that he is unable to work independently and finds it difficult to work for any length of time. She attempted to get him to do the Grade 3 Gates McGinitie reading test but reported that "he wasn't able to do it at all". RJ received a VIQ of 64 and a PIQ of 100. As with the majority of VIQ assessments, Arithmetic was highest (7) and Information lowest (1). The psychologist commented:

> It was quite evident that he has a great deal of difficulty with the English language... I would think the Verbal IQ of 64 obtained is not a true indication of ability but resulted primarily from language and cultural background. The nonverbal IQ of 100 is most probably more in line with this boy's verbal ability level.

The psychologist recommended that the itinerant ESL teacher be contacted for help.

Comment. Clearly, the conclusions drawn in these two assessments are reasonable and no other inferences can logically be drawn from the assessments. However, it is also quite possible that these children's academic difficulties derive from more than just their New Canadian background. However, there is no way that potential long-term difficulties of this type can be detected from psychological testing administered only in English. The third example illustrates a case where it appears likely that serious learning problems were not identified by the psychological assessment.

F3. UA (374): UA was born in South America and first referred by the grade 1 teacher who noted that she "needs individual help in all aspects of the program, since she's a New Canadian". Although UA was seen by a

psychologist at that time there is no record of test scores. UA was again referred in October of the grade 2 year by the resource room teacher who noted that her teacher "says she cannot read. Has returned to grade 1 for reading period. UA also comes to me for help in Resource Room. She has extreme difficulty with word attack, particularly blending". The teacher wanted to know what her IO and potential were.

UA was assessed on the WISC-R shortly after this referral. The psychologist noted that "UA was quite friendly during the test interview. She spoke freely..." Her WISC-R scores were: VIQ, 77; PIQ, 104. The psychologist commented that

> While she is progressing in English, she is still behind, resulting in a low overall verbal score. Performance (score) was within the average range and this may well be a measure of the girl's potential. It is possible that family or other problems are impeding motivation toward intellectual work. No real disability is obvious other than auditory memory and a rather impulsive manner of attacking her work.

In April of the grade 2 year, UA was again referred for psychological and reading assessment. Her teacher noted that she had been in Canada for at least four years. "We have had her taking reading with the grade 1 class and her classroom teacher has given her individual help. Her progress is minimal and she does not appear overly concerned with her lack of progress... She was in the Resource Room and it was found that her phonic attack skills, after one year of special help, did not improve at all." The teacher wanted to know whether, in spite of the psychologist's first observation that "there was 'no real disability observed other than auditory memory'...UA has a sufficient degree of learning disability to warrant placement in a Learning Centre?"

The fourth example illustrates a case of a learning problem that might have been identified much earlier had the child been monolingual

English-speaking.

F4. RF (310): This child was born in the Phillipines and entered the school system in grade 1. In February of the grade 4 year, he was referred for psychological assessment because, in the principal's words, "He is reading at a grade 2 level. He has a language problem - English is his second language. He has received some individual instruction in phonics and comprehension. Is the problem language or otherwise...?" The assessment showed a VIQ of 78, PIQ 114 and FSIQ 98. The psychologist noted that RF seemed very discouraged and said he didn't always understand the teacher who

> " say what words means when I don't know it". There is a wide discrepancy between verbal ability and the nonverbal. One would suspect that this is due, in part at least, to a lack of command of the English language. In the emotional area he appears to have a rather low concept of himself and his ability."

The psychologist made several recommendations for the teacher and also suggested that placement should be considered for a learning centre. RF later received individualized language therapy and was enrolled in a learning centre for the grade 5 year.

Comment. The relevance of this example lies in the fact that although RF was in the system since grade 1 his learning problem was not identified until late in the grade 4 year. Clearly, the chances of successful remediation are increased if learning disabilities are detected early. Yet a psychological assessment in English in grade 1 or 2 would have been virtually useless in this regard because the potential learning problem would have been masked by the non-English background.

Sometimes clues are available from the child's behaviour in an L1 context which are potentially relevant to the question of whether the academic problem is one of learning disability or English language knowledge. The

following is an example where this type of clue is ignored by the psychologist.

F5. DT (063): DT was referred by his grade 3 teacher who noted that he had been in Canada for 1 1/2 years and was still reading at a pre-primer level. Attention span was short, retention poor and he seldom participated in class. The teacher also noted that "DT's aunt (mother speaks no English) has said that his behaviour was similar in Italy. Italian is spoken at home". The teacher requested an IQ test to discover DT's potential.

DT's VIQ was 82 and PIQ 108. The psychologist noted the 22 point V-P discrepancy and continued:

> The apparent difficulty with the verbal skills development is understandable in view of his Italian background and the understanding that Italian is spoken at home.... Generally the results indicate that DT is a youngster of average intellectual ability who would likely score at a higher level given specific remediation and help in the identified weakness areas.

A part-time resource room placement and ESL help was recommended.

Comment. It is obviously impossible to say how valid the report of similar dysfunctional behaviour in Italy is, or what its significance might be to DT's present difficulties. However, the psychologist's failure to take account of the child's behaviour in an Italian context, and the obvious questions that can be raised about the validity of the test score interpretation, illustrates just how limited a view of the child's potential is normally provided by an assessment only in English.

In summary, in response to a low V, average P test profile, those psychologists who take account of the child's ESL background in inferring potential usually regard the PIQ as an index of academic potential and attribute the low VIQ to cultual/linguistic factors. The problem with this interpretation is that many children from monolingual backgrounds who experience reading difficulties also manifest a low V, average P pattern. Thus,

what is usually perceived as one of the main diagnostic clues on the WISC is eliminated when the VIQ is discounted, and consequently, the possibility of early identification of learning disability is reduced.

However, the data presented earlier on WISC-R patterns suggest that administration of the V scale is not necessarily useless or inappropriate under all conditions. Provided the child has been in the school system for a reasonable length of time (probably two years minimum) an exploratory use of the WISC-R V scale may be informative. In the first place, the child may score relatively high (close to P score) on the V scale, thereby suggesting that s/he is making good progress in English cognitive/academic skills. Secondly, deviations from the typical pattern of V subtest scores among ESL children (see Figure 1)can be very informative. The peaks at Arithmetic and Digit Span (when it is administered) are replicated in the vast majority of low V subtest profiles. Thus, a relatively low score on one of these subtests may provide a clue to a real learning problem. This is illustrated by the following assessment:

F6. PM (285): PM was referred by his grade 2 teacher who noted that "PM is Spanish speaking with a limited knowledge of English. He has not been able to grasp the concept of number or addition". He had been in the system since kindergarten. The psychologist administered both V and P scales but entered only the PIQ of 78 on the WISC-R form, noting that the VIQ was not valid. PM's V subtest scaled scores were: Information 2, Similarities 2, Arithmetic 6, Vocabulary 4, Digit Span 4. The psychologist commented:

> His only strength was speed in copying designs. His auditory memory is quite weak which may be holding back his English development... the verbal scores are not considered valid for IQ purposes because PM is a New Canadian. However, they do give an indication of his present level of functioning in academic areas.

Comment. Because of the typical peak on the Digit Span subtest the psychologist's

hypothesis about possible causal factors appears reasonable. The assessment shows the importance of knowing what the typical patterns of WISC-R subtest scores are. The following assessment illustrates a case where a misconception in regard to this pattern causes the psychologist to ignore a diagnostic clue.

F7. BG (023): BG was referred by his grade 3 teacher for resource room placement. His VIQ was 96 and PIQ 106. The psychologist commented:

> There were two areas where BG had difficulty -- these were in the area of general information (usually acquired through reading and discussing things) and in arithmetic reasoning, a task involving the solving of orally presented word problems. In homes where English is a second language these scores are frequently depressed, and it means BG will need extra help in reading .... With special attention to developing language skills, BG should be working at an average level for his age" (Information = 7, Arithmetic = 6).

Comment. A more appropriate inference might be that BG will need extra help in Arithmetic, especially since other Verbal subtest scores are high, e.g. Comprehension = 13, Vocabulary = 12. The psychologist may be aware of research data showing that learning disabled children tend to perform poorly on Arithmetic and Information subtests (Belmont and Birch, 1966; Owen et al., 1971). However, as the data in Figure 1 show, relatively high Arithmetic scores are typical of ESL children.

The final example in this section shows a "typical" New Canadian pattern and an appropriate assessment.

F8. MA (255): MA was referred in grade 2 at the request of parents because she was having difficulty adjusting to school work and the new language. She was born in Chile and had been in the system since kindergarten. Her PIQ was 104 and although the V scale was administered,

the VIQ was not recorded. Her V subtest scores were: Information 3, Similarities 3, Arithmetic 10, Vocabulary 7, Digit Span 11. The assessment report read as follows:

> Because MA is a New Canadian, her verbal IQ is not a valid indicator of her ability but rather of her present achievement level in English. Her performance scores indicate that she has normal ability. Her very low score in Picture Completion (4) was due to her continually saying nothing was missing from the pictures. When urged, she could respond correctly.

Diagnostic Considerations in Relation to V-P Discrepancies

The most difficult problems of WISC-R score interpretation occur when the child shows a low VIQ and average or high PIQ. There are at least three possible interpretations of a low VIQ:

1. a temporary difficulty with the English language which will be ameliorated with continued exposure;
2. a difficulty which may have arisen as a result of the ESL background but which has not been ameliorated with exposure and is now a valid indicator of abilities or potential; the distinction between this pattern and the first pattern is not absolute and may be better viewed as a continuum.
3. a learning disability similar in nature to those observed in monolingual children.

Clearly there are different implications for intervention associated with inference 1 as opposed to inferences 2 and 3. It is not clear whether the intervention implications for pattern 2 differ from those of pattern 3, but it may depend upon whether specific dysfunctions (e.g. auditory memory), as opposed to generally low overall verbal ability, can be identified in association with pattern 3.

What diagnostic considerations should be employed in making these inferences? Two considerations can be suggested:

A. Time:Progress Ratio. Figure 2 shows a reanalysis of data from the Toronto Board of Education 1969 Every Student Survey which examines the

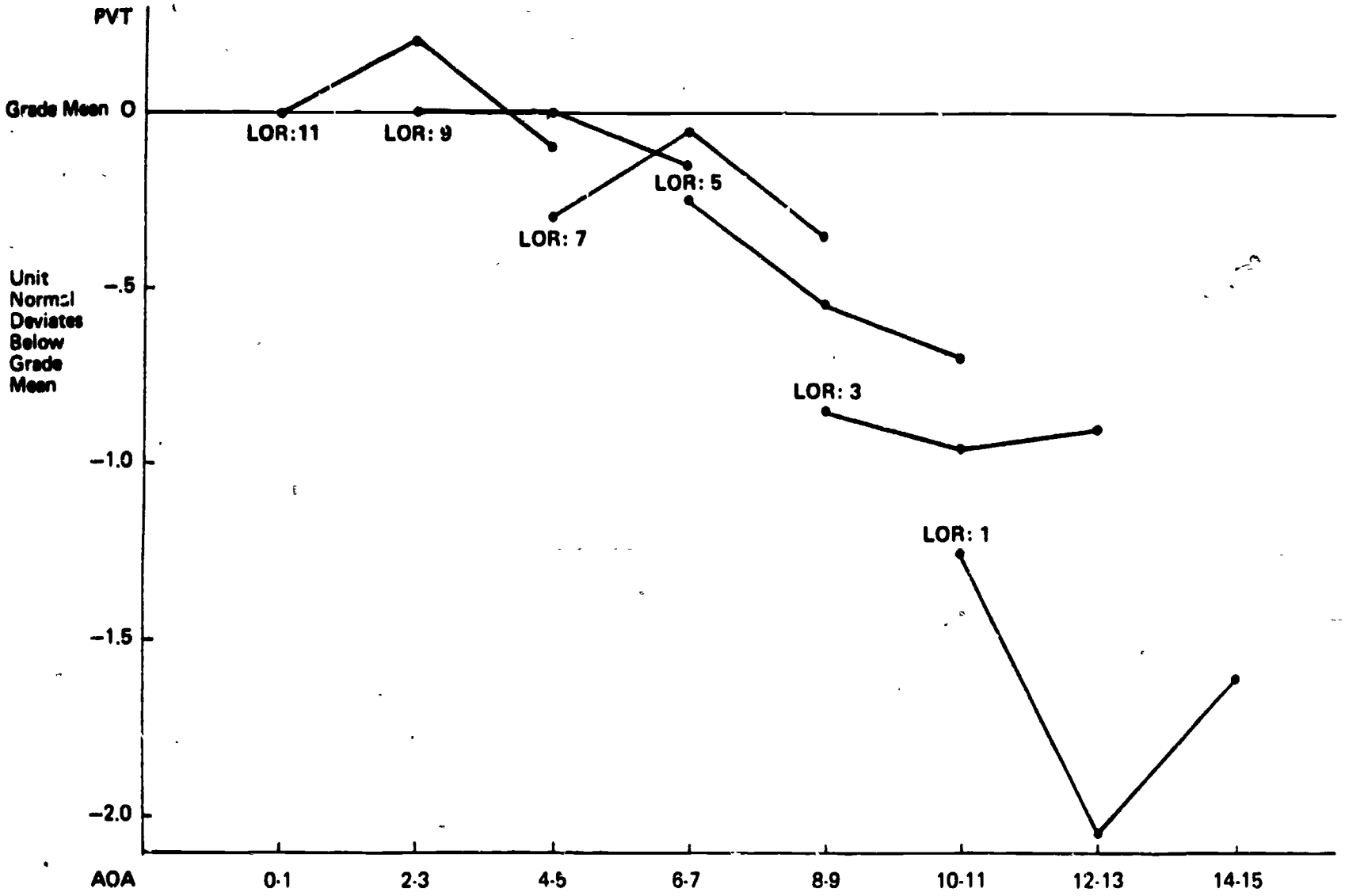

Figure 2: Age on Arrival, Length of Residence, and PVT Standard Scores

effects of length of residence (LOR) and age on arrival (AOR) in Canada on the rapidity with which New Canadian students approach grade norms in English cognitive/academic skills (Cummins, 1980b). The dependent variable in Figure 2 is a group version of the Ammons Picture Vocabulary Test (PVT); a similar pattern was shown on four other measures of English cognitive/academic skills. It can be seen that it takes New Canadian children, who arrive at age 6 or later, between 5 and 7 years, on the average, to approach grade norms in English cognitive/academic skills. As the transcripts in the present study suggest, fluency in English interpersonal communicative skills is generally attained in a much shorter amount of time. However, Figure 2 shows that with increases in length of residence there were corresponding increases in proximity to grade norms among ESL children. Thus, a criterion for inferring pattern 1 is that there be continued progress towards grade norms in English cognitive/academic skills over time. Thus, if yearly standardized achievement tests are given, gradual progress towards norms should be evident. This criterion implies that a one-shot WISC-R administration is unlikely to permit inference 1 with any degree of certainty. However, if a child is reassessed, the change in VIQ:PIQ ratio in the direction of unity could be used to infer progress. For example, if on occasion one the VIQ is 60 and PIQ 100, and on occasion two the VIQ is 80 and the PIQ 100, then there is a change in VIQ:PIQ ratio from .6 to .8.

Frequently teachers in the present sample indicated that a child's academic progress was unsatisfactory. However, teachers' reports alone should not be used to reject inference 1 because teachers often have very unrealistic expectations about how quickly ESL children should reach grade norms. For example, a common assumption was that children's ESL background should no longer be hindering their academic performance once they had become reasonably fluent in English. Teachers usually do not realize how

long it takes ESL children, on the average, to approach grade norms. Thus, if after three years length of residence, an ESL child is performing only at the 20th percentile level a teacher may conclude erroneously that there has been little progress, forgetting that the initial level was much lower.

In summary, the first diagnostic consideration relevant to inferring pattern 1 is the extent to which there has been progress towards grade norms in English cognitive/academic skills, calibrated, for immigrant students, on a rough time scale of 5-7 years length of residence to achieve grade level. For students born in Canada a rough guide is provided by the Toronto Board's finding (Rogers, 1969) that ESL students born in Canada had reached grade norms in English academic skills by grade 3 on the av. age (i.e. after four years of schooling). Obviously these guidelines are very rough and there may be considerable intergroup variation, but they do provide some empirical basis for making inferences regarding the adequacy of ESL students' academic progress.

B. Verbal Subtest Pattern. Just as the first consideration is based on a comparison of an individual ESL child's time:progress ratio with that exhibited by a large "norming" group of ESL children, the second consideration is based on a comparison of the Verbal subtest pattern manifested by an individual ESL child with that typically manifested by ESL children. When children perform as poorly on Arithmetic and/or Digit Span as they do on the other Verbal subtests, this may indicate specific problems in these areas which are not attributable to ESL background. No inferences regarding specific disabilities are warranted when the child performs poorly on all Verbal subtests except Arithmetic and Digit Span.

The possibility of obtaining diagnostic information from the Verbal subtest pattern is an argument for administering at least Arithmetic and

Digit Span, and possibly one other subtest (Vocabulary or Similarities are probably most appropriate) for comparison purposes. No illusions should be entertained, however, about the validity of the Verbal battery, as a whole, as an indicator of academic potential, unless the child has been in school in the host country for at least four or five years.

The psychologists in the present sample who were sensitive to cultural/linguistic barriers to test performance often administered only the Performance scale. The inferential paths which follow from this decision are considered in the next section.

B2. Only Performance Scale Administered

When only the performance scale is administered the PIQ is usually interpreted as indicative of the child's potential.

G1. GG (106) and JB (182): these two brothers had arrived from Italy about 1 1/2 years previously and were in grade 3 (JB) and grade 5 (GG) respectively. They were referred by the same resource room teacher who noted for both children: "Seems to be a solid resource room candidate -- needs IQ testing for placement. From Italy -- behind in reading".

Both boys were assessed by the same psychologist who did not administer Verbal tests (with the exception of Arithmetic to GG) because the children were New Canadian with somewhat limited English. GG's PIQ was 101 and he obtained a scaled score of 12 on Arithmetic. The psychologist concluded:

> GG seems to have average ability with no apparent learning disabilities.... As his problems in reading seem to be due to his lack of experience in English rather than to specific learning disability he is not an appropriate resource room candidate.

JB's PIQ was 86. After noting JB's ESL background the psychologist continued:

> However, JB chatted to himself in English during the test which indicated that he thought in English.... JB had

> difficulty noticing missing details in pictures, focusing, and copying designs with blocks. I shall suggest that his parents have his vision checked. He seems to need help in the visual motor area plus English.

G2. AD (103): In Canada for less than a year, AD was referred by his grade 6 teacher who wanted "to have an idea on the amount of progress and his capacity to know. This will help us in planning his program". The child's PIQ was 111 and the psychologist concluded that he had good academic potential, although noting that he made little effort to speak despite appearing to understand the directions correctly. S/he went on to say that

> Placement remains a problem since what is required is not learning assistance but a class for New Canadians where he can learn English. He will function in a regular class when language mastery is adequate.

G3. GU (177): GU, whose parents were reported to speak mostly Polish, entered the system in grade 2 and was referred by her grade 3 teacher who noted that she was "having trouble with English vocabulary and its meaning She is very competent in other areas such as arithmetic. But she is missing a great deal, not being able to understand what she hears and sees". The psychologist made no record of verbal scores (if administered). GU's PIQ was 73. The assessment read as follows:

> GU was rather quiet during the interview and had little to say. English is a second language for her and she has difficulty expressing herself. For this reason, the verbal scores on the test should be disregarded. On performance items, GU scored consistently below average. These scores may be somewhat lower than her actual ability level due to her lack of understanding oral instructions, however she probably would still score in the slow learner range.

Comment. Clearly, an average or high PIQ score provides useful information on students' nonverbal abilities, although a low PIQ needs to be treated somewhat more cautiously, depending upon the student's grasp of English. However, it is not necessarily valid to infer from an average or high PIQ

that the student's overall academic potential is high, since reading and language arts achievement is generally more related to Verbal ability than to Performance. Possible visual perceptual difficulties may be noticed, as in G1 (JB), but generally an assessment in which the P subtests alone are administered is usually capable of providing only limited answers to teachers' questions regarding academic potential or learning disability.

An obvious means of attempting to obtain more information on academic potential is to administer tests in the child's L1. A handful of assessments in the present sample employed this strategy.

B3. Assessment of L1 Abilities

Assessment of L1 cognitive/academic abilities seems especially appropriate for the child who manifests a low VIQ, average PIQ WISC-R test profile and who has been in school in the host country for a relatively short time (less than two years). Testing L1 after this period is likely to be invalid because of possible regression of L1 abilities due to lack of exposure to conceptually demanding input. The assumption underlying the assessment of L1 abilities is that cognitive/academic abilities are cross-lingual or interdependent in L1 and L2 (see Cummins, 1980a,b). In other words, an immigrant child's L1 cognitive/academic ability on entry to the school system will be an important factor determining the level of L2 cognitive/academic ability achieved. Thus, if L1 ability is well-developed it is likely that low VIQ and academic difficulties in English are a temporary function of ESL background. On the other hand, poorly developed L1 and L2 cognitive/academic abilities would suggest that academic difficulties are likely to be more long-term.

The greater confidence which can result from assessing the child's abilities in his/her stronger language is evident in the following two

assessments.

H1. SS (363): SS was referred by her kindergarten teacher who noted that she was immature and used baby talk. The speech and language assessment revealed that

> SS was operating at a 2.5 to 3.0 age level for comprehension of English as compared to her chronological age of 5.3... Expressive language consisted mainly of one or two word utterances, or gestures... In summary SS exhibited a severe receptive and expressive language delay.

The psychological assessment showed SS's VIQ to be 51 and PIQ 70. The psychologist noted that during testing SS was quite chatty, but difficult to understand. One of the psychologists in the system who spoke Italian (as an L1) contacted the parents after these assessments and arranged to give SS an informal assessment in Italian in order to ascertain whether language development in Italian was normal; in other words, to ascertain whether the language delay was "real" or a temporary function of ESL background. This informal assessment revealed that although the mother felt SS's Italian was good, SS could not name many common objects in Italian, she tended to respond inappropriately to questions given in Italian and used segments or sentence fragments. Thus, the assessment team felt reasonably confident in their diagnosis because of the congruence of symptoms in the two languages.

Comment. One must presume in this instance that the psychologist who spoke Italian was sensitive to dialectical variations. Also, it is to be hoped that advice was given to the mother about how the family could help the child's speech and language development in Italian in order to complement the English speech therapy the child would receive within the school system.

H2. PA (304): PA, a Chilean refugee, was referred by his grade 1 teacher who asked whether he was mentally capable of coping with the regular school program. She requested that an assessment be carried out in Spanish.

PA (chronological age 7.9) obtained a PIQ of 54 (4.1 age level) on the WISC-R (administered in Spanish), a 5.3 age level on Bender-Gestalt, a 2.3 age level on Peabody Picture vocabulary and 0.5 kindergarten level on the Peabody Achievement Math (administered in Spanish). The psychologist concluded:

> PA's difficulties in grade 1 are due to more than just a language difference. He seems to have serious hand-eye coordination problems and a very minimal understanding of math concepts considering his age (7.9) and his background (mother was a teacher).

Opportunity room placement was recommended.

Comment. What is notable here is the psychologist's confidence in rejecting the "language difference" explanation of the child's difficulties. It is likely that had all the assessment been administered in English much less diagnostic confidence would have been displayed.

The final example shows that although assessment in a language other than English does provide additional information, it does not necessarily provide a definitive answer to the question of why a particular child is experiencing reading difficulties.

H3. GM (173): This child's parents were from the Belgian Congo and French was reported to be the child's main language, although the psychologist noted that "he is exposed to a number of languages". He was attending a French language (immersion) school in the system and referred by his grade 2 teacher who noted:

> This child is having great difficulty in learning to read in French even though he is fluent in this language. I would like an intelligence test given in French and other tests done to determine what is retarding the learning process for this child.

The psychologist gave the regular WISC-R in French and GM obtained a VIQ of 74 and PIQ of 95. The lowest Verbal subtests were Information (3) and Similarities (2). Digit Span was highest (10) and Arithmetic, Vocabulary

and Comprehension were 7, 7 and 6 respectively. The psychologist's impression was that the child had higher ability than was indicated on the test. He continued:

> In view of possible cultural incompatibility with test instrument, one might better consider this boy's ability as tentatively near average in view of the nonverbal score which was within that range.

Several weeks later the Paris version of the WISC Verbal scale was given to GM and his VIQ went up to 84. However, the psychologist noted that this was still much below average. The psychologist suggested that immaturity and poor expressive vocabulary might be contributing to GM's difficulty and several remedial suggestions were made to the teacher. However, the psychologist's overall conclusion was that

> At this point no clear cut answer can be give as to why he cannot learn to read and he will need further examination and observation in order to pinpoint his difficulty.

Comment. This assessment clearly shows that cultural biases may be just as salient in tests administered in L1 as they are in L2 tests. In constructing measures of L1 cognitive/academic language proficiency special care is required to minimize dialectal and cultural biases. It is not sufficient to take a French or Italian version of the WISC, or any other formal test, and assume that it is valid for French or Italian L1 children in Canada. Novak (1973), for example, found that Italian immigrant children in Canada for less than two years did not differ in overall performance on English and Italian versions of the WISC, although they did perform somewhat better on the Italian verbal subtests. She attributes the lack of difference to the cultural and dialectal inappropriateness of the Italian version. Research is currently underway by the writer to develop antonyms, sentence and passage repetition, and cloze measures of immigrant students' L1 cognitive/academic proficiency for which general norms could be established as a

diagnostic guide.

The other point worth noting in the final assessment is the unusual candor displayed by the psychologist in admitting that the psychological assessment fails to show why the child can't read. It is appropriate to end the examples with this admission because it could be applied not only to many of the assessments considered in the present study but also to a large number of psychological assessments of monolingual children. As the reviews by Coles (1978) and McIntyre et al. (1980) clearly demonstrate, there is considerable conceptual confusion about what a learning disability really is, and therefore it should not be surprising that diagnostic procedures are similarly confused.

SUMMARY AND CONCLUSIONS

The psychological assessments analysed in the present study illustrate the problems associated with applying assessment and placement procedures developed primarily to serve the needs of middle-class English-speaking students to students from linguistically and culturally diverse backgrounds. It is clear that there are many gaps in psychologists' and teachers' knowledge both about the limitations of psychological tests and about the development of academic skills in immigrant children. Some of these gaps are due to the fact that the knowledge base has not existed; others are due to the fact that the data which are available have not been adequately communicated to teachers and psychologists, either in university or in-service courses. Some of the information which many psychologists, teachers, administrators, policy-makers and academics concerned with special education and/or ESL students may not know about these issues is summarized below.

Test-Related Knowledge Gaps

1. Psychological tests assess E:L students' present academic functioning, not potential. Because IQ tests purport to assess academic potential, and because teachers explicitly request information about students' potential, many psychologists in the present study made inferences about minority students' potential, abilities or aptitudes which are logically inadmissable given the assumptions of the test. These inferences about low abilities can result in over inclusion of minority students in special education classes, as documented by Mercer (1973). Contributing to psychologists' tendency to make logically invalid inferences is the apparent fluency of many minority students in English and the fact that psychologists and teachers have no information on how long it takes minority students to approach grade norms in English cognitive/academic skills. The frequency with which trained psychologists ignore the "small print" containing the limitations and assumptions of the test is a cause of considerable concern given the fact that in many boards (33 out of 80 in Keeton's 1979-80 survey) IQ testing is conducted by personnel who are not supervised by a registered psychologist (Keeton, 1979-80). Samuda and Crawford (1980) also document the lack of an articulated policy regarding testing of minority children in most Ontario boards. Thus, it is likely that the lack of sensitivity among many of the psychologists in the present study to the assumptions of IQ tests is not an isolated phenomenon but rather one which exists in the majority of school boards across Canada. It is clearly not an easy task for a psychologist to admit that a psychological assessment has revealed little or nothing about a student's academic potential when the teacher has referred a student precisely in order to discover his or her academic potential so that realistic expectations can be established for the student.

2. The WISC-R subtest pattern of minority students may provide diagnostic clues. The quantitative analysis suggested that, in general, Performance subtests were more valid than Verbal subtests. Thus, provided the student clearly understands the task demands, it is reasonable to make cautious and tentative inferences regarding nonverbal intellectual abilities based on Performance scores. However, nonverbal abilities are usually less related to academic progress than are verbal abilities and thus are of limited usefulness as indicators of academic potential.

A large majority of low VIQ, higher PIQ, WISC-R profiles showed a characteristic pattern of peaks on Arithmetic and Digit Span and extremely low scores on Information. This implies that English language deficits interfere less with Arithmetic and Digit Span than with the other Verbal subtests. The factor analyses suggested that nonverbal abilities may be functional to some extent on these tasks. Thus, deviations from the typical pattern for ESL students may be diagnostically important. For example, relatively low Digit Span may indicate auditory sequential processing difficulties rather than English language deficits; no such inferences (however tentative) about abilities or verbal aptitude are warranted on the basis of relatively low Information, Similarities, Vocabulary or Comprehension scores.

Thus, it appears justifiable to administer the WISC-R Arithmetic and Digit Span subtests, as well as one of the other Verbal subtests (not Information) for comparison purposes, to minority students who have been in the country for a reasonable amount of time (i.e. who have developed fluency or have been here about two years). However, obviously no IQ should be calculated on the basis of these scores and inferences should be tentative.

The present data suggest that there is very little justification for administering the Information subtest to minority students; however, if it is administered and a student's score is lower than on the other Verbal

subtests it should not be included in the calculation of an IQ score. For minority students Information rather than Digit Span should be the optional Verbal subtest.

Student-Related Knowledge Gaps

3. ESL immigrant students take 5-7 years, on the average, to approach grade norms in English cognitive/academic skills. There are many examples in the transcripts where teachers refer for psychological assessment ESL students who have been in Canada for a relatively short amount of time (e.g. 1-2 years). Because the child's academic achievement is still poor, despite apparently good progress in English communicative skills, they wonder if some form of learning disability is involved or if the child has a low IQ. This is not surprising in view of the lack of any empirical data showing how long it takes immigrant students to approach grade norms in academic skills. The implicit assumption among teachers, psychologists, and policy-makers has been that English language deficits can no longer be invoked as a factor impeding school or test performance once the child has acquired relatively fluent English communicative skills. Normally immigrant children can speak and understand English very well within about two years of arrival. Thus, in Ontario it appeared reasonable to provide ESL assistance only in the child's first two years in Canada and to refrain from testing only during the first two years. By that time the vast majority of students clearly had sufficient English to function in a regular classroom and to understand directions and questions on psychological tests.

The reanalysis of the Toronto Board of Education Every Student Survey data (Figure 3) shows that these assumptions are fallacious. Despite the fact that ESL students may be fluent in English within about two years of arrival, it takes between 5-7 years, on the average, for students who

arrive after the age of 6, to approach grade norms in English cognitive/academic skills, i.e. the skills required on a verbal IQ test or on a standardized reading test. The fact that students continue to approach grade norms with increasing length of residence suggests that inferences about students' academic potential based on a one-shot administration of the WISC-R within students' first five years in Canada are likely to underestimate potential. These data clearly show that psychological tests do not magically become valid after the student has been in Canada for two years.

4. Interpersonal communicative skills are very different from cognitive/academic language proficiency. The difference between these two types of language proficiency is clearly shown in the numerous referrals which noted that students spoke and understood English well but were experiencing considerable difficulties in reading and academic aspects of English. The data considered in the previous section show that it takes up to 7 years for immigrant students to approach grade norms in cognitive/academic skills despite the fact that their basic interpersonal communicative skills approach acceptable native-like norms much sooner.

The phenomenon is essentially the same as with preschool children learning their first language, where, as Donaldson (1978) points out, children's understanding and production can give a misleading impression of skill with language per se.

> Certainly they commonly understand us, but surely it is not our words alone that they are understanding -- for they may be shown to be relying heavily on cues of other kinds (1978, p.72).

> The child's attention is drawn to something that interests him and he speaks of it. He has some idea that is important to him and he expresses it in whatever form comes most readily to him. He is never required, when he is himself producing language, to go counter to his own preferred reading of the situation -- to the way in which he himself spontaneously sees it (1978, p.74).

Thus, ESL children's rapid acquisition of facility in understanding and producing appropriate language in meaningful interpersonal contexts is not surprising. Add to this facility a near-native accent and the use of stock peer-group expressions and the surface manifestations of the ESL background have disappeared.

However, functioning in an academic context (e.g. learning to read or performing verbal IQ tasks) involves processing language which is stripped of its situational and interpersonal supports. Just as in a monolingual context, children's facility in basic interpersonal communicative skills provide little or no information about their academic language skills, no inferences are warranted about ESL students' cognitive/academic language proficiency or the validity of verbal IQ scores based on their interpersonal communicative skills.

5. ESL children's academic difficulties are not caused by the use of a non-English language in the home. There were many instances in the transcripts where children's low verbal IQ scores were interpreted as a valid reflection of verbal ability and attributed to the child's exposure to two languages. There were also several cases where the teacher or psychologist assumed that parents' lack of facility in English precluded them from helping their child academically at home and that the more exposure the child had to the mother tongue the greater the interference with the acquisition of English.

There is considerable research data available to refute these assumptions (see Cummins, 1980c). A home-school language switch, in itself, does not cause academic problems, as evidenced in the high level of academic achievement among ESL children born in Canada (Deosaran, 1976; Wright, 1971). In fact, the research data suggest that the development of proficiency in two languages can be academically and cognitively enriching. However, in a minority language

context a high level of bilingualism can usually be attained only when there is a strong emphasis, either in school or home, on the development of L1 skills. One of the reasons why this emphasis has been lacking in many cases is because minority parents and educators have assumed that an emphasis on L1 would be detrimental to English. Contrary to this assumption, the data suggest that a strong emphasis on developing L1 skills in the home may make an important contribution to the development of English academic skills.

Several studies have shown that the ways in which adults communicate with children is important for children's future academic success. For example, in a longitudinal study recently conducted in England, Wells (1979) has shown that children's rate of linguistic development is significantly related to the quality of the conversation they experience with adults and also that children's knowledge about literacy on entry to school is strongly related to the level of reading skills they attain in school.

Given the importance of the quality of parent-child communication in the home and the fact that concepts developed in L1 can easily be transferred to L2, it is clear that teachers' or psychologists' advice to parents to use English in the home can have potentially disastrous results. In many cases, parents will use broken English or a mixture of L1 and English and spend less time interacting with their children because they are not comfortable in using English. If minority language parents desire their children to become bilingual then they should expose them to as much L1 as possible in the preschool years. Activities such as singing, playing, telling stories and reading aloud to children are extremely important not only in developing a high level of L1 proficiency but also in establishing a solid foundation for the acquisition of English skills and future academic success.

Policy Implications

The difficulties of applying current testing procedures to minority students have been recognised at a general level by some policy-makers, academics, and psychologists as illustrated, for example, by the policy in most Metropolitan Toronto Boards of not testing immigrant children who have been in Canada for less than two years; however, as pointed out earlier, this policy raises all sorts of questions about when IQ tests become "valid" for minority students, the nature of second language proficiency and how it develops in immigrant students, how to identify "learning disabilities" (however defined) in ESL students, etc. Very little conceptual inquiry or empirical research has been devoted to these issues in Canada. The only large-scale survey of minority student assessment (Samuda & Crawford, 1980) is descriptive in nature and does not analyse these issues in depth.

One reason why scant attention has been paid to these issues derives from the disjunction between ESL/Multiculturalism and Special Education Departments in both school boards and Ministries of Education. Minority children are the concern of the ESL Department until they become fluent in English, after which, if academic difficulty persists, they become the concern of the Psychological Services or Special Education Departments. The problematic nature of testing ESL children is usually recognised in a general way by ESL/Multiculturalism Departments because they are responding to the concerns of ethnic community groups and are familiar with cautions expressed in recent Work Group Reports on Multiculturalism. However, the complexities of the issue often receive only lip-service, at best, from those whose primary concern is with special education in general.

This is illustrated by the fact that the problem receives virtually no mention in recent Ontario Ministry of Education directives on special education and early identification (see Keeton, 1979-80).[3] These recent

initiatives are in response to pressure from groups such as the Association for Children with Learning Disabilities, composed largely of articulate middle-class anglophone parents, and are consequently directed primarily towards identifying learning disabilities among middle-class anglophone children. As Coles (1978) and McIntyre et al. (1980) point out, most current definitions of learning disability exclude academic difficulties that can be attributed to low socioeconomic status, "cultural deprivation" (i.e. non-Anglo background) and low overall intelligence.

Thus, the recent special education policy initiatives in Ontario, although laudable in intent, fail to take account of the awkward presence of a sizable proportion of minority students for whom current procedures are inappropriate. A major reason for instituting an early identification policy is to reduce the underinclusion of students in special education; in other words, to ensure that students who need special education services receive them. If policy-makers are serious about applying this policy to all children, then there is an immediate need for considerable conceptual and empirical work to identify the manifestations of learning disabilities in minority children and to devise reliable methods of distinguishing these "genuine learning disabilities" from temporary academic difficulties caused by English language deficits. Given the fact that the problem is virtually ignored in Ministry directives and the lack of awareness of the problem in the province as a whole (Keeton, 1978-80; Samuda & Crawford, 1980), the application of the early identification policy to minority students is likely to be highly unreliable; in other words, there is likely to be both considerable overinclusion and underinclusion of minority children in special education programs.

The fact that there is no simple answer to the problem obviously does not justify ignoring it. The problem is not confined to the identification

of learning disabilities; there has also been no serious consideration for its implications in identifying gifted children. Several immediate steps can be recommended in order to begin to address the problem: first, professional development activities should be directed towards closing the knowledge-gaps identified in the present report; second, research should be undertaken to develop appropriate ways of assessing and remediating learning difficulties in ESL children; third, efforts to come to grips with the same problem in other countries should be examined and their relevance to the Canadian situation assessed. An outline of the serious attention that is currently being given to the issue in the United States is attached in the Appendix.

Footnotes

1. The term "minority language students" refers to students who have learnt the dominant language of the society as a second language and is used synonymously in this report with "ESL students" i.e. those who have learnt English as a second language.

2. Due to rounding error the subcategory percentages do not sum to the exact category percentages. In outlining the quantitative data in subsequent sections, categories with negligible percentages are not discussed, therefore the percentages will not always sum to 100.

3. In the Ontario Ministry of Education's "Children With Learning Disabilities" (Curriculum Ideas for Teachers, 1980) the only mention of possible problems associated with identifying learning disabilities in minority children is the following: "Where a child's language is other than English or French, a reasonable delay in the language-based aspects of assessment should be considered" (p. 5). However, no suggestions are made as to what constitutes a "reasonable" delay nor on alternative ways of identifying learning disabilities in minority children.

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The Logic Was Plain Enough

Teaching Both Special and Bilingual Is Required

By MARTIN ANDERSEN

WASHINGTON — Until now, hundreds of thousands of children in need both of bilingual education, because English is not their mother tongue, and of special education, because of mental retardation, emotional disturbance or some other handicap, were the lost children of the public schools.

This month, however, the Department of Education proposed new rules that address the requirements of these doubly-handicapped children. The new regulations, which will soon carry the force of law, would mandate that such children be assessed in their home language and, for some, would specify a bilingual program of special education.

Government figures provide only clues to the exact numbers of such children, who because of their unrecognized double handicap have often been misdiagnosed, expected to perform in unsuitable environments and, in some cases, become even more gravely handicapped by being thrown into the existing educational milieu. For the first time, a survey in October by the Education Department's Office for Civil Rights will include a question on the number of language-minority children in special education classes. However, critics say this in-school population will not reflect the real numbers in need. Language-minority children, whose dropout rates are astronomical, are chronically underidentified, misdiagnosed and often hidden because of their parents' illegal immigrant status, the critics assert.

For many years non-English-speaking handicapped children have often been placed in special education classrooms where only English was spoken. Others, whose special education needs went undetected or misunderstood, have been placed in bilingual classes where their handicaps were untreated and frequently worsened.

Until this year, Federal civil rights officials and legal advocacy groups trying to press local school districts into action have relied primarily on civil rights statutes and the equal protection clause of the Fourteenth Amendment. The new Department of Education regulations should give them a new weapon.

Federal officials caution against an overzealous interpretation of this year's proposed new rules. "We have to make a distinction between types of handicaps," said Paul Grossman, an attorney for the Education Department's Office for Civil Rights in San Francisco. "For some handicapped children, it just isn't possible to directly apply regular bilingual education." Mr. Grossman said an "appropriate equivalent instruction" for children with such handicaps as deafness is all that is required by the proposed rules.

Interest in bilingual special education is now rising among educators, local school district officials and others. Some local officials perceived early on the logical outcome of existing law on both bilingual and special education. "If there's a right to bilingual education and a right to special education, it follows there is a right to bilingual special education," said Roger Rice, a staff attorney for the Center for Law and Education, a public affairs group in Cambridge, Mass. Still other districts preferred to wait for the Government to spell out their specific obligations. The new regulations do this. A growing number of school districts are coming to grips with some of the special needs of their "doubly-handicapped" students. In cities such as Boston, New York, Newark, Chicago and Los Angeles, work on developing bilingual ways to assess deficiencies and bilingual instruction to address them is in progress.

New Jersey and Massachusetts are considered to be in the forefront in the field. These states have tough laws covering both bilingual education and education of the handicapped. In September, any New Jersey education officials, Newark, Union City and Jersey City will all be implementing new special programs.

In New York City, a "high priority" has been assigned to bilingual special education, according to Dr. Jerry C. Gross, executive director of the Division of Special Education for the city schools. Currently there are about 1,000 children being served in nearly 90 special bilingual classes, 10 to 40 percent increase over the 1978-79 academic year. According to estimates by Dr. Gross's division, of the 70,000 children in special education citywide, about 7,000 need bilingual support.

"It's an area that is getting tremendous new attention," said Dr. Gross. Of the nearly 140 languages spoken actively in the city, the district now offers bilingual services in Spanish, Chinese and Haitian French, and is preparing to extend services to Russian speakers in Brooklyn. The differences in cost between regular special education and bilingual special education are "not significant," Dr. Gross said.

In an era of budget-cutting and reluctance to venture upon more social spending, it might be expected that Federal requirements for bilingual special education would be resisted. Yet the experience of at least one school system, Boston, suggests that the benefits might balance the costs, at least in the short run.

"Special education programs are expensive because the teacher-student ratio is lower," said Betsy Tregar, coordinator of the bilingual education unit of the Boston public schools. "But because bilingual personnel tend to be hired more recently, salaries for bilingual teachers tend to be lower because they lack seniority. What Boston has found is that at the end of the year, the costs have somewhat canceled each other out."

The Boston program has pioneered the development of child assessment techniques in the child's own language. More than 700 children participate, and instruction is offered in Spanish, Chinese, Greek, Italian, Haitian French, Cape Verdean, Vietnamese and Russian. Where the schools are unable to assess a child in his own language, they contract with an outside professional to do so.

The shortage of qualified bilingual personnel is an obstacle for most school districts. The few colleges and universities in the New York metropolitan area that do offer some type of bilingual special education curriculums — Bank Street and Brooklyn Colleges, Fordham, Columbia and Keane College in New Jersey — do not graduate enough students to match the need in the area's existing programs. In a job market characterized by a glut of teachers, bilingual special education may emerge as public education's new frontier.

The additional costs for such programs, says a New York educator, are 'not significant'