

4. RESULTS

The results of the study of student files and centre publications are reported as tables of frequency counts and enhanced by quotes from the material studied to highlight the kind of thinking about students and their learning environment that was taking place at certain times. This gives a clearer picture of the specific changes that were taking place in the IEP process at the centre and helps inform the first hypothesis about the effect of paradigms and models in current literature. To assist this, the results are reported under the headings of the IEP process. The tables are accompanied by figures which give pertinent dated quotes from the student files. The quotes were obtained using NUD.IST searches combined with searches by hand of the student files and centre publication summaries. The information is aligned with the Timeline to examine effects in relation to the hypotheses.

4.1 Referral

The referral process was investigated by examining the reasons that students were referred to the centre and the groups of people who advocated their referral. As discussed in the literature review, there are problems with the referral process which can be caused by variations in expectations of referring bodies, differences in understanding the definition of learning difficulties, and hopes for possible placement and programming support. Although the centre developed a referral proforma (Appendix 3.) over the 25 year period it was not possible to identify from the student files expectations or the understandings of the referees.

Initially, referrals to the centre were made "by phone, mail or direct enquiry.....students at public schools are not seen until enquiries have been made by the resource teacher to the school through the school counsellor" (Centre Publications, 1976).

4.1.1 Reasons for Referral

Some students were referred for more than one reason. Those students were recorded under each relevant heading of "reasons". It was not possible to determine from the files which was the primary reason for referral. Indeed, for many students it may have been a variety of observed difficulties that led to their referral.

Lack of academic progress was the most frequent reason for referral in all phases of the 25 year period studied. This is understandable in light of the definition of students with LD used both by the centre and in the literature. The definition in Australia highlights failure to learn rather than specific guidelines for eligibility and relies on the professional judgement of counsellors and teachers coupled with parental concerns (Ashman & Elkins, 1998).

Behaviour difficulties include not only acting-out behaviours but also lack of motivation, disinterest in learning tasks and consistent off-task behaviours. During 1991-95 referrals for behaviour difficulties decreased despite an increase in awareness of causal attributions for failure such as internal or external locus of control or self-fulfilling prophecy since the mid 1980s (Ashman & Elkins, 1998) and the concurrent knowledge that achieving in the curriculum is important for enhancing self-concept in students (Mercer, 1991). The publicity given during this period to attention deficit disorder and attention deficit hyperactive disorder

Table 1.

Frequency Counts, Means and Standard Deviations for Reasons Students Were Referred to the Centre

Reasons	Years					Mean (SD)
	1971-75	1976-80	1981-85	1986-90	1991-95	
academic	8	5	5	8	9	7.0 (1.9)
behaviour	5	5	0	5	4	3.8 (2.2)
emotional	0	2	1	0	1	0.8 (0.8)
speech	3	2	2	2	6	3.0 (1.7)
physical	1	1	2	0	5	1.8 (1.9)
medical	1	1	2	0	2	1.2 (0.8)
attendance	1	1	0	0	0	0.4 (0.55)
social	1	0	0	0	1	0.2 (0.84)

Note. Raw score patterns under the year period headings show changes in trends over time. The means and standard deviation columns highlight fluctuations in the patterns. The reasons selected emerged from the *Files Information*, not from the review of the literature.

does not appear to have affected the reasons for referring students with learning difficulties.

The increase in speech and language referrals during the 1991-95 period may be the result of a concurrent increase in the range of language assessments which cover areas beyond articulation and project into the acquisition of literacy.

Some of the assessments referred to include sampling phonemic awareness which is recognised as important in the development of literacy (Stanovich, 1986), others include aspects of oral language including memory and problem-solving which are seen to be underlying skills for information processing. This relates to the Timeline which shows the prominence of information processing theory in the later 1980s.

In 1976 "less than half the referrals came from the public school system with a quarter of the referrals involving children of pre-school age, and the similarly heavy use of the facility by both private medical and public health services" (Appendix 1. Centre Publications, 1977 No.2 p.4). Between 1986 and 1995, of the 20 randomly selected files studied, 10 came from the public school system and 10 from the private school system. Referrals from preschools had faded. During this period alternative pre-school services such as early intervention and therapy services for pre-school age children were established by Education and other government agencies. This affected the referral rate for preschoolers.

4.1.2 Referees

Table 2 identifies the groups who referred students to the centre over the period studied. The table reflects referrals made by more than one group because it was not possible to identify who were the primary referees so that all groups identified in the files were included in the table.

Parents have continued to be the most consistent referees and have usually referred in combination with schools reflecting parental concerns and advocacy in attempting to negotiate support for their children. The reason for the rise again in referrals from medical doctors and therapists comparative to schools in the later periods is not clear from the data.

Table 2. Frequency Counts, Means and Standard Deviations for Groups Referring Students to the Centre

Groups	Years					Mean (SD)
	1971-75	1976-80	1981-85	1986-90	1991-95	
parents/carers	2	5	5	5	4	4.2 (1.3)
medical doctors	2	2	0	0	2	1.2 (1.09)
schools	3	3	3	6	4	3.4 (1.3)
therapists	1	1	0	0	1	0.6 (0.55)
not recorded	2	1	2	0	1	1.2 (0.84)

The guidelines for the process for referral of students to the centre was not clearly defined, nor changes obvious, during the 25 year period. As stated earlier, parents were the main referees but often in association with schools who needed to have parental permission for any referral not part of the student's expected school service. One difficulty lies with differences in expectations and definitions of learning difficulties between individual parents and between schools. To some extent the question "who initiates referral?" has been answered but the question "why are students referred?" is more problematic because, although the reasons for referral have been quantified by frequency, neither the referees understanding of definitions or degrees of students' difficulties, nor the level of performance within the categories which triggers referral has been identified.

4.2 Assessment

Assessment information from the files was analysed for:

- (1) the types of assessment tools and settings used as well as the date and frequency of their use assists in determining what kinds of behaviours in students were being examined and gives an indication of the paradigms and models that were driving the centre's IEP process.
- (2) determining how much testing was carried out for each student and whether the amount, as well as the type, of testing varied over the 25 year period.

Table 3. displays the extensive range of tools used by the centre over time. Each assessment tool is grouped based on categories drawn from *Assessment* by Ysseldyke and Salvia (1991). Within each category, the assessments were recorded in chronological order to assist observations of their use when compared with the Timeline and to observe trends over time relating to the use of particular assessment tools or types of assessment.

Tests developed after 1971 are identified by their date where possible so that it can be observed how quickly new tests were put into use by the staff. In some cases this was not possible because only subtests were used or the full name of the test was not recorded in the file. The development of the table was difficult because of this inconsistency of test identification in the files. Asterisks in columns indicate that the test was not used in these periods for the student files studied.

Table 3. Frequency of Use of Test Materials

	Years				
	1971-75	1976-80	1981-85	1986-90	1991-95
Psychometric & Personality Tests					
Weschler Intelligence Scale for Children - R	6	0	1	6	9
Binet	2	2	0	0	0
Porteus Maze	2	0	0	0	0
Human Figure Drawing	1	0	0	0	0
Portage Guide	*	1	0	0	0
Draw A Man	*	0	0	0	1
McCarthy Scales of Children's Abilities	*	0	1	0	0
Slosson Intelligence Test	2	1	1	0	0
Progress Assessment Chart of Social Development for the Mildly Handicapped (Gunzberg, 1974)	*	2	0	0	1
The Piers-Harris Children's Self Concept Scale	*	0	1	0	0
Comprehensive Behaviour Rating Scale for Children	*	0	0	0	1
Criterion-Referenced Assessment					
Daniels and Diack	6	0	1	1	0
Gates-McKillop Reading Diagnostic Tests	1	0	0	0	0
New Order Graded Word Reading Test	1	0	0	0	0
Neale Analysis of Reading Ability	1	3	4	1	2
The Quick Test	1	0	0	0	0
ACER Word Identification Test	*	1	0	0	0
Woodcock Reading Mastery Tests - R	*	2	3	7	6
Schonell Reading Test	*	*	1	0	0
Epic Wordcraft Spelling Test	*	*	1	0	0
Primary Mental Abilities for K-1(R) SRA	*	*	2	1	1
Vernon Graded Word Spelling List	*	*	2	1	1
Test of Written Language - 2	*	*	2	1	1
Spellmaster	*	*	*	2	3
Boehm Test of Basic Concepts	*	*	*	2	0
Macquarie University Nonsense Word Test	*	*	*	*	2
Macquarie University Expressive Word Attack	*	*	*	1	2
Running Records of Reading	*	*	*	5	0
Westwood Spelling Test	*	*	0	0	5
Macquarie Probes	*	*	*	1	0
Macquarie University Graded Mathematics Test	*	*	*	3	2
Diagnostic Spelling Test (Vincent & Claydon)	*	*	*	2	0
Diagnostic Reading Kit	*	*	*	*	1
Pupil Rating Scale (Myklehurst, 1971)	1	0	0	0	0
Therapy & Underlying Difficulties					
Harris Tests of Lateral Dominance	2	0	0	0	0
Illinois Test of Psycholinguistic Abilities	2	0	0	0	0
Keystone Visual Survey Tests	4	0	0	0	0
Dyslexia Schedule	2	0	0	0	0
Developmental Test of Visual Perception (Fros)	1	0	0	0	0
Clinical Evaluation of Language Fundamentals	*	*	*	2	3

Therapy & Underlying Diff. (cont'd)	1971-75	1976-80	1981-85	1986-90	1991-95
Test of Language Development-2	*	*	*	*	1
The Token Test for Children	*	*	2	0	0
Test of Problem Solving	*	*	*	2	3
Expressive Language & Verbal Comprehension Scales (Revised Edition)	*	2	2	0	0
Test of Auditory Comprehension of Language	*	*	1	0	0
Peripheral Speech Mechanism Examination	*	*	1	0	0
Entikap Picture Vocabulary Test	*	*	1	0	0
Morphological Inventors	*	*	1	0	0
Brown-Bronx Analysis of Spontaneous Language	*	*	1	0	0
Reynell Developmental Language Scale	*	*	1	0	0
Renfrew Action Picture Test	*	*	1	1	0
Carrow Test for Auditory Comprehension of Language	*	*	1	0	0
Bankson Language Screening Test	*	*	1	1	0
Vocal Control Skills Checklist	*	*	1	0	0
Consonants Checklist	*	*	1	1	0
MUMA Assessment Program	*	*	1	0	0
Spontaneous Language Assessment of Dialogue and Narrative	*	*	1	0	0
Informal Prose Analysis	*	*	*	1	0
Informal Speech/Language Screen	*	*	*	1	0
Token Test for Children	*	*	1	0	0
Discourse Analysis	*	*	*	1	0
Narrative Analysis	*	*	*	1	0
Lindamood Auditory Comprehension Test	*	*	*	8	2
Hundred Pictures Naming Test	*	*	*	0	1
Language Processing Test	*	*	*	*	1
Bruninks-Oseretsky Test of Motor Proficiency	*	*	1	2	2
Phillips Assessment of Handwriting Problems	*	*	*	2	0
Harris Tests of Lateral Dominance	1	0	0	0	0
Bender Visual Motor Gestalt Test	*	*	*	1	0
Kinetic Family Drawing Test	*	*	*	1	0
The House-Tree-Person Test	*	*	*	1	0
Motor-Free Visual Perception Test	*	*	*	1	1
Visual Motor Index	*	*	*	*	1
Clinical Observations	*	*	*	*	2
Centre devised screening checklists	*	*	*	1	3
Draw A Man	*	5	0	0	1

Family & Environment

Medical Reports and family questionnaire	3	6	3	3	6
Hearing and Vision Test results	5	2	1	0	5
Parent Questionnaire	4	1	5	7	4
School Questionnaire	*	*	3	8	5
Parent Interviews	2	7	3	2	6
Student Interviews	1	3	1	2	1
Work Samples from School	*	3	1	3	2
Teacher Interviews	1	1	1	3	1
Psychiatrist Report	1	0	0	0	0
Bene-Anthony Family Relations Test	2	1	0	0	0

Table 3. provides a list of tests used by the centre in chronological order from 1971-1995. Each test was entered in its category in the order it was noted in the file sample and so provides another opportunity to observe the pattern between implementation of tests developed from particular theories and their appearance in the Timeline. The asterisks (*) in the table signify that a particular tests was not developed during that period.

Table 3. demonstrates that the types of assessment tools used reflect the cumulative effect of the paradigms debate in the literature (as demonstrated in the Timeline) because the types of assessment tools used accumulate. The emergence of models of effective teaching in the mid 1980s does not appear to have had an effect on the way in which students are approached by centre staff because, as discussed later, there is no evidence of classroom observations for assessing the student's behaviours and reactions while learning and little assistance in the way of training and development for teachers

4.2.1 Psychometric and Personality Tests

The only test consistently used for this purpose was the *Weschler Intelligence Scale for Children - Revised* (Weschler, 1987). The purposes for using this test were to determine eligibility for service and for centre staff to examine sub-test scores to assist with the diagnosis of strengths and weaknesses. In this way, eligibility was determined by eliminating the possibility of an intellectual disability, rather than using a positive definition of learning difficulties.

The pattern of raw scores reveals the use of testing over time. For example, all other forms of psychometric testing are almost abandoned in favour of the *Weschler Intelligence Scale for Children* in all its versions after 1985, the only exception being the *Comprehensive Behaviour Rating Scale*

for Children (Neeper, Lahey & Frick, 1990) which is used as a measure on a rating scale for behaviours which are presumed to indicate an underlying pathology in personality and socio-emotional development (Ysseldyke & Salvia, 1992 p.326). These kinds of tests are often used to measure the postulated co-morbidity of learning difficulties and behaviour problems.

4.2.2 Criterion-Referenced Assessments

The tests in this category are standardised tests to measure curriculum skill development against population norms. The only curriculum-based assessments consistently used over the 25 year period were *The Woodcock Reading Mastery Tests - Revised* (Woodcock, 1987) and *Keymath-Revised* (Connelly, 1988). Neither of these assessments were available during the early 1970s but both were increasingly used by the centre with during the period studied. The reading tests designed by Woodcock became the intended standard used by the centre for pre- and post-testing of program efficacy during the late 1980s and 1991-95. Ysseldyke and Salvia (1992) rate the *Woodcock Reading Mastery Tests-Revised* as having validity but no data on test-re-test reliability (*ibid.* p.411). They further state "that the use of norm-referenced tests is not valid for teaching unless it matches the instruction already provided in the educational setting" (p.339). Other criterion-referenced assessments were infrequently used.

There is no indication of any forms of informal observations of student's academic skills in the files sampled. All tests recorded in the files consisted of norm-referenced tests. The files studied do not record observed learning and coping behaviours of the students in class situations with school curriculum. This group of tests does not fit the models of effective teaching that emerged from the mid-1980s (Rosenshine, 1986, Mastropieri & Scruggs, 1994) or with collaborative consultation which has a

within class and classroom teacher focus. Norm-referenced tests relate more closely to behavioural theory in that they assist in task analysis skills and some provide materials to move on step by step through programs to achieve mastery levels of accuracy in learning e.g. Macquarie University Special Education Centre Graded Mathematics Tests. Other norm-referenced tests such as the WRMT-R are not necessarily ecologically valid because they may not match the teaching and content already experienced by the student.

4.2.3 Therapy and Underlying Difficulties

This group of tests contained by far the greatest number of assessment tools and were used mostly by the speech pathologist or occupational therapist. No test showed consistent use across the 25 year span.

Where information about the the date of publication of these tests is available it suggests that the increase in testing during the mid to late 1980s and into the 1990s may be due to the increase in tests first published during this period e.g. *The Goldman-Fristoe Test of Articulation (1986)*, *Test of Language Development 2 (1982)*. The larger number of therapy and underlying difficulties assessments and the increasing frequency of their use indicates that the search for underlying difficulties and deficits within students remains up to the end of the 25 year period studied.

4.2.4 Observations of the Student's Interactions with the Learning Environment

There was intermittent use of medical and family information across the 25 year span. However, there was no record of observation of students responses, application or behaviours in their different settings such as classroom, playground, or home.

There was an increase in responses over time to a school questionnaire which was designed by centre staff as part of the referral process (Appendix 3.). The information requested on the school questionnaire gave schools and parents some opportunity to provide information in note form about what they perceived as the student's needs and what approaches the school had already tried. However, this information did not include observations by centre staff of the students in class, classroom management styles or teachers' strategies used for adapting the curriculum to the student's needs.

Little analysis of the referred student's instructional environment was entered in the files studied. However, critical variables which affect learning behaviour include time on task, the level and amount of content selected, teacher explanations and questioning, guided and independent practice and explicit feedback (Mastropieri & Scruggs, 1994 p.31). The models of the effective teaching paradigm appear to be less emphasised in the implementation of the IEP process compared to other paradigms and models drawn from the period studied.

4.2.5 Amount of Assessment Per Student

Table 4 displays a comparison between the number of tests given to each student over time. The steady increase in the number and range of assessments used for individual students is related to the trend to administer more therapy tests (see Table 3) Table 3. may indicate that a multidisciplinary approach to students with learning difficulties may lead to increasing numbers of assessment items. However, the increase in the number of tests administered may also be an outcome of the team's sense of accountability in that the large number of tests means that all potential problems with the student have been investigated.

Table 4.

Total Numbers of Assessments Per Student with Means and Ranges

Years				
1971-75	1976-80	1981-85	1986-90	1991-95
11	9	11	3	12
9	6	26	11	11
7	5	5	19	15
3	2	1	6	5
5	5	2	15	7
3	6	7	10	12
9	6	3	11	8
11	8	3	2	16
5	5	5	11	15
3	9	5	11	19
				12
Mean	Mean	Mean	Mean	Mean
6.6	6.1	6.8	9.9	11.7
Range:	Range	Range	Range	Range
3 and 11	2 and 9	1 and 26	2 and 19	7 and 19

Note. The table shows raw scores, average number of assessment tools used per student and the range of the number of tests used for each of the 5 year periods.

Many of the tests given to students relate to the psychological and the information processing paradigms. This highlights the definitional problems of students with learning difficulties which in turn affects perceptions of the purpose of the IEP process and consequent allocation of resources. When related to schools and school systems, it is assumed that the result of the IEP process would be a curriculum focused program that could be delivered in the student's school by accessing whatever support is

available within that particular school to help the plan. While some withdrawal may be appropriate for very specific teaching, the general expectation is that students with learning difficulties will access regular curriculum with some modification. When programs are introduced that require divergence from the regular curriculum more support and resources are required. The effectiveness of some of this teaching has been questioned (Arter & Jenkins, 1979; Harnmill, 1990).

4.2.6 Approaches to Assessment by the Centre Staff

When the information about types of assessments is examined together with the *Frequency of Use of Assessment Tools* table it shows that the increase in the number of assessments per student is not the result of an accumulation of a set of assessment materials, or an assessment "battery" over time or through experience. It may reflect the constant publication of new tests and dissatisfaction with use of the older ones in terms of identifying student needs or assisting in deciding what to teach.

It appears that tests have been used as they became published and available but that previous tests have been discarded. It is acknowledged that any test has a set lifetime but many of the tests have been used once or twice or infrequently. The use of psychoeducational tests to ensure eligibility for service by the centre is constant but the only area of assessment where change occurred most markedly was "Therapy and Underlying Difficulties". This area contains the largest number of assessment tools used, many of them only once during one time period. These tests were mainly used by speech and occupational therapists associated with the centre.

A diagnostic approach was strongly held over much of the time period as evidenced by this quote from a file:

I believe teams should spend as much time on problem definition as they do on the search for appropriate treatment and therapy (Centre Publications, 1983 p.6).

Later, two other staff members wrote that the centre was comprised of a multidisciplinary team whose responsibilities encompass diagnosis and remediation of specific learning difficulties in pupils identified as being at risk (Centre Publications, 1985 p.2).

4.3 Planning

The planning phase of the IEP process includes putting together the information about student's needs and from this deciding what to teach, who is responsible for that teaching and how the teaching is to be carried out. Part of the planning phase of the IEP is to meet with all others involved at an IEP meeting to establish goals for the student, allocate responsibility for the delivery of the program and decide how to monitor progress and make decisions about program change. The centre staff held "case conferences" following the completion of assessment to discuss what might have been discovered from the assessment period and whether any further follow up was needed to confirm or further investigate particular issues with the student's performance. From these collegial discussions recommendations for programs were developed. A staff member (usually termed the "case manager") wrote a report on the student, including an outline of the student's needs together with recommendations for the kind of content and programs that could be set in place.

Table 5. will be discussed together with Table 6. to avoid repetition and to make comparison between the two easier. For this study, academic

Table 5. Frequency of Reported Needs of Students After Assessments by Years With Means and Standard Deviations

Identified Needs	Years					Mean (SD)
	1971-75	1976-80	1981-85	1985-90	1991-95	
motivation/behavioural	8	6	0	4	3	4.2 (3.0)
perceptual or sensory motor	4	1	0	4	6	3 (2.4)
parental management	5	5	0	3	1	2.8 (2.3)
genetic or intellectual disability	2	2	0	0	0	0.8 (1.1)
Academic: literacy	3	3	3	8	4	4.2 (2.2)
mathematics	0	1	0	1	2	0.8 (0.8)
Gross motor	0	0	1	2	4	1.2 (1.7)
Speech/language/auditory memory	2	5	2	4	7	4.0 (2.1)
Memory (based on WISC coding)	0	0	1	3	1	0.8 (1.2)
Medical (including sensory)	2	3	3	2	0	2.0 (1.2)
Thinking (metacognition)	0	0	0	5	3	1.6 (2.3)
Discrepancy between IQ score and performance	0	0	0	1	1	0.4 (0.5)
ADHD/ADD	0	0	0	0	1	0.2

Note. The data were developed from the needs recorded in the files, not from a potential list of needs derived from the literature. As each need was identified it was registered in the "Needs" column so that the needs are listed in chronological order of identification. The time period columns then identify the constancy of their nomination as needs. Means and standard deviations in the final columns provide a comparison of frequency between the needs in the sample of 50 files.

Table 6. Program Recommendations

Recommendations	Years					Means (SD)
	1971-75	1976-80	1981-85	1986-90	1991-95	
medical/sensory difficulties	1	1	2	1	1	1.0 (0.4)
parenting problem	2	5	1	1	1	2.0 (1.7)
academic	4	3	5	6	8	5.2 (1.9)
social skills program	2	0	1	0	1	0.8 (0.8)
speech/language program	2	3	4	3	3	3.0 (0.7)
segregated placement	1	3	0	0	1	0.5 (1.2)
behaviour/emotional program	2	6	1	3	1	2.6 (1.9)
motor skills/perceptual-motor skills	1	1	3	1	7	2.6 (2.6)
special interests/leisure	0	1	0	0	0	0.2 (0.4)
cognitive strategies	0	1	1	2	4	2.0 (1.5)
task analysis (academic)	1	1	0	0	0	0.2 (0.55)
memory training	0	0	1	2	1	0.8 (0.84)
auditory skills	0	0	0	2	0	0.4 (0.89)
learning styles	0	0	0	2	0	0.4 (0.89)

Note: This table was developed in the same way as Table 5 and provides frequency of recommendations, opportunity to observe the constancy of particular recommendations and means and standard deviations for comparison between types of recommendations.

programs were identified in the files as programs directly assisting with any school curriculum area. They included focus on, for example, phonemic awareness skills in preparation for skill development in reading, specific skill

development in writing, a particular approach to teaching such as The Language Experience Approach. Any programming attention paid to any element of the curriculum or skills required by the curriculum was counted as "academic". Frequency for this table was determined by a mention of one or other of the areas of need within the report on the student. Because students were usually reported as having more than one area of need, each need is reflected in the chart. For some students there was no valid way of identifying from the files which was the dominant area of need.

Recommendations usually consisted of a written report which was forwarded to stakeholders, sometimes accompanied by copies of program material. The report was followed by a meeting with other stakeholders so that an individual education plan for the student could be developed. The frequency of these meetings compared to only a written report being posted could not be recorded because entries in the files did not always indicate which approach was taken. The lack of minutes of the planning meetings in the files studied also indicates that the centre staff did not plan on close monitoring of the implementation of the program.

4.3.1 Planning and Timeline Differences

This section examines thinking at the centre about the reasons for behaviour in relation to the Timeline (Fig.2). by relating information from the files and publications to the time period in which they were made.

4.3.1.1 Student Motivation and Behaviour. Figure 3. gives an indication of the thinking about the causes of poor learning behaviours in students during the period when identification of these problems was high (60-80% of the files studied). These quotes were the only ones in the sampled student files directly relating to behaviour and motivation. There is a strong focus on

family causes with the exception of the 1973 comment poor behaviour was an outcome of poor academic progress. However, it is not clear from this file whether the student was perceived as having a locus of control difficulty within school or, like the other comments, behaviour problems were related to family factors. The most frequent occurrence of recommendations for changes in parents' management practices was during the 1970s when there was a focus on family and family therapy. Relevant quotes taken from files are presented in Figure 4. These quotes demonstrate the consideration given to outside forces affecting learning behaviours and the accompanying certainty of the psychological diagnoses proposed. However, classroom teaching is aimed at changing the nature behaviour through learning (Wolery, Bailey & Sugai, 1988).

During the 1976-80 period 40% of the recommendations for a behavioural program focused on a behaviourist program with task analysis and daily data sheets. This is consistent with the behaviourist paradigm as displayed in the Timeline. There is a decrease in recommendations for parenting programs and parent counselling after 1981.

Interestingly, the identification of social skills difficulties in students did not lead to any specific programming recommendations in the sample studied. The reason for this is not clear but one possibility is that staff may have felt that an emphasis on speech and language programs (including thinking and problem-solving skills) was appropriate for this area of difficulty.

A diagnosis of attention deficit disorder/attention deficit hyperactive disorder is sometimes applied to students identified as not achieving at school. Estimates suggest that up to 30% of students with learning difficulties in North America also have attention deficit hyperactive disorder (Algozzine, 1991). Difficulties with attention are first mentioned in a 1981

file which has the following entry: "prescribed methyphenidate 5mgs. 3 times per day for attention with consideration to switch to dexamphetamine" . The diagnosis and prescribing for this student had been by another agency prior to referral to the centre. Notes from a student file dated 1981 stated that "lack of attention is posited as a possible reason.....Conclusion: significant delay, fluctuating attention". In 1983 another student is noted as having "lack of interest in schoolwork, poor attention span". These comments do not necessarily relate to presumption of Attention Deficit Disorder as time on task has often been an area to address for students with special needs.

Figure 3 . Comments From Student Files Which Demonstrate Trends In The Diagnosis of Behaviour Difficulties Between 1974 and 1986

- 1972 - it was concluded that the student's genetic-constitutional impairment and the conflicts and anguish of family history contributed to the his behaviour difficulties.
- 1973 - a student's poor classroom behaviour was identified as an outcome of lack of success in learning.
- 1974 - an 11 year old student's behaviour was described as (his) *functioning in many ways parallel(s) the motor-dominated preschooler who lacks group behaviour skills* and, the report continued, (he has) *labile emotional reactions, severely limited persistence, possible sensory impairment and suspect early developmental history suggest a limited prognosis for the impending demands of adolescence.*
- 1977 - a student was referred for behaviour difficulties. It was considered that the family's frequent shifting of locations led to the child being unsure of her environment which led to fear of a number of things such as loud noises, the dark, and things touching her head.
- 1980 - a student with behaviour problems was diagnosed as having a negative view of himself based on results of the *Family Relations Test* (Bene & Anthony, 1957)
- 1986 - a 7 year old boy was referred for behaviour problems perceived by the school as the result of poor parenting. Family counselling was recommended.

Figure 4 . Quotes from centre reports on individual students discussing the effect of family members on the student' s behaviours and learning

- *overprotection by mother, marriage appears to exist in name only, father involves son in masculine activities, mother is vague, straying off points, unable to relate to the situation (1971).*
- *his mother's overprotectiveness will now be resolved because she is now aware of the problem and the school can master this problem (1971).*
- *leaving aside constitutional factors, there are two possibilities (a) that mother continues to need a baby and (b) that mother needs to have a handicapped child to solve her anguish over the dead and handicapped children with which she could not help her as a child (1972)*
- *psychologist reports that his mother be channelled into other interests and activities outside the home and outside this relationship (1972).*
- *the mother may encourage the infantile behaviour because she needs to keep a baby and that in any case the relationship is such at this time that any concerted attempt to stimulate (student) by means of a specific speech and language stimulatory programme might be damaging to mother and hence antitherapeutic (1972).*
- *family lulled into complacency after court crisis, no change occurred basically. The father is apparently unable to participate in new ideas, reverts to corporal punishment. The mother's feelings martyred by (student's) ingratitude. (Student) deprived of peer fun (1977).*
- *doctor indicates that mother has trouble coping, very young, single, possible prostitution, gynaecological problems (1978).*

Poor behaviour has been closely related to academic success from the earliest identifications of students with learning difficulties by Goldstein who noted distractibility, hyperactivity, background confusions and extreme emotional lability in the patients he studied during World War I (Torgesen,

1991). Estimates suggest that at least 30% of LD students also have Attention Deficit Hyperactive Disorder (Conte, 1991).

The decline in reporting of behaviour difficulties observed in the student files studied does not concur with the literature which relates poor behaviour both as a cause of learning difficulties and as an outcome of failure to learn. It may be that appropriate learning behaviour management has been subsumed by the increase in metacognitive needs reported in the files during 1991-95 and concurrent reporting of speech/language/auditory memory needs. The reporting of these needs concurs with the influence of the information-processing paradigm as reflected in the Timeline.

Reports on 3 students in the 1985-90 period and 1 student in the 1991-95 period continue to suggest the need for parents to interact differently with their child. However, these reports also include motivation for learning and involve aspects of "homework" or follow up at home of practices recommended to be implemented at school. There is no record in that file that this process was carried out between home and school, indicating that follow-up and monitoring by the centre was not in place.

4.3.1.2 Discrepancy Between Aptitude and Performance During the 1985-1995 period two students were identified as having a discrepancy between aptitude and their performance e.g. "in mental abilities (Weschler Intelligence Scale for Children - Revised, Weschler, 1987) he scored in the high average range". "Reading tests (Woodcocks Reading Mastery Tests - Revised Woodcock, 1987)show a significant discrepancy between reading and measured aptitude". These 2 files show no further investigation of this observation other than recommendations for a vision and hearing check, a focus on particular isolated skills in literacy and numeracy and an assessment for metalinguistics.

The discrepancy theory relates to directly to approaches to the definition of learning difficulties/disabilities and was used in the *Federal Register* (United States of America, 1977) to identify students who have a specific learning disability as "a child has a severe discrepancy between achievement and intellectual ability" (Algozzine, 1991 p.42). Once the "discrepancy" between measured achievement and actual performance is identified, writers propose a number of causes (e.g. underlying linguistic deficit or processing weaknesses) but research has been inconclusive (Willows, 1991). The problems of definition of learning disabilities are exemplified by the inconclusive results of research.

4.3.1.3 Memory Deficits Reported student needs in this area by centre staff were usually based on poor student performance in the Digit Span Subtest of the Weschler Intelligence Scale for Children - Revised and later on the use of oral language assessments. Since 1985, language assessment reported difficulties with auditory memory, short term memory problems, visual memory, sequential memory, retention and recall of information and memory for numbers and mathematical items. This relates to the information processing paradigm and associated models demonstrated in the Timeline. Memory training is recommended in 10-20% of the files studied from 1981-1995. The Timeline indicates that memory as conceptualised in information-processing theories and models is related to the beginning of the 1980s. The reference to memory made in the 1981-85 report was for "auditory memory" practice based on a speech pathology report. The recommendations in two student files for 1986-90 were presented in the following way:

- "short-term memory problem (both visual and auditory) means that strategies such as the Neurological Impress Method should be used".
-"auditory sequencing and memory exercises"...."increase retention and recall of information using memory games and word

games and to learning through visual and tactile kinesthetic techniques".

Recommendations for the development of auditory skills are made for these two students.

4.3.1.4 Academic Needs As expected, literacy needs consistently scored the highest level for all recommendations. The unexpected drop in academic needs during the 1990s was replaced by an increase (70%) of students with reported language needs, some of which are related to phonemic awareness, a necessary set of understandings for learning literacy (Clay, 1987b; Adams, 1990). One student's reading difficulties were explained by his "poor performance on the Digit Span subtest of the Weschler Intelligence Scale for Children explains his difficulty with word attack skills" (1989 file). Table 2. Reasons For Referral shows that 90% of students during the 1990s were referred for academic reasons and 60% for speech reasons. The effect of the multidisciplinary team may have been to subsume the information processing paradigm into the language area through suggested programs for memory and processing problems.

Mathematics needs were not frequently identified and mathematics assessments were infrequently used during the 25 year period. There was an increase after 1985 which may be associated with the production of the *Macquarie University Graded Mathematics Assessment* which gave access to an alternative means of assessing this curriculum area than had been previously available.

4.3.1.5 Strategies Strategies for students to learn (cognitive strategies) are recommended with increasing frequency from the 1976-80 period on reaching 40% of students in 1991-95. Cognitive strategy teaching was introduced in the late 1970s (Appendix 1.) and was identified from the files

where any reference was made to teaching the "how" of completing learning tasks.

4.3.1.6 Task Analysis Analysis of academic tasks to break them into simple, step-by-step antecedents and consequences is part of behaviourist theory in that it is the teacher who has management and control of all events relating to learning (Wolery, Bailey & Sugai, 1988). The only two references to task analysis occur in the 1971-80 period at the time behaviourist theory features in the Timeline.

4.3.1.7 Learning Styles Recommendations for using different approaches to learning by tapping into the presumed appropriate learning style for individual students is identified by reference in the files to "visual and kinaesthetic techniques". One file recommended "develop vocabulary and spelling skills by a multi-sensory approach using simultaneous auditory, visual and tactile-kinaesthetic cues". This approach to learning also fits with information-processing theory and demonstrates that centre staff were continuing to keep abreast paradigms and models in the literature. Further comments relate to information processing theory by way of statements about "encoding" of words which is explained in information-processing literature as an outcome of memory search (Swanson & Cooney, 1991).

4.3.1.8 Perceptual and/or Sensory Motor Needs There has been an increase over the 25 year period in the number of students for whom perceptual and motor skills training has been recommended. It is possible that these recommendations are a result of the availability of a paediatric occupational therapist and of the increase in the range of assessment tools used over the period studied. It may also be the result of continued adherence to the belief that underlying processing skills such as perceptual skills needed to be improved for LD students, as noted in the Timeline. The moderate rating of these needs indicates a persistent adherence to the

diagnostic-prescriptive teaching/student deficit paradigm. Despite criticism of the effectiveness of diagnosing and teaching to underlying difficulties (Colarusso, 1987; Arter & Jenkins, 1979), the identification of these needs increased to 50% of the files studied in 1985-90 and 60% of the files studied in 1990-95. Yet, Willows (1991 p.18) states:

establishing whether a weakness in any particular processing ability (visual-perceptual or visual-memory) is causal in reading acquisition failure is a difficult problem. Nearly all of the research examining the strengths and weaknesses of children who differ in reading abilities is correlational in nature. It can tell us which factors are related to levels of reading ability, but cannot tell us why.

Willows (p.188) concludes, that "the potential role of visual processing weaknesses in written language problems is not well enough understood to draw confident conclusions about practice."

Program recommendations suggested by centre staff following occupational therapy assessments include programs and strategies for gross motor skills, handwriting difficulties, deep massaging, bilateral coordination, fine motor skills, midline difficulties, posture, poor body stability, low body tone. There is no discussion in the centre publications materials studied about theory or practice in visual-perceptual skills or sensory-motor difficulties. It is not clear from these recommendations whether the expectation is for school or home to carry out the activities.

4.3.1.9 Speech and Language Identification of students' needs for language and speech programs for students appears throughout the 25 year period with fluctuating percentages but with a high of 70% of students in 1991-95. As discussed in the earlier section on academic needs, language assessments relate to the information processing paradigm. For example, the needs identified as "thinking" deficits in student files came largely from speech pathology assessments. Comments related to the perceived needs

Figure 5. Comments from Student Files About Students' Language Needs

During the Period 1986-1995 When Reporting for Language Needs

Increased

- 1986- does not understand phonics is a tool to read new words....communicative skills indicate that the potential for experiencing difficulty in academic skill achievements could increase with greater demands on language competency
- 1987 - processing problems which underlies written language problems being experienced. Still developing skill in tracking and locating sound changes within a sequence.
- 1989 - written competence low especially in phonics and vocabulary skills, auditory modality is poor, sequencing and memory are poor. Auditory discriminations is very good. Poor thinking/explaining skills affect his performance in the higher level cognitive-linguistic requirements of school beyond grades 3 and 4.
- 1989 - poor understanding of oral presentation of mathematics problems (may have trouble understanding the meaning of the spoken words, attending to information presented orally or remembering the information). Superior performance in tasks for perceptual skills compared with those using verbal skills...auditory perceptual difficulties.
- 1989 - shows competency in language comprehension, expressive language but showed some signs of dysfluency (initial sound, syllable, whole word, part word and phrase recognition). Does have difficulty changing strategies when a new factor is introduced (difficulty in "determining solutions and avoiding problems".
- 1990 - Lindamood Auditory Conceptualisation Test indicates problems with auditory modes
- 1991 - mental abilities testing shows superior performance over verbal skills.
- 1992 - language areas of vocabulary and comprehension also relatively weak.
- Test of Problem Solving, Test of Language Development -2, Language Processing Test revealed language disorder
- Some difficulties with attention and organisation, attending to instructions. Some difficulty with antonyms and synonyms, low spelling score - therefore some difficulties with certain aspects of language perception. Some of his behaviour problems may be a function of these difficulties.
- 1994 - moderate language disorder (poor receptive, poor reasoning skills, poor articulation), impulsiveness and inattentiveness.
- 1994 - Language learning difficulty including social problem solving, phonemic awareness difficulties, difficulty decoding and encoding words.
- 1994 - difficulties in phonemic awareness, auditory analysis and word attack skills.

for increase in thinking skills in students during the period 1986-1990 are listed in Figure 5. below. The comments indicate a mixture of focus on

phonemic awareness and an analysis of language processing problems such as auditory modality and poor thinking/explaining skills.

The relationship between language difficulties and literacy has been documented in the literature. Mann (1991) writes that perhaps the best approach for all students is to promote their phonemic awareness through the use of word games and rhymes from the earliest time possible. However, it is more difficult to focus on language processing problems unless the intention is to work with a commercial program or to use explicit individual instruction techniques. The use of language assessment tools at the Centre seems a reflection of a historical development of paradigms and models for language. From the end of the 1970s language became to be perceived as a cross-disciplinary field because language was thought of as a code representing thinking and ideas (Bloom & Lahey, 1978; Ysseldyke & Salvia, 1991). Mann (1991) claimed that cognitive processes such as memory-processing problems contribute to children's difficulties with reading.

A requirement of the IEP is that it be practical and sustainable in the setting for which it is designed. Given that the teaching cycle includes teachers implementing ongoing monitoring of student progress to adjust teaching content and strategies, it is critical that teachers understand and feel comfortable with implementing program materials and strategies. Pressure in terms of time, extra work and requirements for modification to curriculum impede teacher acceptance. If programs are recommended that divert from mainstream content or delivery sustainable effort may not be possible. An examination of specific commercial programs and general teaching and classroom management strategies recommended by the centre helps to highlight what was required of teachers is discussed in the next section.

4.4 Program Types

Presumably, the focus of the individual education program is the school setting but where different agencies are involved such as health and community services, the focus widens. This can create problems in determining what should be given priority, by whom and in what setting. The delivery of an individual program becomes more complex and more time is required for communication between those involved, for clarification of the goals of the program, communicating student responses and agreeing upon changes to the program.

The results shown in Table 6. contain a different set of categories for recommendations than used for Table 5. because there was variation in emphasis on "needs" recorded in the file and emphasis on "program recommendations" made in the reports. In essence, the recommendations remain within the same areas as the reported needs but some elements e.g. task analysis, cognitive strategies, memory training, learning styles, auditory skills, special interests/leisure, have been listed on their own so that observations can be made of the kinds of requirements for teaching students with learning difficulties that was emphasised by the centre. This list also assists with relating recommendations to the paradigms in the Timeline. Medical problems were reported mostly as a recommendation for a medical appointment rather than a program.

4.4.1 Types of Programs Recommended

Table 7 makes a comparison between recommendations for specific commercial programs to be used for supporting the student's learning with more general outlines of strategies for teachers to use in class. "Strategies" identified for this data include such recommendations occurring in the files as "irregular words to be learnt by sight", "during reading and writing for

regular words which require decoding or encoding, stress letter by letter correspondence". Commercial programs include such programs as *Macquarie University Special Education Centre Reading Tutor Program*, *Visualising and Verbalising*, and *Salisbury Spelling List*.

The second type of program, "Strategies", were identified as more generalised instructions e.g. "develop strategies to compensate for poor comprehension and auditory memory", "particular vowels to be revised and associated with a short word", or "that, when reading or writing, regular words especially be decoded or encoded respectively, stressing letter by letter correspondence". Other generally recognised strategies such as the Neurological Impress Method were included in the strategies category.

Table 7. Types of Programs Recommended for Students by the Centre

Types of Programs	Years					Means(SD)
	1971-75	1976-80	1981-85	1986-90	1991-95	
Specific program materials	1	4	3	4	9	4.2 (2.9)
Outline of strategies	4	5	6	6	6	5.4 (0.9)

For example, in 1988 a student (aged 9 years) was referred for communication and sensory-motor difficulties. He was assessed in 1985 and again in 1986 with occupational therapy assessments, parent and school questionnaires, *Weschler Intelligence Scale for Children*, *Bender Visual Motor Gestalt Test*, *Kinetic Family Drawing Test* and the *House-Tree-*

Person Test. For this student, inattention was noted and in-class strategies were given ("manage his attentiveness through cueing before the task is being presented and present tasks in small blocks"). This last statement is clearly derived from effective teaching strategies and relevant for classroom situations. However, there is no indication from the file that these strategies were discussed with the class teacher or modelled with the student to demonstrate the effectiveness of such strategies

The increase in recommendations for specific commercial programs does not fit with the Timeline. Currently, the educational literature focuses on strategies for information processing, effective teaching and collaborative consultation. Some commercially developed programs teach to underlying deficits while specific spelling lists and tutoring programs consist of sequential skill programs to be delivered in a particular order. Many of these types of programs counteract teacher effectiveness because they select what to teach in sequence rather than allowing for teacher observation and judgement.

It would appear that, until the mid 1980s, there was a juxtaposition of the deficit and remediation theory with the behaviourist approach to teaching. During this period (1971-85) the program recommendations for the sample studied included 36% academic, 27% speech/language, 27% behaviour, 24% parenting assistance, 15% motor skills/perceptual problems. There is a range of recommendations during this time period but considering that students were referred because of poor progress in learning in school, it is interesting to note that only 36% of the sampled population in this period were recommended for a focus on academic programs. During this time span reports from the centre outlined diagnostic/deficit conclusions about students and recommended further follow-up testing with other agencies such as health or placement in another educational setting.

However, with many of the files studied during this period there is little evidence of what happened after the recommendations were made. Of the 25 files studied between 1971- 1982, 10 had some form of follow-up with home or school to monitor progress but the follow-up was not consistent in terms of regularly set visits by centre personnel to monitor programs or discussion of monitoring of measureable improvements in students' learning or behaviour. The remaining 15 files had no entries after recommendations following assessment.

4.5 The Teaching Cycle

The culmination of the IEP process is the teaching cycle. This is a continuous procedure of:

- selecting the type and content of the skill to be taught,
- introducing the new material,
- monitoring how the student learns,
- reviewing the student's progress so that further planning can be made to reteach, to teach differently or to move on to further decision-making about what to teach next.

This process can only be effectively implemented in school situations if the teacher understands and endorses the program. Teacher's concerns and anxieties about IEPs can impede this critical stage of the process (Piersel & Gutkin, 1983; Smith, 1990). The ultimate aim of the IEP process is improved student learning. The process is a failure, and a burden on all involved, if this does not occur. Measures that can inform about program effectiveness are statements of satisfaction from those involved with the program and measured improved outcomes for the student.

4.5.1 Effectiveness of Programs

An examination of the monitoring of the programs developed for each student in the files studied was made by recording for each file the frequency and type of monitoring of student progress by centre staff involved in developing the programs.

4.5.1.1 Working With Schools Prior to 1974, the centre was a local initiative and did not have support from school systems. During those initial 4 years its method of operation was a more clinical one but during 1974 it applied to the Australian Schools Commission for a grant and the Department of Education placed a full-time resource teacher at the centre (Centre Publication No.1 p.2). This should be presumed as the reason for no follow-up communication before 1974. The same publication continues "there was no direct means of ensuring that recommendations were feasible, nor could we require follow-up data from referral sources" (ibid. p.3). From this time on the centre's role was to assist students in schools.

A comment in a 1977 file reflects procedures for collaboration by the centre with schools at that time:

(the centre resource teacher) to visit the school and assist with the establishment of this program, consult on techniques and monitoring of the program if a formal request is made to the Inspector of Schools... and the Director (of the centre).

Files studied for the same period record that there was little follow-up contact with schools at this time and contact with parents was when contracts and data-based recording was put in place for home behaviour management programs or family counselling sessions were arranged. The student file sample data indicates that this kind of interaction was not usual

procedure at this time and also indicates that the centre was not perceived as part of any school system during this period.

During 1976-80 follow-up was made for 8 of the 10 files studied. It was variable in frequency and type. A similar pattern is observed in the 1981-85 period, although here only 6 out of the 10 files studied received any follow up in the form of direct intervention by centre personnel, either in the form of collaboration with teaching staff or by further monitoring and readjustment of the program. For both these last periods the type of follow-up service is variable in terms of intensity.

During the 1980s staff were employed by the educational systems within the area. At this time parent and other agency input (particularly those therapists employed by the health system) were still consulted and involved but an emphasis started shifting towards schools and classrooms and program recommendations were more focused on curriculum. In 1987 the NSW Department of Education re-issued a new policy for the teaching of students with learning difficulties which included the provision of support teachers learning difficulties in schools. This could have provided a focus for the centre in terms of service delivery and a contact person within schools who would most likely also be involved in an individual education program.

The two last periods 1986-90 and 1991-95 show an increase in intensity in follow-up contact but it still remains variable, indicating that no procedure was established for continuing monitoring of student progress or other involvement by the centre. Neither the Files Information documents nor the Centre Publications documents report any developed procedures for follow-up.

Figure 6 shows that, for the sample of files studied, there was no evidence of a coherent plan developed after 1974 for follow-up for students with schools after recommendations were made. The data in the student

Figure 6. Follow-up After Reports

Year	File	Number of Contacts	Year	File	Number of Contacts
71-75	1	0	86-90	31	5 (in 6 mths)
	2	0		32	1 (6 mths later)
	3	0		33	12(over 29 mths)
	4	0		34	5 (in 5 mths)
	5	0		35	7 (in 14 mths)
	6	0		36	6 (in 3 mths)
	7	0		37	3 (in 3 mths)
	8	0		38	0
	9	0		39	5 (in 2 mths)
	10	0		40	0
76-80	11	1	91-95	41	8 (in 26 mths)
	12	weekly (for 2 mths)		42	2(in 2 mths -parents**)
	13	1(a year later)		43	8(in 3 mths - SCL#)
	14	3		44	0
	15	2		45	1(speech post-test)
	16	1 (medical report received)		46	4(in 12 mths)
	17	5 (in 10 mths)		47	2(in 2 mths)
	18	5 (in 1 mth)		48	9(in 25 mths)
	19	0 (out of area)		49	11(in 17mths)
	20	0 (offer not taken up)		50	9(in 15 mths)
81-85	21	1 (8 mths later)			
	22	1(6 mths later) 1 (9 mths later)			
	23	5(weekly)1(1mth later)			
	24	0			
	25	0			
	26	6 (in 4 mths)			
	27	4 (in 1 mth)			
	28	0			
	29	(in 2 wks), 12(6 mths later weekly)			
	30	0*			

Note. This figure records the number of contacts by telephone or by school visits between the centre staff and schools following the planning meetings for developing programs for the students. The summary is based on records on the action summary sheet which record contacts by telephone or visits to schools.

files showed a mix of telephone calls and personal visits but there was no pattern to either mode. The variation in service between students is great and indicates that there was no regular participation in collaborative consultation or teacher training and development. There appears to be no particular plan or process in place for monitoring program effectiveness.

4.5.1.2 Measuring the Effectiveness of Programs The files were also examined for evidence of using some form of consistent measure of the effectiveness of the programs implemented. Anecdotal comments in the files noted some class teachers reports of student improvements in particular areas while others reported progress in the number of words read or improvement in attitude.

Examination of the files sampled revealed that behaviourist data sheets for probing and monitoring student progress were requested from 1976 until the early 1980s for 2 students' programs. The discussion of behaviourist approaches by centre staff in the Centre Publications documents indicate that they were aware of developments in this theory at the same time that it appears in the *Timeline*.

There were no formalised approaches by centre staff to measuring student performance in the files studied other than the occasional (4 times) use of the *Woodcocks Reading Mastery Tests (WRMT)* shown in Table 8. Schools may have taken their own measurements but these are not shown in the files.

It is not clear how the measures from both pre- and post-tests using the WRMT-R (Fig. 7) relate to notions of progress - what jump in percentile rank is significant?, how far must a student move up the percentile rank score to be judged independent enough to cope without support?, are differences in performance between the subtests taken into account? There

**Figure 7. Pre- and Post-Testing Using the Woodcock Reading
Mastery Tests -Revised for the Only 4 Files Showing This Procedure**

Student 1, 1995

Subtests:	Score:	18mths later
Word Identification	PR 1	PR 12
Word Attack	PR 27	
Word Comprehension	PR 2	
Passage Comprehension	PR 1	PR 21

Student 2, 1994

Subtests:	Score	12 months later
Word Identification	PR 7	PR 24
Word Attack	PR 19	PR 45
Word Comprehension	PR 16	PR 23
Passage Comprehension	PR 26	PR 29

Student 3, 1990

Subtests:	Score	5 months later
Word Identification	PR 22	PR 27
Word Attack	PR 18	PR 39
Word Comprehension	PR 20	PR 33
Passage Comprehension	PR 15	PR 42

Student 4, 1989

Subtests	Score	14 months later
Word Identification	AE 7.10	AE 8.7
Word Attack	AE 6.11	AE 7.5
Word Comprehension	AE 10.0	AE 9.1
Passage Comprehension	AE 8.2	AE 9.5

is no indication of the criteria for reaching these conclusions, nor is there any detectable pattern in those files. The times between testing and retesting vary, they do not consistently record data as either percentile ranks or age equivalents.

It is difficult to interpret the reasons for discontinuing each student from the pre- and post-test data in Figure 7 because the times for retesting varies between the students and there was no analysis of the pre- and post-test data to give substance to decisions made about progress. For example, there were no comments on the results for Student 2 showing an increase in word comprehension percentile rank from 16-23 over 12 months. Was this increase a result of intervention or was it an expected increase? The case manager writes that "he has made gains in the areas of word and passage comprehension. However, he continues to have difficulties in the basic skills areas of word identification and word attack skills". Reports on progress for the other 3 students' results recorded in this table do not relate their progress in any more specific way to intervention or to decisions to cease assistance from the centre. There is no indication of how much progress by students in each subtest is satisfactory so it would seem that the decision for withdrawal of support is not solely based on measurement of student outcomes.

4.5.2 Advising and Developing Teacher Skills

At a conference organised by the Centre in 1986 a visiting British academic stated that individualised responses required:

- (1) Understanding of child development and in particular the development of teachers' abilities to locate a child in a framework of development;
- (2) clarifying the concept of special need. Interpreting this meaningfully within the context of curriculum provision and support for learning;

- (3) understanding the principles of pedagogy: in particular the relevance of learning theory to pedagogical considerations and various ramifications in terms of classroom organisation and management;
- (4) understanding the impediments to mainstream curriculum access experienced by children with particular difficulties and the development of insights which ensure access and curriculum support;
- (5) understanding the implications for support, collaboration, consultation and multiprofessional working;
- (6) achieving insights to the way in which the curriculum may be modified and managed in particular the notion of curriculum based assessment

and he concluded:

....The development of an effective pedagogical style which is responsive to children's learning needs is as central to attempts to prevent learning failure as it is to efforts to ameliorate them. A better deal for all children is dependent upon increasing the effectiveness of the teaching force. (Centre Publications, 1986).

The ideas put forward by this visiting academic about the development of the ability in teachers to understand the principles of pedagogy and to develop insights which will enhance students' access to curriculum through teacher training (Centre Publications, 1986) is not reflected in the files studied. There is, however, also a comment in 1986 from a member of staff who wrote that:

assessment for educational planning is not complete until there is appropriate evidence about how to teach the individual child....It would appear that a good way to approach teaching handicapped students is to rely on effective instructional practices. The question of how to teach should be reinterpreted as "How can good instruction be more responsive to individual differences?" (Centre Publications p.29).

The *Timeline* shows that it was at about this time that ideas about effective teaching and learning were beginning to be discussed in the literature (Rosenshine, 1986).

4.5.2.1 An Example of Metacognition and Ideas for Teaching The *Timeline* indicates that teaching for metacognition or cognitive strategies was first identified by Flavell (1972). This approach was to teach the "how" to complete learning tasks so that students could develop the *process* for use in all situations rather than simply the *content*. Information processing theory appeared on the cusp of the 1970s and 1980s, focusing on the use of memory and "working memory" to explain the difficulties some students appear to have with retention of facts and ideas and the ability to put knowledge together to carry out a new skill or solve problems. Teaching for these deficits is directed towards developing strategies in the student for using appropriate knowledge and structures to carry out tasks. An example of an approach for informing a teacher about strategy teaching is given below.

In 1989 written recommendations to a school for a student were:

....structure writing exercises and work to account for his peculiar cognitive style and motor planning needs, (develop) conscious organisation, a personal checklist (look, pengrasp, posture, write slowly and neatly), use an organizational chart for writing narratives (beginning, middle, end, setting, time, place, action, character) moving on to characters, setting, plot action sequence, reaction, major and minor sequences, major information, monitoring audience response, sensitivity, cohesion, fluency.....these strategies will have to be adapted for use within the classroom usings written work and it may be necessary to place a different emphasis on some class routines or lessons. We apologise if this is inconvenient, however, these strategies are designed to address the very specific problems that has. Some of them will, undoubtedly, be of benefit to most other students in class. Please take a little time to make yourself familiar with them. They won't work if you do not feel comfortable with them.

There is no evidence in the file that this advice was given verbally and with accompanying demonstrations to classroom teachers about working with the student in this way and there is no evidence that the class teacher

took up these suggestions and the approach for this or any other student. However, it does indicate that elements of metacognitive models and information-processing theory have been used by the centre team, and have been adopted soon after the professional literature has produced discussion about it but they have not been consistently adopted. It should also be noted that effective introduction of such methods of teaching into classrooms by demonstrating the methods and showing their success with students would encourage teachers to adopt them.

4.6 Summary of Results

The centre shows awareness of most trends in the literature over the 25 year period. Discussion in the Centre Documents literature show that trends in paradigms were acknowledged by centre staff:

- (1) behaviourist theories were adopted and discussed throughout the 1970s, although the pure behaviourist approach of frequent collection and charting of data was not maintained,
- (2) some acknowledgement and practice of strategy instruction emerged from the mid 1970s although specific commercial programs and focus on task analysis for skill levels for progress in curriculum areas phonemic awareness, word attack and mathematics continued to be recommended
- (3) Diagnostic-prescriptive assessments and recommendations continued over the 25 year period.
- (4) Effective instruction was acknowledged in theory but the files do not show any attempts work with teachers in modelling and implementing changes in teaching content, teaching style or classroom management.

- (5) There is no established pattern recorded in the files for monitoring student progress in collaboration with schools or other stakeholders in the IEP.
- (6) There are no observable criteria for measuring student progress which may lead to decision-making about discontinuation of the centre's involvement with the student.
- (7) The pattern of diagnosing underlying deficits within the students and recommending programs to remediate those deficits has continued throughout the 25 year period.

4.6.1 Hypothesis One

Changes in paradigms and models of teaching for LD were used in a cumulative way in the practice of the centre under study. The exception is effective teaching which focuses on the interactions between the teacher and the student. It appears there was an unwillingness to disregard previous ways of understanding the teaching and learning of LD students and associated models.

The centre strongly reflects an approach to the deficit/underlying difficulties model in its earliest years. Later in the 1970s it incorporated some elements of the behaviourist approach to task analysis and monitoring of acquisition of skills. Elements of the information processing paradigm are adopted in the early 1980s and continued through into the 1990s with emphasis on speech pathology assessment. The paradigm that has remained constant, however, is the deficit theory of learning difficulties which is expressed in choice of assessment tools and programming recommendations up to 1995.

4.6.2 Hypothesis Two

The IEP process steps as documented in the chapter show little change in the referral, assessment and planning phases. The teaching cycle phase changed from a clinical focus on families and homes through the middle 1980s into a greater focus on schools and teaching when there was a concurrent change in thinking and in systems delivery for the education of students with LD. At this time support teachers (learning difficulties) were placed in schools and there was a concurrent move towards effective teaching and collaborative consultation. The effects of including a multidisciplinary team in the centre was to include, and increase, a focus on student deficits and programming for underlying processing problems. For example, assessment does change (with an increase in therapy and processing tests) reflecting both the make-up of the multidisciplinary team and the cumulative effect of the paradigms and models.

There were specific changes in the planning phase, reflecting the development of paradigms and models as reflected in the Timeline. However, the teaching cycle phase did not reflect the effective teaching models of the late 1980s and 1990s. It also did not provide for collaboratively working with teachers in schools. There was no evidence of a process for determining effectiveness of interventions, nor for determining when the centre withdrew from working with the students.

5. DISCUSSION

In this chapter the issues raised in the reporting of results are discussed. Recommendations are made for improvements in supporting LD students following the discussion of each key issue.

The discussion of results focuses on the issues of difficulties with defining the group and associated difficulties with determining the most effective ways of teaching LD students (assessment, strategies, therapy programs). Parental involvement is another issue which affects the success and relevance of IEPs. Closely related to this is the issue of student motivation and behaviour. Finally, focus on the teaching cycle with particular emphasis on teaching management and strategies is required to improve program effectiveness.

5.1 Definitional Issues

The paradigms and models influential in the literature and in the work of the centre studied have a far reaching effect on the support and programs provided for LD students. It is, however, recognised that definitional difficulties do not only accompany the concept of learning difficulties. There are similar definitional dilemmas which plague other disability areas such as mental retardation and emotional disturbance. Adherence to certain definitions, or confusion about them lead to different choices being made at all stages of the IEP process.

5.2 Assessment

Paradigms and models affect the development and use of assessment tools. For example, in the files studied the development of perceptual and sensory-motor tests during the 1960s was influenced by the psychological processing paradigm while curriculum-based and criterion-referenced tests increased during the 1980s when the effective teaching paradigm became more strongly represented.

The choice of tests is affected by the beliefs held by the individual administering them. For example, those who hold more strongly to the information processing paradigm will look to tests that will probe for deficits in this area; those who believe in a constructivist approach will concentrate on curriculum based assessment which directly relates to activities in the classroom, and so on. The assessment phase, which is the first phase where work is done with the student, sets in train the approach for the following phases because the information gathered determines thinking about the student and planning for teaching for improvements in those areas of perceived difficulty.

Tables 3 and 4. from the previous chapter reveal that a mix of focus on teaching to underlying difficulties, improving metacognition and a curriculum focus continued throughout the twenty-five year period studied. The large number of assessment tools used in the "Therapy & Underlying Difficulties" category together with the number of tests per student shown in the tables indicate that a search for pinpointing underlying difficulties was a continuing objective of the centre. The assumption that processes such as perceptual skills underpin academic skills and that training for presumed deficits in these areas will improve learning (Colarusso, 1987) continues to contribute to approaches to assessment and follow-up teaching.

The theory of underlying difficulties has merged with the theory of information processing when the idea of visual and auditory processing becomes entwined with other processes such as memory (Ruiz, Rueda, Figueroa & Boothroyd, 1995). Swanson (1988b) advocated that learning difficulties are the result of "disorders in one or more of the basic psychological processes" and that the concept of "specificity" is essential to the discipline of learning difficulties/disabilities. This approach is evident in the increase in language assessments over the period studied and in the recommendations made from assessment results.

The difficulties caused by no clear definition of the LD population clouds choice of assessments and ultimately affects programming choices in schools. Assessments for underlying difficulties make up the largest group of assessment types used by centre staff and, while it reveals that there was little consistent use of most tests in this category it demonstrates a readiness to take up new tests as they are published.

However, the increase in the underlying difficulties assessments may also be an outcome of the paradigms debate about the LD definition, as shown in the Timeline. The types of assessments used cover the full range of paradigms concerning learning difficulties, commencing with the medical and underlying deficits models in the early 1970s and incorporating the behavioural, cognitive strategies, information processing and effective teaching approaches as they begin to appear in the literature. No model is discarded, and the effect is cumulative.

This cumulative effect is evident in the steady increase in the numbers of assessments per student which in itself is an issue. Consideration must be given to economy and effectiveness of the assessment process and to the anxiety that accompanies testing procedures for most students. Increases in the amount and range of testing may also be an outcome of the combined

beliefs of the multidisciplinary team members or a concern for accountability in that all facets of learning difficulties should be considered. In this sense, it is a practical reflection of the confusion caused by the debate about the definition of students with learning difficulties. The number of assessments used also reflects concern with time spent on diagnosis rather than on the final, practical and sustainable programming product of the IEP process.

The use of standardised assessment for the development of programs for individual students is also debatable. Salvia & Ysseldyke (1992 p.26) write that "increasingly, educators are advocating informal over formal assessment, especially in instructional decision-making and in evaluating pupil progress". Informal assessment includes observations of the ways students approach their learning tasks, analysis of their errors and observations of student reactions to changes in teaching. This type of assessment is essential for effective teaching because it provides a focus for the development of curriculum outcomes for the student. There is little evidence of informal assessment in the files sampled in this study.

The increase in the number of assessments per student over time reflects a sense of the need for accountability for the service to students, schools and parents. However, because the centre operates with multidisciplinary personnel there may have also been a combination of adherence to differing theories from each person involved. For example, a support teacher learning difficulties may have focused on curriculum-based materials (although only standardised assessment for literacy and numeracy was used) while an occupational therapist focused on underlying difficulties including sensory-motor skills. Competing beliefs about the causes of learning difficulties in students are an inherent problem with multidisciplinary teams, especially where the major focus is on achievement in school curricula and school socialisation.

5.2.1 Recommendations: The increased use of assessment tools is presumed to be the result of the cumulative effect of paradigms and models and also as an outcome of employing a multi-disciplinary team. However, the mean range of 11.7 (range 7-19) tests per student for the period 1991-95 is of concern because of the pressures on the student undertaking the tests and because there is a scatter of focus for the tests. It would be useful to examine current testing rationale for LD students. This could include including seeking information from individual staff members as to their beliefs about the type of testing that should be used, its purpose and their estimation of the value of the testing tools currently being administered. Information from this survey would contribute to a renewed focus on assessing for classroom programs. Alternatively, a clear approach by educational systems for definition and curriculum focus could be established.

5.3 Strategies for Teaching LD Students

The first step in organising thinking for developing programs is putting together what information has come from the assessment process. The purpose of the IEP process is to develop sustainable modifications of the curriculum which will not disenfranchise the student who is failing to learn as expected.

5.3.1 Programming

An approach to assessment and programming must take into account the purpose of the setting for which it is designed. For example, a home program will take into account the time available to parents and the skills they have in encouraging their children. A program designed to be implemented in schools should take into account the aims of the educational system. It is then those systems which need to examine definitional issues and emerge with a clear statement of the group and the kinds of program modifications expected. During

this process, school systems need to take into account their role in the delivery of therapy programs. Given that teaching to underlying difficulties is based on assumptions that the student's academic difficulties are caused by deficits and disabilities within the student (Ysseldyke & Salvia (1992) and that the tools for assessment of these deficits are technically inadequate and do not result in effective instruction (Arter & Jenkins, 1979) these decisions need to consider the sustainability of therapy based programs which do not directly relate to curriculum skills and outcomes. Also to be considered is the way in which agencies employing therapists (such as Health and Department of Community Services in NSW) might collaborate with education departments with a focus on incorporating activities that are meaningful in the context of the classroom and curriculum. It may be that departments combine to deliver inservicing for teachers with a focus on management and strategies in the classroom.

In the student files studied, many of the programs recommended following assessment required one to one tutoring time and were not necessarily related to curriculum content or strategies. For example, while there were statements about phonics and sight word programs, recommendations for reading levels or types of text are not made. It is difficult to relate the approach to assessment with the purpose of the IEP which is to develop the best teaching strategies and classroom management for the student. The results of assessment should be the basis for deciding how to teach in the school setting. For example, when the files were examined to consider whether the results of the *Woodcock Reading Mastery Tests (WRMT-R)* were considered in program planning it appeared that, for students whose programs were recorded in more detail, efforts were made to align recommendations to outcomes of testing. Examples are shown in Figure 8. However, the recommendations shown in this figure are for teaching in class settings in 1989 and 1990. In NSW at this time literacy was being presented as a process to be taught in context through presentations of big books, responses from students both orally and in writing and through strategies such as "Have A Go" Spelling. Focus in classrooms

was on constructivism and on active learning and any recommendations for specific programs would require teachers being convinced that the recommended programs and strategies would be able to be incorporated into their classrooms and were achievable.

Figure 8. Recommendations Following Assessment Using the WRMT-R

- A student who was assessed in 1989 by school and parent interviews and the WRMT-R was identified as having poor word attack skills and being below grade level for word identification. Both of these conclusions presumably come from the Word Attack and Word Identification subtests of the WRMT-R. Recommendations by centre staff from this testing that may be pertinent to the WRMT-R results were "evaluate auditory comprehension..... contact speech pathologist..... read the WRMT-R comprehension passage in Form H to discover if his score is higher than if he reads.....specific instruction with phonics, SRA Word Attack recommended for identifying sounds of letter sounding out words and saying them quickly (both regular and irregular)". These recommendations indicate that test results directly affected teaching recommendations. The WRMT-R, as indicated earlier, is designed in the United States of America and does not directly correlate with skills emphasis and teaching strategies used in Australia. At this time whole language teaching and process teaching was advocated for Australian classrooms and specific skills were taught in context. Recommendations of this nature from the centre require a class teacher to teach and monitor a student in quite a different way from that which he or she uses for the rest of the class.
- A student in 1990 was assessed using the WRMT-R but also a range of other assessments for literacy
- In 1990 the WRMT-R was used for another student. The report noted that "the WRMT-R shows he meets expectations for age." No literacy program was recommended.
- In each of the files after this date the WRMT-R is used in association with other standardised tests of literacy skills.

Note. These were the only files in the sample which showed direct relationship with program recommendations and the results of the WRMT-R.

5.3.2 An Example of Recommendations and Follow-Up

The following is a sample of recommendations were written to a school for a student in 1989:

...structure writing exercises and work to account for his peculiar cognitive style and motor planning needs, (develop) conscious organisation, a personal checklist (look, pen grasp, posture, write slowly and neatly), use an organisational chart for writing narratives (beginning, middle, end, setting, time, place, action, character) moving on to characters, setting, plot, action sequence, reaction, major and minor sequences, major information, monitoring audience response, sensitivity, cohesion, fluency...these strategies will have to be adapted for use within the classroom using.....'s work and it may be necessary to place a different emphasis on some class routines or lessons. We apologise if this is inconvenient, however, these strategies are designed to address the very specific problems that has. Some of them will, undoubtedly, be of benefit to most other students in class. Please take a little time to make yourself familiar with them. They won't work if you do not feel comfortable with them.

These recommendations are marked in the file as "sent out" and the follow up to the mailing is noted as a phone call one month later which is reported as "phone call to school counsellor, new teacher has raised his levels of anxiety and he has rebelled. Parents haven't gone for family counselling." There are no notes entered in this file about school visits to work with teachers for development of skills in the areas recommended.

Given the amount written about the need for teacher training and development and accompanying research about the barriers that teachers may erect when they become anxious about implementing new programs(Gajira & Salend, 1996; Polloway et al., 1996), expectations would be that a program containing new teaching strategies and an accompanying need for changes in classroom management should be discussed with teachers and school executive and a priority plan for stages of implementation put into place. The power of the written word for learners is not as great as demonstration and modelling and the recommendations made at meetings would be more powerful accompanied by some initial demonstration.

5.3.3 Variations in Programming Strategies Over Time

The types of recommendations made for teaching have varied in emphasis over time and often reflect the Timeline. In 1976, behaviourist data-based interventions began to be used. This relates directly to the *Timeline* for the incorporation of behaviourist interventions in special education. Centre Publications (1976) report that the disadvantages found with data-based interventions were that some people were reluctant to collect data, that subjective assessments were difficult to translate into behavioural terms and that training professions unfamiliar with the procedures was time-consuming.

An increase in the recommendation of specific programs from the end of the 1980s may reflect the availability of commercial programs but does not necessarily mirror the movement towards collaborative consultation and effective teaching which began in the mid 1980s (e.g. Brophy & Good, 1986; West, 1986; West & Idol, 1987). This is a time when the direction of LD teaching practice moved towards effective teaching with a focus on classroom management and explicit use of forms of instruction such as modelling, questioning and frequent reviewing (Mastropieri & Scruggs, 1994). Such a shift would have been expected to result in an increased role by the centre staff in training and development of teachers of students with learning difficulties in the regular classroom.

5.3.4 Strategies for Learning

The first use of the word "strategy" in relation to teaching students ways to approach a learning task independently was in a 1988 file that recommended strategies such as the Neurological Impress Method and how to "find the correct spelling". Other recommendations from files active at this time included advice such as "give practice in strategies for analysing complex and lengthy information". Teacher observations included comments such as "difficulty changing strategies when a new factor is introduced". Although strategy instruction, particularly with regards to metacognition, began with Flavell

(1972), it had great impact during the 1980s with support from researchers such as Swanson (1991) and Wong (1986). The use of the models described by this paradigm were not consistent with the recommendations of the sampled files but elements of associated models existed in regular curriculum at that time, and are compatible with suggestions in curriculum support documents which range from simple strategies for remembering spelling words to ways to scaffold writing (e.g. NSW Department of Education and Training, 1997b).

5.3.4.1 Recommendations Directions for how and what to teach for students experiencing difficulties with regular classroom curriculum and management must take into account the teacher factor as well as the demands of the skills to be learnt. Assessment of the classroom environment and strategies the teacher already uses are starting points for developing further skills. The interaction between teacher and student must be taken into account when planning for programs and plans should be made for teacher support and development within the school.

5.4 Therapy or Curriculum?

A vital issue in the teaching of students in learning difficulties is the focus of the program. Part of the result of the changing paradigms and confusion over the definition of learning difficulties is debate about how to teach students with LD effectively. Programming for both curriculum and therapy/underlying difficulties places strain on schools and teachers. It is timely to raise the issue of the appropriateness of programs focussed on psychological processing problems in schools where the academic focus is necessarily on curriculum and expected outcomes for learning.

5.4.1 An Example of Speech Pathology

Most of the speech and language assessment tools used by staff at the centre are standardised. These are useful for identifying a language disorder but may not be useful for determining follow-up programming and intervention for the student (Ysseldyke & Salvia, 1992 p.272). While the close link between oral language and literacy skill development is acknowledged by those who design curricula (Board of Studies, *NSW English Curriculum Stages 1 and 2*, 1997), the role of speech therapy in classrooms may impose a differential curriculum on the teacher, LD student and his/her classmates. Given the involvement of parents and therapists with teaching staff in schools, and the initial enthusiasm created by IEP development for a struggling student, it would be easy to develop a plan which may eventually become burdensome to the class teacher. For example, to include an auditory memory program and a program such as *Visualising and Verbalising* into the classroom teaching cycle brings with it logistical difficulties for staffing, time, monitoring and curriculum links. Who can assist this student in the practice of the skills that are outside the regular curriculum? When are the skills to be timetabled and how much time out of class will this create for the student? Who is to monitor progress in the development of these skills and the student's connection of these skills with the curriculum?

Ashman and Elkins (1998) note that:

in New South Wales...the (speech pathology) profession has been almost exclusively employed within the health system, and although clinicians are not specifically excluded from schools, the lack of common policy direction and mutual familiarity mean in practice that speech pathologists may rarely be seen there, and they report highly variable access to and welcome within individual schools (p.335).

When language assessment gives rise to conclusions about an individual's ability to process, think and problem-solve, these conclusions drawn from the results of standardised tests should be treated with caution for two reasons. Firstly, questions of validity are raised for these tests, particularly when the

assessment does not use the student's everyday language. Secondly, it is problematic to conclude that a student has "poor explaining/thinking skills" and "processing problems which underlie written language difficulties" if interventions are not able to be planned to meet these needs (Ysseldyke & Salvia, 1992).

5.4.1.1 Recommendations: It is timely, given the confusion demonstrated here, that school systems examine their responsibilities in delivering curriculum to students with learning difficulties. The appropriate involvement of speech therapy in the schooling of students with learning difficulties depends on whether a skill focused, step-by-step speech pathology program is more effective, in terms both of student progress in the curriculum and of teacher time and effort, than a program based on specific regular curriculum skills including teacher analysis and modelling for students with explicit focused instructions (Mastropieri & Scruggs, 1994).

5.5 The Role of Parents

Parents referred students to the centre most commonly and consistently. This information emphasises the importance of parents in learning communities through their monitoring of the progress of their children and requests for attention be paid to failures to learn as expected. The high percentage of learning difficulties students has produced strong advocacy within the community. For example, the Learning Difficulties Coalition in NSW and the Specific Learning Disability Association (SPELD) are strong advocacy groups reaching into government and government departments of education. Strong parent advocacy has been a defining feature of the learning disabilities field since its inception.

The consideration of family as an effect on the student is reflected in comments on student files as reported in Fig 4. These quotes demonstrate that

during the 1970s there may have been a strong focus on "blaming" the home environment. References to family members after 1980 focus on initial interviews about student progress in school, behavioural differences between home and school, physical or sensory medical reports and progress with home programs such as occupational therapy exercises or speech programs. The Timeline shows that behavioural theory and models, information processing, social constructivism and effective teaching became influences affecting the teaching of students with learning difficulties after 1980. These paradigms in general tend to provide a positive approach to supporting students.

Centre Publication No.9 (1980) states

From a clinical perspective the referral of a significantly learning-disabled child was linked to the probability of some form of family disturbance, and it was considered likely that the provision of service with the child as an ostensible focus of intervention might at the same time be less threatening to the parents but also allow health service workers to become involved with them in such a way as to modify their behaviour with significant positive benefits for the child, his siblings, and the family as a whole (p.7).

Statements of this nature indicate that the family was considered a cause of the child's failure to learn. This belief has the effect of removing responsibility from learning institutions and professionals by placing blame instead on families. In fact the same centre report continued:

What is the point of providing a remedial education program for a child when his inability to learn is related to the continuing stress afforded by the depressed socioeconomic environment of his family? What is the point of attempting parent-initiated behaviour modification programs for a child when his disruptive behaviour is really a function of a degenerative organic condition?" (p.9).

This quote demonstrates the outcomes of the "blame the student" syndrome referred to by Kameenui (1993) and still the subject of current debate. The debate about the social setting for students in the community began in the 1960s when John Dewey (1968) advocated a problem-rich

environment for student learning in order to provide equity for learning. In the 1990s constructivists have continued these ideas, casting teachers as "visionaries" able to address the social issues of the world around them (O'Loughlin, 1992) and conceptualising teaching as a form of social interchange (Heshusius, 1989). The issue of the social environment outside school was prominent during the 1970s and a focus of the centre at that time was on diagnosis of the student and also on the family environment. In a conference presentation in 1977 a child psychologist and speech pathologist employed by the centre stated that the differential diagnostic model was used by staff to decide whether the inferred emotional disturbance in a child was causal or reactive in relation to poor verbal communication skills and went on to question:

...are the child's excessive dependency needs symptoms of a symbiotic psychosis? Are these behaviours the child's unconscious answer to an unconscious wish of the mother for the child to act in this particular way? Or are the behaviours an attempt to adapt (in order to) sever deficiencies of reactions and of abstract attitude? The diagnostic model attempts to pinpoint primary deficits and secondary effects" (Centre Publications 7 p.5).

Attitudes to families have changed. The SENCO Guide (Dept. of Education and Training, UK, 1997) cautions teachers to be "non-threatening" and to "not come across as attributing blame" (p.37) and advocates involvement of the student at all stages of the IEP process. Good communication and consultation are obviously important in maintaining a positive and progressive relationship with parents. Parents have an important role to play in supporting the teaching of the IEP by working at home with their child or taking part in parent-tutor sessions at school.

Schools today acknowledge the effects changes in society bring upon students and there are increasing efforts to counteract these negative effects through counselling programs and programs directly addressing issues such as substance abuse and child protection. The effective teaching paradigm also focuses on the direct effects teachers can have in the school setting through

their classroom management and approach to teaching and encouraging individual students. Studies have shown that teachers using explicit instructional techniques have a positive effect on the achievement and behaviours of students with learning difficulties (Englert, 1984; Sindelar, Smith, Harriman, Hale & Wilson, 1986; Mastropieri & Scruggs, 1994).

5.5.1 Recommendations: Parents are advocates for their children and need to be informed of their progress, their needs and what support is available. Schools can provide formal avenues for access to information about their child through information evenings where support personnel from within the school or from the education system can provide information on strategies for teaching their children, expectations of their child and their school and information on the processes each school uses to support LD students.

5.6 Student Motivation and Behaviour

Motivation is referred to in the files studied as either:

- (1) a cause of learning failure - "poor motivation due to failure" (1977), "poor motivation, selective concentration" (1990) or
- (2) an outcome of learning failure - "phonics to be introduced only when he is motivated"(1977), "(he has) very high motivation to make sense of what he is reading but word attack skills are poor".

During the 10 year period 1985-90, when an average of 35% of the student file sample were identified as having difficulties with motivation and associated poor learning, effective teaching as an approach to increasing outcomes for students with learning difficulties was discussed in the literature (Rosenshine, 1986; Good & Brophy, 1994, Timeline Fig.2). This is not evident within the sample of centre files studied. Rather than examining ways to

address students' behaviour within the school setting, all files studied from 1973 on tend to focus on within-student deficits or on dysfunction within families. There was no evidence of direct observation of teachers' classroom management in the files studied or of any form of collaboration or team teaching that can accompany training and development of teachers for working with behaviour difficulties. Some form of training and development for behaviour management and encouragement of learning behaviours may have taken place during that time but it is not recorded or described in the files sampled or in the centre publications.

It appears that some centre staff looked to external counsellors to provide assistance for student behaviour difficulties. For example, in 1987 a student who was referred for communication difficulties and sensory motor problems was assessed using the *Bender Visual Motor Gestalt Test* (Koppitz, 1974). The validity of this test has been questioned by Ysseldyke and Salvia (1992) because the sample of perceptual motor behaviour taken by the test is limited and its simplicity renders it easy to misunderstand. However, the centre staff member who administered the test reported that "the Bender shows signs of emotional disturbance which suggests he is suffering from feelings of inadequacy and is unwilling to persist with a task". This conclusion was followed by seeking outside counselling support for the family with a final entry in this student's file indicating that "parents have not complied with counselling".

During the 1990s instruments such as the *Comprehensive Behaviour Rating Scale For Children* were used but no systematic processes developed for observations in schools and classrooms were evident in the files studied. General recommendations e.g. "that family and teacher take into account his impulsivity and difficulties with attending", or "that (the) teacher uses special strategies to ensure understanding of instructions" were made. Few specifics were supplied in the files.

Thirty-five percent of the files sampled contained mention of behaviour difficulties. Recommendations for behaviour programs varied from family counselling to tips for teachers presented in reports and at IEP planning meetings. The answer to the question "How frequently is behaviour management a part of the program?" is that it was part of one third of the files sampled but that the approach to increasing on-task behaviour and decreasing acting-out behaviours varied. There is scant attention paid to time-on-task, transition times during class activities, inappropriate verbalisations and behaviours, the order and focus on particular skills, pacing, delivery of information and giving feedback, review of material, practice of activities and classroom management (NSW Department of Education and Training, 1997a). These are all positive components of successful classroom learning which increase meaningfulness and success for students. These factors have not been part of the discussions and collaborative work with schools for particular students in the files sampled, however.

5.6.1 Recommendations: Behaviour management is an issue for teacher training and development and should be considered in the planning for training and development discussed later. It should be a component of pre-service teacher training. There is a need for observation of the student's reactions to classroom teaching and management and the ways in which they learn (Eaves & McLaughlin, 1977) but also a need to establish mutual understanding between the consultant/observer and the class teacher (Conoley & Conoley, 1989). This is important, not only for the teacher to clearly understand the kinds of behaviours the consultant is observing, but also because teachers are frustrated and stressed by students with behaviour problems (Otto, 1989). Learning is changing behaviour by examining lesson preparation, social groupings in classrooms, the physical layout of the room and teacher-student interactions. These should be considered before embarking on structured behaviour programs in isolation (Foreman, 1996).

5.7 The Effectiveness of IEPs

Key questions when examining the stages of the IEP process were "How is monitoring of student progress data collected?", "Who decides on program changes and how are they made?", "How is program effectiveness measured?" and; "How do centre staff decide when to cease their intervention?"

It is not clear from the files studied what criteria were used for discontinuing support for students. Some students moved to other locations or to other agencies; other students' files contain anecdotal reports from teachers stating, for example, "settling in better", "small improvement in written expression", "parents have not complied with counselling" - or reports from parents stating, for example, "going well but could be better, gets spelling list mostly correct but does not apply in writing. Writing at home. Captain of hockey team. Could be better in mathematics". There does not appear to be a clear process for collecting progress data nor for determining termination of support from the centre. Yet the literature from the mid 1980s has a strong focus on collaborative and consultative processes and the benefits they hold for programs for students with learning difficulties. The NSW public school policy for supporting students with learning difficulties (1987) also promulgates the collaborative consultation model.

5.7.1 Working With Teachers

There was little indication in the files studied (beyond recommendations for specific program materials or specific strategies) that changes in teaching style or management were considered relevant to program recommendations or follow-up. There was no consistent evidence in any of the files sampled of

classroom observation, potential improvements in teaching noted or attempts to implement training and development for changes in teaching practice. In this way the information from the student files sampled suggests that the centre acted as a consultant rather than a collaborator in teaching students with learning difficulties. As the frequency and time between follow-up visits by centre staff varied considerably, there appears to have been no planned approach or process of collaborating with schools to provide follow-up assistance with program delivery. It appears that initially the centre was working as a clinic for referral but Centre Publications over time increasingly advocate working alongside school staff as the quote from one staff member illustrates:

.... educational planning is not complete until there is appropriate evidence about how to teach the individual child....It would appear that a good way to approach teaching...is to rely on effective instructional practices (Centre Publications. No.23, 1986 p.16).

Despite evidence that centre staff had knowledge of effective instruction models, there is little indication in the files of collaboration between teachers and centre staff in developing effective teaching practices in classrooms. While this may simply be an artifact of the way the files were written, the recommendations of the academic quoted in Centre Publications above concerning teacher training and the development of an effective pedagogical style were not evident in the files sampled. There is no comment by staff in the files about the need to focus on teacher development nor on particular models for training and development which may engage teachers in the collaborative consultation model, and with the effective teaching of LD students.

The only evidence of follow-up in the files studied takes the form of notes from phone conversations and dates of irregular follow-up visits. The brief notes in the action sheets for the files do not record any process for working alongside teachers. This is an important point relating to the effectiveness of IEPs. Teachers work within their own classrooms and have developed a very

personalised style of teaching over the years in their profession. They need convincing from the base of their own personal experiences and understandings to achieve changes in approaches to teaching (Hargreaves, 1994). There are subtleties for introducing new practices into classrooms which cannot be effected by outcomes of a single IEP meeting.

5.7.1.1 Recommendations: That centres containing experts and teams develop processes for monitoring and ensuring appropriate follow-up of students in schools. This would inform centre staff of the outcomes of particular recommendations for students, why they have (or have not) worked and also provide more detailed information on program effectiveness.

5.7.2 Monitoring Program Effectiveness

Determining program effectiveness through monitoring gives an indication of what works for students and guides thinking about how to improve resource input and utilisation. The IEP process must be justified.

Processes for referral, assessment, planning and teaching have been affected by problems with the LD definition. This can lead to poor use of the essential resources of personnel, time, effort and efficacy for what has been suggested may be up to 30% of the population (Van Kraayenord & Elkins, 1998). In the current political climate where provision of unemployment benefits may become dependent on young people's efforts to become literate it is imperative that clear understandings of ways to directly affect learning for students who are failing influence instructional support. Action should include school systems clarifying their role in the education of students with learning difficulties in collaboration with, or in addition to, other departments such as health and community services who employ various specialists and therapists. For students with learning difficulties, this highlights the issue of complete

curriculum focus versus inclusion of recommended therapy programs for schools to implement in classroom situations.

5.7.2.1 Recommendations: Decisions need to be made at local levels or systems wide, on the ways in which program efficacy is measured. Student outcomes are a starting point and presumably pre-testing, monitoring and post-testing provide an acceptable process. However, as suggested earlier, the assessment methods used depend on the definitions and understanding of the needs of LD students in schools. Informal assessment of curriculum skills, combined with observations of behaviours in the classroom would provide a process which is familiar to class teachers and which may enhance teaching decisions. An assessment process which is close to the natural procedures of classrooms and current curriculum would also alleviate stress on students.

5.8 Training and Development

One way of increasing efficacy is through informing teachers clearly about the most direct and effective ways of teaching students with learning difficulties. Teacher confidence in teaching students with learning difficulties and disabilities is highlighted in the literature as an important influence on their willingness to make changes in practice. The teaching cycle (Fig.1) includes making on-going decisions about what to teach the student, putting into place instructional and management strategies, and monitoring and reviewing the student's learning. This is the workface of the IEP and the culmination of the referral, assessment and planning processes but it is the neglected phase of the process in this study. There are many aspects of the teaching cycle which would be valuable to assess - teacher-student interactions, selection of content, documentation of modifications and variations of content, ways of measuring

student outcomes and teacher confidence and acceptance of responsibility for LD students.

A major concern stated in the literature, however, is the frequent mismatch between IEP content and procedures and classroom teaching (Smith, 1990). Piersel and Gutkin (1983 p.311) state that resistance by teachers occurs "...when the consultant is unsuccessful in influencing the (teacher) to engage in a problem-solving process". Piersel and Gutkin continue by suggesting that it is not the change itself which causes resistance but anxiety associated with the possible disruption accompanying change. Vaughn, Schumm, Jallard, Slucher & Saumell (1996) also report teachers doubts, uncertainties and anxieties about the realities of implementing individualisation in classrooms.

Piersel and Gutkin (1983) describe a process which includes working collaboratively with the teacher and building trust over time so that the teacher is able to participate fully and adapt new ideas to his or her own personalised teaching style. Smith (1990 p.9) also asks "without adequate training how do teachers, administrators, school psychologists and others integrate their knowledge and skills to provide individualised instruction?" Teachers do not usually receive adequate training preparation to equip them to cater for students who need individualised programs. As Westwood (1997 p.20) states "there will always be a vital role for inservice training and development programs to help teachers address the special education challenges they are meeting daily in their classrooms". The kind of training and development implied by individual plans and programs recommended by organisations such as the centre must be considered. Teachers will be more likely to trust the advice of personnel who are able to demonstrate their familiarity with how classrooms work by modelling and working with teachers in their classes.

5.8.1 Recommendations: The teaching cycle is not evident in much of the IEP planning documented by the centre. Further study of the IEP process would

be necessary to examine how staff can assist in implementing the teaching cycle in schools through providing training and development opportunities for teachers in a collaborative (as well as consultative) way. Another focus for research could be the way in which schools and teachers plan and document for centre recommendations which are taken up at IEP meetings. These two studies would give insights into the coherence between the expectations of IEPs and actual classroom practice. Increased attention to the teaching cycle would give opportunity through training and development to empower teachers in areas such as documentation, goal setting, discontinuation of support and assessment which would lead to more inclusive practices in classrooms.

It would also be useful to build into an examination of the teaching cycle some empirical studies of training and development for teachers so that appropriate models could be developed across school systems. Given the size of the LD population, it is simply not enough to focus on training and development for support teachers (learning difficulties). These students are included in regular classrooms and, as stated earlier, information for teachers on the various phases of the IEP would assist in fostering inclusive classroom practices. Operating on the understanding that teachers personalise their teaching, it is also important to provide a range of instructional strategies and adaptations so that teachers exercise their professional integrity by choosing strategies to suit particular settings and individual students. A possible model for training and development led by centre staff is to combine workshops and networking for teachers with follow-up visits to individual classrooms to work collaboratively with teachers and to act as a resource person and mentor.

5.9 IEP Documentation

The difficulties inherent in IEP documentation have been referred to in the review of the literature. LD students require modifications to the curriculum as part of an approach to teaching the diversity of students found in any classroom. Documentation of these modifications should remain as close as possible to the classroom teacher's program and can include notes of skills and content taught within the regular program format, recording progress on charts regularly used within the class and saving work samples within student folders or class books. The teaching of LD students should be incorporated in the whole class context (Ainscow, 1998b).

For the purposes of discussion about the development of programs, the distinction between individual education plans and individual education programs must be made. An individual education plan determines what (objectives), who (person responsible for teaching that objective), when (frequency of lessons), how (gives information about the teaching strategies used) and evaluation (how student progress is to be measured, and how often). A proforma for an individual literacy plan developed by the NSW Department of Education and Training as a follow up to the *English Literature and Language Assessment* (ELLA) (DET, 1998b) for students in the first year of high school has these headings.

An individual education program is more fully developed when the needs of the student are perceived to be greater. For example, student progress sheets as advocated by the DEET manual (1992 p.35-38) still require teachers to graph students' progress - a system which is very much tied to behaviourist notions of learning. Another recommendation for individualised programming is to insert an extra column into the teacher's regular class program to make notes of modifications to the content and strategies for particular students (NSW

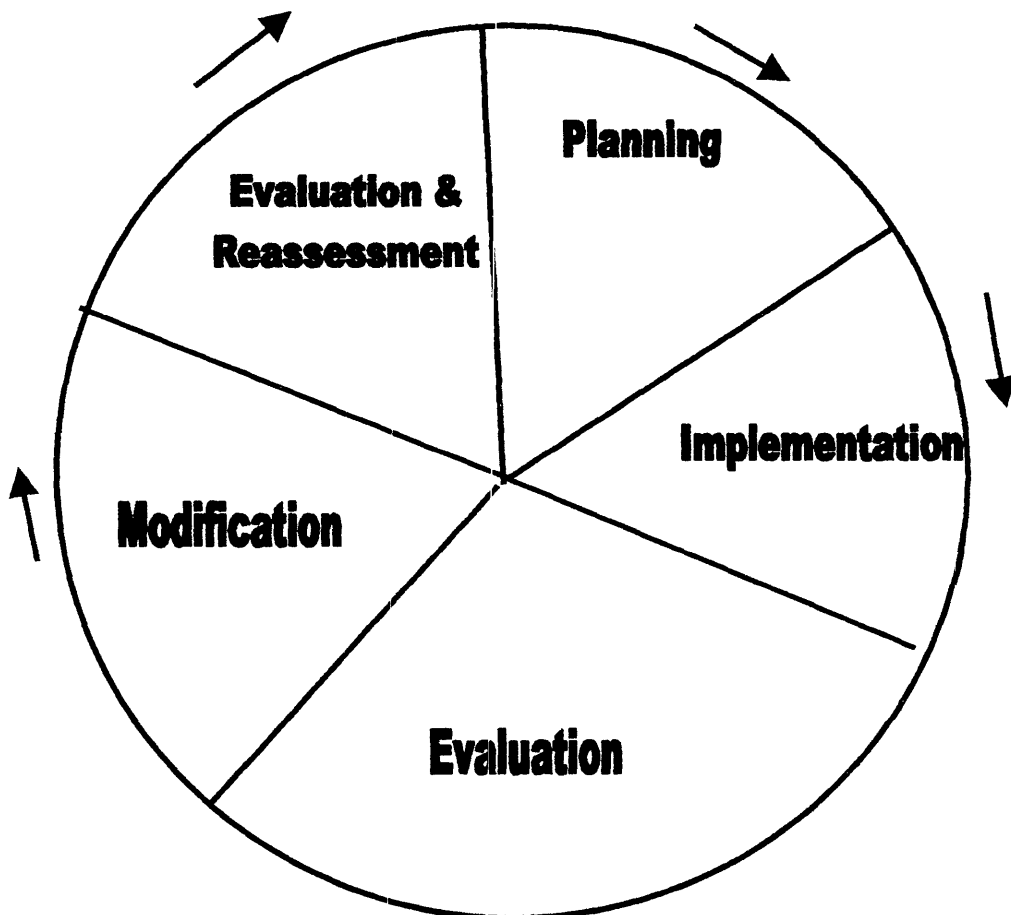
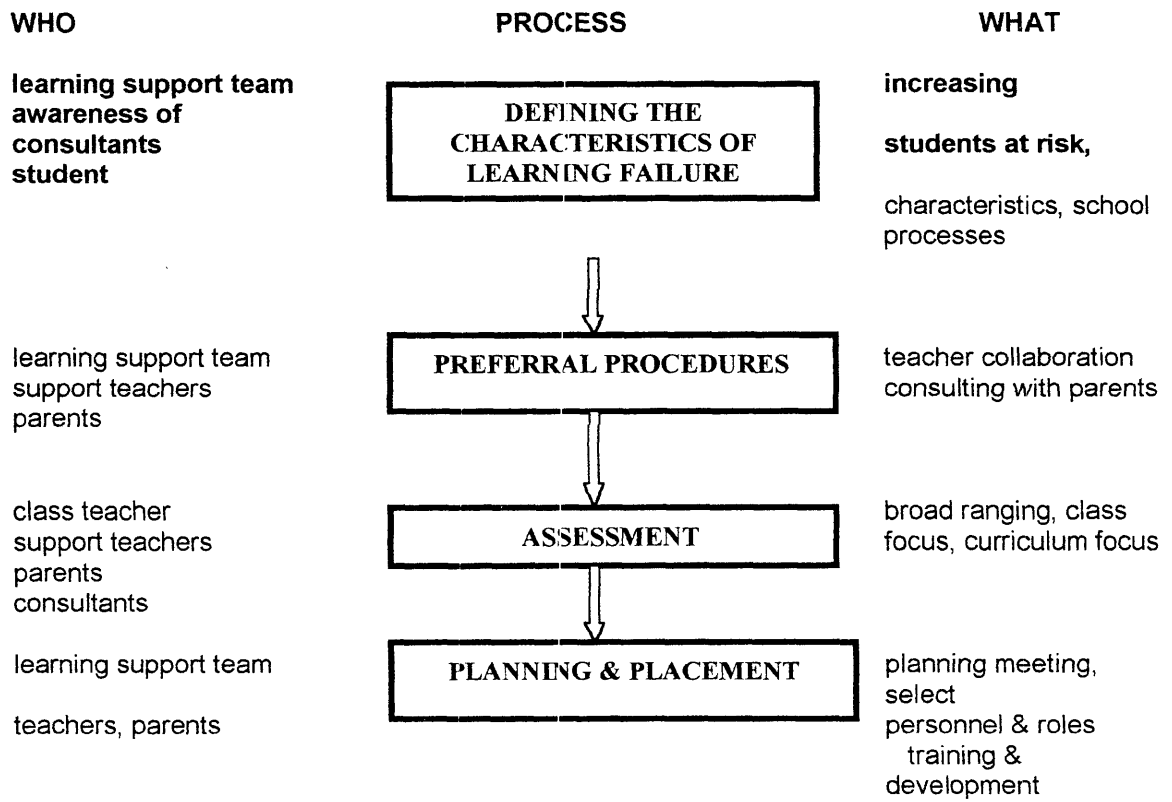
Department of Education and Training, 1997). Teachers are resistant to overly time consuming interventions (Martens, Peterson, Witt & Cirone, 1986) and documentation for individual students is often viewed as less than time efficient.

5.9.1 Recommendations: Documentation of the teaching cycle appears to be troublesome for teachers. While it must be remembered that teaching is personalised (Hargreaves, 1994), it would be a worthwhile project for a team to investigate and evaluate different ways of recording modifications of curriculum. There are samples of individual education plans available to teachers e.g. the individual literacy plan developed as a follow-up for students who achieved poorly in the English Literature and Language Assessment (ELLA) statewide test in NSW (NSW Department of Education and Training, 1997c) but there are few samples of programming for modifications for LD students. This research would be helpful in overcoming the perception of "install(ing)...the disabled child in the unchanged educational mainstream" (Slee, 1998 p.2). This is part of the challenge of inclusive education where the focus should always be on reducing teacher anxiety and decreasing the workload (Westwood, 1997).

5.10 Conclusions

The study is limited in its focus on the written word. While what is written in the files is important because the notes and comments entered become examinable data, the study would have been more complete if there had been access to staff working across the period studied to describe, for example, the quantity and quality of follow-up contact with schools during the teaching cycle phase of the IEP that actually occurred but may have been documented. Furthermore, the study is focused on only one centre. However, the scope of the 25 year period gives insights into historical developments within the centre in

Figure 9. PROPOSED MODEL FOR SERVICE DELIVERY TO LD STUDENTS



terms of the effect paradigms and models which seek to explain and organise the field related to learning difficulties had in practice.

This study has provided an opportunity for an historical overview of the approaches to supporting LD students over a quarter of a century. It has enabled an examination of the important ideas from the literature on defining and teaching LD students so that future consideration may be given to the strengths and weaknesses of the IEP process for these students.

The recommendations made in this study should also be made in the context of schools, their demographics and culture. Schools are able to establish processes for supporting LD students through all phases of IEP development using a models such as that shown in Figure 9. This figure will not be discussed in detail here. It serves simply as an example of an integrated model of service delivery which may be useful to consider.

In any event, the recommendations made in this chapter could usefully inform a school's determination of how its particular model of service delivery to LD students will operate. Most importantly, it seems clear from this study that attention needs to be paid not only to the process of IEPs but also to aspects of the teaching cycle within the regular classroom in order to foster more inclusive practices for all students with learning difficulties. The complex IEP process of differentiating content and ways of teaching has served education for over a quarter of a century and it is important that we examine ways in which it can serve teachers to implement teaching for all students in their classrooms.