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# Social Learning for Children with Specific Learning Disabilities

by

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## 1. INTRODUCTION.

The recent interest in curriculum development has emphasized the need for a framework in which to integrate many different education goals. Heiss and Mischio have proposed three criteria for a comprehensive curriculum:

First, there should be an overall framework from which tenable educational goals can be delivered. Second, attention must be given to integrating traditional skill development areas into a programme that is serving the objectives of the framework. Third, child variables must be recognized as influencing learning. (1971, p.6)

Good curricula which satisfy these conditions have been developed for use in the normal school programme. However, at present there is a great need for integrated curricula which attend to the special needs of children with general or specific learning disabilities.

Heiss and Mischio criticize existing programmes for the learning disabled, which tend to concentrate on limited aspects of learning as for example the development of perceptual skills (e.g. Frostig and Horne, 1964), or psycholinguistic skills (e.g. Kirk and McCarthy, 1961). Secondly, Heiss and Mischio claim that most remedial programmes are not related to any overall concept of the individual's total growth and development.

A comprehensive programme which has been designed to overcome these criticisms is the Social Learning Curriculum (S.L.C.) for educable retarded children (Goldstein, 1974). This programme is based on three major assumptions listed by Goldstein (1969).

1. A Large proportion of mature behaviour is based on the learning and experiences which constitute the total social and psychological growth of the individual.
2. Maladaptive and/or deficient behaviours are signs of:
  - (a) Lack of exposure to learning experience;
  - (b) exposure to inappropriate learning situations;
  - (c) exposure to appropriate experiences which have been distorted or misperceived by the learner.
3. Such learning can be managed to the degree that the maladaptive situations will be reduced. This will then contribute to reducing the probability of maladaptation in socio-occupational endeavours at maturity.

Although the S.L.C. was constructed for use with the educable retarded, these assumptions seemed to be equally applicable to the behaviours of children with specific learning disabilities. It was decided to investigate the suitability of the S.L.C. in a clinic which had previously utilized a variety of remedial approaches to learning disorders. Most effort had been devoted to language arts, and some progress had been made in reading, spelling and hand-writing after the first twelve months (see Fulmer and Jenkins, 1975 a, b,) for complete progress reports.

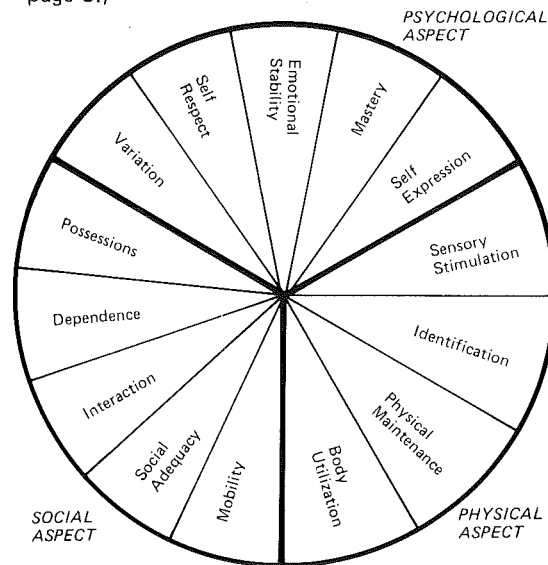
It was considered that the children's potential could not be realized unless the clinic aims were broadened beyond academic goals. Dunn (1973) proposed five major areas which require attention in the treatment of severe learning disorders. These are:

1. psychological factors
2. hearing and speech factors
3. medical/neurological factors
4. home and community factors
5. school factors.

The hearing, speech and neurological factors had been screened and did not constitute a problem for the particular children involved, but the psychological, home and community factors had been neglected. The S.L.C. offered an opportunity to attend to these aspects, and to relate them to the acquisition of competence in language arts and arithmetic.

The need areas incorporated in the S.L.C. can be seen in figure 1.

Figure 1. Categorization of need areas which specify the teaching blocks in the S.L.C. (Taken from Goldstein, 1974, figure 1, page 5.)



The S.L.C. is designed to reflect the progress of physical, psychological and social growth through a succession of expanding environments. These environments are defined as the following:

1. Self
2. Home and family
3. Neighbourhood
4. Community
5. Extra-community

The ultimate goal of the S.L.C. is to develop the two characteristics of critical thought and independent action, which are considered to be essential for competence at maturity.

The environmental levels delineated the areas of social learning which were evaluated to measure the success of the Curriculum for children with specific learning disabilities. Changes in self evaluation were measured by administration of the Personal Adjustment Inventory (Rogers, 1931). Smith (1958) examined the concurrent validity of six personality tests for children, and concluded that Rogers Inventory discriminated between well-adjusted and poorly-adjusted groups on all four subscales; namely

1. personal inferiority
2. social maladjustment
3. family maladjustment
4. daydreaming

According to Smith (1958), the test is not sufficiently rigorous for prediction of individual clients, but is satisfactory for research purposes with group data.

Changes in the perceived home and family environment were evaluated by the Family Relations Test (Bene and Anthony, 1965). This is a relatively new technique, which attempts to remove the child from involvement or guilt by the use of a cardboard surrogate family in the testing situation. Chazan (1970) notes that the test requires no verbalization and so is useful for testing language-deficient children. A review of research (Kauffman, 1970) indicated that the Family Relations Test has certain advantages as a projective technique. Reliability is satisfactory, but the validity of the test requires further investigation. The child's task holds intrinsic appeal, and can be scored objectively to provide data in an important but neglected area of personality research.

The most important feature of the child's community environment is the school, where social interaction occurs at two levels; between the child and his teacher, and between the child and his peers. The child's adjustment in these situations was assessed by the Bristol Social Adjustment Guides: The Child in School (Stott, 1965). The Guides are completed by the class teacher, and provide a comprehensive picture of the child's behaviour in terms of two major syndromes, Under-reaction and Over-reaction.

Research has indicated that Bristol maladjustment scores are closely associated with reading retardation (Gregory, 1965; Sampson, 1965), although no causal relationship has been established. Sampson (1965, p. 189) recommends that "... the nature of the maladjustments mainly involved in reading backwardness need study ... careful clinical investigations even with small but well-defined groups could tell us much".

The Social Adjustment Guides therefore provided data on the child's social learning in the school environment, and also were examined to determine the nature and direction of change in the adjustment of the retarded readers.

Conceptualization ability is thought to be closely related to the acquisition of critical thought and independent action. The Draw-a-Person test (Harris, 1963a) measures an attribute called concept formation, which is defined by Harris, (1963b) to consist of three abilities:

1. ability to perceive similarities and differences;
2. ability to abstract, or classify;
3. ability to generalize, by assigning new objects to existing categories.

Thus, the Draw-a-Person test was included in the test battery, in an attempt to obtain an independent and non-verbal measure of the two principal goals. Heiss and Mischio (1971) reported that this was achieved by the provision of a "meaningful context" for the traditional skills of reading, writing and arithmetic. If the S.L.C. brings about social readjustment in an "expanding environment", and enhances the child's "mode of learning", then it was hoped that basic academic skills also would show improvement. Academic skills of reading and spelling were monitored throughout the project to determine progress, and to assess the child's readiness to return to the normal classroom.

To summarize, the Social Learning Curriculum had provided a coordinated approach to the education of mentally retarded children. This report describes an investigation in which the Curriculum was introduced to a remedial clinic for children with specific learning disabilities.

The effectiveness of the Curriculum was evaluated in three areas:

1. Social learning was assessed in three environments — the Self, the Home and family, and the School — using three psychometric tools. A secondary goal of the investigation was to identify maladjustment patterns associated with low reading achievement in the school environment.
2. The development of critical thought and independent action was assumed to require conceptualization ability, which was assessed by the Draw-a-Person test.
3. Reading skills and spelling ability were monitored to measure the children's progress, and to investigate the Curriculum's effective ability to integrate educational goals in a remedial classroom.

## 2. METHOD.

2.1 *General Procedures.* The remedial Clinic was situated in one classroom of the Graylands Primary School. Seven children were given intensive remedial instruction by two teachers each morning, and then returned to their appropriate grades for non-academic classwork during the afternoons. For a complete description of the Clinic's activities, see Fulmer and Jenkins, (1975a).

The Social Learning Curriculum was administered to the children on a group basis. One teacher followed the procedures and organization outlined in the Teacher's Manual (Goldstein, 1974) and presented activities from the appropriate unit for thirty minutes each morning.

The ten units covered a variety of topics which constituted "... a totality of learning necessary for the individual to function adequately in society." (Goldstein, 1974, p. 5). The units were ordered according to the degree of difficulty of the concepts involved, and are listed in Table 2.1.

TABLE 2.1 Organization of the Social Learning Curriculum.

Unit	Topic
1	Perceiving Individuality
2	Recognizing the Environment
3	Recognizing Interdependence
4	Recognizing the Body
5	Recognizing and Reacting to Emotions
6	Recognizing what the Senses do
7	Communicating with others
8	Getting along with others
9	Identifying Helpers
10	Maintaining Body Functions

2.2 *Subjects.* Six boys and one girl participated in the study. The mean age of the subjects was 10 years 2 months, and all had been referred for remedial treatment by psychologists from the West Australian Education Department.

Some of the children had attended the clinic in the preceding year, and one subject was admitted during the programme. Relevant information concerning each child is presented in Table 2.2.

The two teachers who participated in the study were experienced in normal primary classroom procedures, and had worked in the Clinic for twelve months prior to the introduction of the S.L.C. The Senior Author directed the Clinic staff and supervised all assessment procedures.

TABLE 2.2 Description of the children who participated in the study.

Subject	Date of Birth	Feb. 1975	Date of Admission to Clinic	IQ Test Results	Reason for Referral
Tina M.	3.9.63	11y4m	Feb. 1974	WISC V: 95 89 P: 85	2nd year of intensive remedial work
David B.	1.12.63	11y2m	Feb. 1974	WISC V:108 108 P:108	2nd year of intensive remedial work
John H.	27.11.62	12y2m	Feb. 1974	WISC V:103 104 P:106	2nd year of intensive remedial work
Jeffrey B.	10.2.67	8y0m	Feb. 1975	St-Binet 105	Wide discrepancy between oral and written work
Mark F.	22.3.64	10y10m	Feb. 1974	WISC V:101 110 P:118	3 yr lag in reading and spelling
Jeffrey L.	19.11.67	7y2m	Feb. 1975	WISC V: 92 93 P: 94	Poor achievement in first two school years
George L.	25.5.64	10y8m	June 1975	WISC: "Borderline Retarded"	3 yr lag in reading. 4 yr lag in spelling.

2.3 Evaluation. Pre-test and Post-test measures were taken prior to the commencement of the curriculum (February, 1975) and at the completion of the ten units in October, 1975. Hence, the inter-test interval was approximately eight months, of which one month was school vacation. All subjects were tested individually by staff members from the Psychology Department of the Graylands Teachers College. The test battery is summarized below.

### 2.3.1 Social Learning.

(a) Self: *Personal Adjustment Inventory* (Rogers, 1931). Self-completion booklet suitable for children aged from nine to thirteen. Separate forms for girls and boys; revised norms available from Burchinal, Gardner, and Hawkes, (1958).

2.3.1 (b) *Home and Family: Family Relations Test* (Bene and Anthony, 1965). Separate forms for Young Children (5 - 8) and Older Children (9 - 13): norms available from Frost (1969).

(c) *School: The Bristol Social Adjustment Guides: The Child in School* (Stott, 1965). Behaviour checklists for boys and girls, completed by the class teacher. Sampson (1965) summarizes the Maladjustment scores for high and low achievers in reading.

2.3.2 *Conceptualization Ability: Goodenough-Harris Draw-a-Person Test* (Harris, 1963a). Provides an index of the child's conceptual ability up to the age of 12. Harris (1963b) reports that the results are unrelated to artistic talent, and recommends averaging the Man and Woman Standard Scores to obtain the best estimate of ability. There is a slight but consistent tendency for girls to score higher than boys on both scales.

### 2.3.3 Academic Progress.

(a) *Reading*: The Gates-McKillop Reading Diagnostic Tests (1962) provide a comprehensive evaluation of seven skill areas essential to fluent reading. Subjects were tested on parallel forms at pre- and post-test.

(b) *Spelling*: General spelling ability was assessed on Forms A and B of the Schonell Graded Word Spelling Test.

## 3. RESULTS AND DISCUSSION.

The test results for each section of the evaluation programme are presented and discussed separately. Then the General Discussion section summarizes the major findings and examines the effectiveness of the Social Learning Curriculum for this group of learning-disabled children.

### 3.1 Assessment of Social Learning in Three Environments.

3.1.1 *Personal Adjustment Inventory*. Pre-test and Post-test scores on the inventory were obtained for all subjects except Jeffrey L., who was unable to understand the test procedure. Raw scores were categorized as indicating a Low (L), Medium (M), or High (H) degree of maladjustment according to norms supplied by Burchinal et al (1958). The overall distribution of maladjustment improved from 7L:10M:7H at pre-test, to 12L:7M:5H at post-test. Distributions for the four subscales are presented in Table 3.1. The Social Maladjustment subscale showed the greatest change, from 1L:2M:3H to 3L:2M:1H, indicating a reduction in the severity of the judged children's maladjustment. Family Relation conflict was reduced; Daydreaming was essentially unchanged, and Personal Inferiority increased its proportion of medium and high maladjustment, at post-test. Individual scores for each child are presented in Appendix 1 (a).

**TABLE 3.1** Distribution of maladjustment categories for the four subscales of the Personal Adjustment Inventory, at Pre-test and Post-test.

Key: LOW: "Less than average evidence of any maladjustment".  
 MEDIUM: "Some evidence of conflict/unhappiness/difficulty".  
 HIGH: "Indicates rather a serious degree of maladjustment".

	LOW (L)	MEDIUM (M)	HIGH (H)
<i>PRE-TEST</i>			
Personal Inferiority	4	1	1
Social Maladjustment	1	2	3
Family Relations	0	5	1
Day Dreaming	2	2	2
Totals	7L	10M	7H
<i>POST-TEST</i>			
Personal Inferiority	2	2	2
Social Maladjustment	3	2	1
Family Relations	4	1	1
Day Dreaming	3	2	1
Totals	12L	7M	5H

3.1.2 *Family Relations Test*. Scores on the Family Relations Test were averaged to determine the mean number of choices for four significant family members (father, mother, next oldest sibling and next youngest sibling), and nobody. The scores were categorized as outgoing positive or negative feelings, and incoming positive and negative feelings. The group data is summarized in Table 3.2; raw data is contained in Appendix 1 (b).

**TABLE 3.2** Family Relations Test: Quantity of interaction, as measured by the mean number of choices for significant family members at Pre- and Post-test.

Key: 0+ : outgoing positive feelings  
 0- : outgoing negative feelings  
 1+ : incoming positive feelings  
 1- : incoming negative feelings

	Father <sup>1</sup>		Mother		Nobody		Next Oldest Sibling <sup>2</sup>		Next Youngest Sibling <sup>3</sup>	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
0+	3.0	4.2	5.0	5.7	6.0	5.7	2.5	3.0	2.8	3.25
0-	0.3	0	0.6	0.9	7.0	9.0	3.0	2.5	3.6	2.50
1+	2.7	4.5	4.1	5.1	5.3	5.0	1.8	3.5	3.8	4.25
1-	1.2	0.3	0.1	0.6	7.7	8.4	2.8	2.0	1.0	1.0
Total Mentions	7.2	9.0	9.9	12.3	26.0	28.1	10.2	11.0	11.2	11.0

NOTE: 1. N=6; MF's father deceased.  
 2. N=6; DB is eldest child.  
 3. N=4; MF, JH and GL are youngest children.

Examination of Table 3.2 indicates the perceived total amount of interaction with each family member. The mean total mentions increased from 38.5 to 43.3 (excluding Nobody). The increase is reflected for all family members except the next youngest sibling, who showed a slight decline from 11.2 to 11.0 mean total mentions.

The quality of this increased interaction may be characterized as positive, negative or ambivalent. In Table 3.3 the data has been reorganized to examine the total positive and total negative choices for each member.

**TABLE 3.3** Quality of family interaction, as measured by the next total of the positive and negative feelings attributed to each family member.

Positive feelings = (0+) plus (1+)  
 Negative feelings = (0-) plus (1-)

	Father		Mother		Nobody		Next Oldest Sibling		Next Youngest Sibling	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
+	5.7	8.7	9.1	10.8	11.3	10.7	4.3	6.5	6.6	7.5
-	1.5	0.3	0.7	1.5	14.7	17.4	5.8	4.5	4.6	3.5
Nett Total	+4.2	+8.4	+8.4	+9.3	-3.4	-6.7	-1.5	+2.0	2.0	4.5

The overall positive response to Father and Mother has been increased at the Post-test, especially for Father. Interaction of the subjects with their next oldest sibling is characterized by a sibling "rivalry", or ambivalence of feeling. However, the "tone" of the rivalry has swung from slightly negative at Pre-test (-1.5) to slightly positive at Post-test (+2.0). The younger sibling was perceived with some ambivalence at Pre-test (+2.0), but more positively at Post-test (+4.5).

Thus, the group perceived an improvement in the total quantity and positive quality of family interactions. To determine whether or not these interactions have reached "normal" status, the post-test data was compared with norms for normal and non-reader boys (Frost, 1969). See Table 3.4 for the comparison data.

TABLE 3.4 Comparison of "Normal" and "Non-Reader" Groups (Frost, 1969) with remedial clinic scores obtained at the post-test administration of the Family Relations Test.

	0+			0-		
	11-Year Normal Boys	Non-Reader	Remedial Clinic	11-Year Normal	Non-Reader	Remedial Clinic
Father	4.80	3.00*	4.2	1.49	2.75	0
Mother	5.41	3.70*	5.7	1.33	1.15	0.9
Nobody	5.47	4.50	5.7	5.35	5.30	9.0
	1+			1-		
	11-Year Normal	Non-Reader	Remedial Clinic	11-Year Normal	Non-Reader	Remedial Clinic
Father	4.17	2.45**	4.5	2.06	2.60	0.3
Mother	5.73	3.65**	5.1	1.62	1.65	0.6
Nobody	4.78	3.75	5.0	7.33	5.35	8.4

\*Significantly different from "Normal" Group at  $p > 0.05$  level.

\*\*Significantly different from "Normal" Group at  $p > 0.01$  level.

In every cell of Table 3.4, the mean number of choices for the remedial group is more similar to the "normal" than are the "non-reader" choices. Hence it may be concluded that the perceived Family relations of the remedial group approached normal status at the time of the post-test.

3.1.3 *Bristol Social Maladjustment Guides: The child in School.* The Bristol Guides provide eight separate scores which are grouped as Under-reaction and Over-reaction. Under-reaction consists of Unforth-

comingness, Withdrawal, Depression, and Non-syndromic under-reaction; the mean total Under-reaction score decreased from 2.1 to 0.9 during the inter-test interval (See Table 3.5). The syndrome mainly responsible for this change was Unforthcomingness, which was measured by items such as "too shy to ask", and "has to be encouraged to take part".

TABLE 3.5 Mean total maladjustment scores on the Bristol Social Maladjustment Scores at Pre-test and Post-test.

	SYNDROME	PRE-TEST	POST-TEST
UNDER-REACTION	Unforthcomingness	1.3	0
	Withdrawal	0.3	0.3
	Depression	0.2	0.2
	Non-Syndromic Under-Reaction	0.3	0.4
	Mean Total U.R.	2.1	0.9
OVER-REACTION	Inconsequence	2.0	2.2
	Hostility	3.4	2.6
	Peer Maladaptiveness	0.9	0.9
	Non-Syndromic Over-Reaction	0.4	1.7
	Mean Total O.R.	6.7	7.4
	Mean Total Maladjustment Score	8.8	8.3

The four scales contributing to Over-Reaction are Inconsequences, Hostility, Peer Maladaptiveness and Non-syndromic over-reaction. From Table 3.5 it can be seen that the mean total Over-reaction score increased from 6.7 at pre-test to 7.4 at post-test. Most of this change was accounted for by changes in the non-syndromic over-reaction, which was measured by items such as "follower in mischief", "frequently absent for day or half day" and "slumps, lolls about at desk". Individual data for each syndrome is in Appendix 1 (c).

One change which is not reflected by the mean total scores was the reduction in Hostility, from 3.4 to 2.6. Items scored for this scale included "inclined to be moody", openly does things wrong in front of teacher", and "flies into temper if provoked".

The overall picture presented by these changes is that, at post-test, the children were more inclined to participate in class, and less antagonistic towards the teacher, but still followers among their respective peer groups.

Bristol maladjustment scores of the remedial group were compared with scores of third year primary school children who were high and low achievers in reading (Sampson, 1965). Table 3.6 indicates that mean scores from this study were between the two extremes.

**TABLE 3.6** Comparison of maladjustment scores for remedial group with scores of third year primary school children (from Sampson, 1965).

SUBJECT GROUP	MEAN BRISTOL GUIDE MALADJUSTMENT SCORE
3rd Grade Highest Readers	6.9
Post-test Remedial Group	8.3
Pre-test Remedial Group	8.8
3rd Grade Lowest Readers	17.2

This comparison may not be valid, because Sampson's group was approximately two years younger than the subjects of the present study. However, the conclusion that the remedial group were not severely maladjusted also is supported by evidence from the Test Manual. Stott (1965) provides cut-off points for gauging the degree of severity of each syndrome; none of the scores obtained at pre- or post-test fell into the "severe" category of maladjustment.

### 3.2 Assessment of Conceptualization Ability.

The mean standard scores on the Draw-a-Person Test at pre-test and post-test are presented in Table 3.7 Standard scores for the Man and Woman sub-tests were averaged to provide a best estimate; the mean of

these standard scores decreased from 90.4 to 84.3. The only girl scored above the group average, but her scores also decreased from pre-test (95.5) to post-test (91.5). The spread of the Man and Woman standard scores increased from a pre-test range of 76-105, to a post test range of 70-113. Individual data may be inspected in Appendix 2.

**TABLE 3.7** Mean standard scores on the Draw-a-Person test at pre-test and post-test.

	PRE-TEST	POST-TEST
Man	91.6	88.1
Woman	89.3	80.4
Mean	90.4	84.3

An increase in variability, plus a decrease in mean standard scores indicates that the children's conceptual ability did not change, and may even have deteriorated after participation in the Social Learning Curriculum.

These results provoke two questions:—

1. Does the S.L.C. influence the development of conceptualization ability in children with specific learning disabilities?
2. If the S.L.C. influence conceptualization ability, how much participation is required before effective results are obtained?

These questions will be considered in the General Discussion, after consideration of all the psychological and achievement test data.

### 3.3 Evaluation of Reading and Spelling Progress.

**3.3.1 Reading:** Administration of the Reading Diagnostic Tests demonstrated gains in all seven areas of reading skill after the 8 month intertest-interval. Table 3.8 indicates that the largest gain in mean reading ages occurred for phrase recognition (+16 months). This is particularly encouraging, as it suggests that the children are beginning to read for meaning, rather than persisting with a word-by-word approach to the task. Even the smallest mean gain (+7 months for word recognition) is equivalent to normal progress, something which this particular group had not achieved for several years prior to their admission to the Clinic.



TABLE 3.8 Mean age scores (in years and months) for the pre-test and post-test results of the Gates-McKillop Reading Diagnostic Tests. Raw data in Appendix 3.

SUB-TEST	PRE-TEST	POST-TEST	GAINS
Oral Reading	8-6	9-9	15 months
Sight Recognition	8-1	8-11	10 months
Word Recognition	8-6	9-1	7 months
Phrase Recognition	9-1	10-5	16 months
Knowledge of Word Parts	77.1%	89.2%	12.1%
Recognizing the Visual Form of Sounds	83.3%	93.7%	10.4%
Auditory Blending	88.4% George L: 50% 6Ss : 90%+	George L: 80% Other subjects Not tested	N.A.

3.3.2 *Spelling*: Mean spelling age increased from 7 years 5 months to 7 years 10 months, a gain of 5 months over the 8 months interval. Although this demonstrates positive improvement, comparison with the mean chronological age of 10 years 10 months (October, 1975) indicates that the rate of gain must be doubled if the children are to overcome their disabilities and return to the normal classroom.

TABLE 3.9 Schonell Spelling Ages (in years and months) at the Pre-test and Post-test.

SUBJECT	PRE-TEST	POST-TEST	GAINS
Tina M.	8-4	8-9	5 months
David B.	8-10	9-0	2 months
John H.	7-0	7-5	5 months
Jeff B.	7-0	7-6	6 months
Mark F.	7-8	8-2	6 months
Jeff L.	6-0	7-0	12 months
George L.	6-11	7-2	3 months
	51-9	55-0	39 months
	7-5	7-10	5 months

#### 4. GENERAL DISCUSSION AND CONCLUSION.

4.1 *Effectiveness of the Social Learning Curriculum*. The implementation of the Social Learning Curriculum in a Remedial Clinic was accompanied by a variety of changes in social-emotional behaviour and educational achievement.

The seven children who participated in the study perceived a reduction in their own social maladjustment, as measured by the Personal Adjustment Inventory. This reduced maladjustment was confirmed by the recorded observations of the class teacher who completed the Bristol Guides for each child.

Secondly, the Inventory indicated a reduction in family conflict. Further investigation, via the Family Relations Test, revealed that total interaction with significant family members had improved in both quantity and positive quality.

However, personal inferiority scores on the Inventory increased during the inter-test interval. This may be explained by consideration of the children's behaviour in school, which was acceptable in the teacher's presence, but which deteriorated within the peer-group (according to the Bristol Guides). It is suggested that this inconsistency was due to the teacher-directed nature of the social learning activities. The group apparently learned socially acceptable behaviour in the presence of one adult, and generalized this behaviour to other adults in the family and school environments. However, the behaviours were not established with sufficient strength to control actions and perceived self esteem in peer-group situations.

The failure of the children to improve in conceptualization ability was unexpected and disappointing. There are several possible explanations for the observed failure:—

1. The S.L.C. does not influence conceptualization ability in children with specific learning disabilities.<sup>1</sup>

If this is true, it is a very serious criticism of the programme, as conceptualization is essential to academic progress and to the ultimate educational goal of creative self-direction (Wilson, 1974). Lehrer and Schimoler (1975) have presented evidence that the S.L.C. does improve cognitive ability and behavioural independence in mentally retarded subjects, but further research is required before the programme can be said to achieve its stated goals with non-retarded children.

2. The development of conceptualization ability requires more than eight months' participation in the S.L.C. before progress is demonstrated in learning-disabled subjects.

*Footnote: (1)*

It is assumed that conceptualization ability, as defined by Harris (1963b), is necessary to the development of critical thought and independent action. For example, it would not be possible to be independent unless one was able to discriminate, classify and generalize behaviours in new situations.

This is a reasonable explanation, and again further research is required to determine the time period necessary for the S.L.C. to produce optimal results. It would be undesirable if this period was longer than one academic year.

The gains made in reading and spelling abilities indicate that the total Clinic programme was achieving its first and most immediate goal of intensive remedial treatment. It is not possible to measure the direct contribution of the S.L.C. to these gains, but comments from the teachers involved suggested that the classroom became a much more effective learning environment as topics such as "recognizing interdependence" and "communicating with others" were pursued. The S.L.C. also provided many contexts in which language skills were relevant and purposeful.

*4.2 Criticisms of the Study.* The major problem associated with the study is that there were no control procedures with which to compare the effectiveness of the Social Learning Curriculum. Pre-test measures have enabled us to describe the situation at the beginning of the year, and to compare this with the improved situation at the end of the year, but it is not possible to nominate any single factor responsible for the intervening changes. However, the results do confirm the predicted changes in Family and School environments, and the S.L.C. was the only deliberate policy change in these areas. For example, contact with the families of the children involved indicated that no other welfare agency or counselling service had provided any special assistance during the year.

The presentation of results may be criticized for attempting to summarize personality data for seven individuals. Indeed, there were many interesting individual trends, and these may be examined in the appendices; our principal concern was to establish the usefulness of the S.L.C. for teachers of remedial classes. The results of this study provide sufficient indications to justify the establishment of a large-scale project, with the appropriate control procedures and statistical evaluation of results.

#### *4.3 Recommendations:*

1. The S.L.C. influenced family and school interactions, but did not improve peer-group relations and resulted in increased personal inferiority. It is recommended that the emphasis on teacher-direction of activities be reduced gradually, until the children are initiating their own projects within each unit, and taking turns at leading the group. If non-retarded children could perceive improvement in their educational and social achievements, then it is predicted that their self-esteem will increase. This is a particularly important aspect of the education of children who have been singled out from their normal classes to receive remedial tuition.

2. Conceptualization ability did not improve as a consequence of eight months' participation in the S.L.C. As this ability was supposed to be programmed into the instructional units, it is recommended that further research investigate the suitability

of the S.L.C. for children with specific learning disabilities. The Curriculum was designed for mentally-retarded children, and it may be that those responses which were considered to be evaluative and independent for the original group are not adequate for children with normal potential. Perhaps the S.L.C. should be modified to place greater emphasis on the skills of discrimination, classification and generalization, and to have increased expectations of the participating subjects.

3. Reading and spelling skills improved, but spelling did not accelerate at a satisfactory rate. It is recommended that spelling receive further attention, and this may be possible by a reorganization of the Clinic's daily timetable. The S.L.C. was designed to provide a totally integrated curriculum, and required only to be supplemented with literacy and mathematical skills. In the Clinic described in the study, the S.L.C. was only utilized for thirty minutes each morning. It is therefore suggested that all other activities, such as writing, excursions and physical education, should be subsumed under the S.L.C. programme. If these activities were then scheduled according to the S.L.C., and not on an arbitrary "twice a week" basis, there should be more time to devote to skills sessions.

A second recommendation related to the integration of academic skills concerns mathematical ability. The children of this study were not referred for remedial maths work, but this is an important area which should not be neglected in future evaluations of the S.L.C.

#### *4.4 Conclusion:*

The Social Learning Curriculum was designed to provide an integrated curriculum for the education of children with general learning disabilities. The two major goals of the programme are the development of critical thought and independent action, and this is achieved through a variety of expanding environments.

The present study attempted to evaluate the effectiveness of the Curriculum when applied to a remedial group of children with specific learning disabilities. Evaluation in the Self, Family and School environments indicated changes in the Family and School, but not in the Self, especially when involved with the peer-group. Critical thought and independent action were assumed to require conceptualization ability, but this did not develop over the eight month inter-test interval. Reading and spelling skills were shown to improve as a consequence of participation in the Clinic programme.

The study was criticized for its lack of control procedures, and recommendations for future research were made. It was concluded that, with proper integration of the Curriculum and greater emphasis on conceptualization skills and pupil initiative, the S.L.C. will provide a comprehensive approach to the education of children with specific learning disabilities.

APPENDIX 1 (a) Distribution of maladjustment categories for each subject, on the Personal Adjustment Inventory at Pre-test and Post-test.

Key: LOW: "Less than average evidence of any maladjustment".  
 MEDIUM: "Some evidence of conflict/unhappiness/difficulty".  
 HIGH: "Indicates rather a serious degree of maladjustment".

PRE-TEST	PERSONAL ADJUSTMENT INVENTORY			
	SUBJECT	Personal Inferiority	Social Maladjustment	Family Relations
Tina M.	M	M	M	L
David B.	L	H	M	H
John H.	L	M	M	M
Jeffrey B.	H	H	M	M
Mark F.	L	L	H	L
Jeffrey L.	Terminated testing due to lack of understanding			
George L.	L	H	M	H
POST-TEST				
Tina M.	H	H	L	M
David B.	M	M	L	L
John H.	L	L	L	M
Jeffrey B.	M	M	H	L
Mark F.	H	L	M	L
Jeffrey L.	Not Applicable			
George L.	L	L	L	H

APPENDIX 1 (b) FAMILY RELATIONS TEST

Number of choices for significant family members for all subjects at Pre-test.

Family Members	SUBJECTS							Mean Scores	
	MF	JB	JL*	JH	TM (girl)	DB	GL		$\bar{X}$
<b>Father</b>									
0+		5	1	2	6	2	2	18	3.0
0-		0	1	1	0	0	0	2	0.3
1+		2	2	3	5	4	0	16	2.7
1-		0	4	1	1	1	0	7	1.2
<b>Total Mentions</b>		7	8	7	12	7	2	43	7.2
<b>Mother</b>									
0+	6	4	4	4 <sup>†</sup>	7	7	3	35	5.0
0-	0	0	0	0	0	2	2	4	0.6
1+	6	3	3	5	5	3	4	29	4.1
1-	0	0	0	0	0	1	0	1	0.1
<b>Total Mentions</b>	12	7	7	9	12	13	9	69	9.9
<b>Nobody</b>									
0+	8	3	1	9	6	11	4	42	6.0
0-	8	14	2	10	6	4	5	49	7.0
1+	7	1	2	8	6	8	5	37	5.3
1-	8	13	1	7	9	9	7	54	7.7
<b>Total Mentions</b>	31	31	6	34	27	32	21	182	26.0
<b>Next Eldest Sibling</b>									
0+	0	4	2	1	4	N.A.	4	15	2.5
0-	6	0	0	7	3		2	18	3.0
1+	0	3	0	0	3		5	11	1.8
1-	4	1	0	7	2		3	17	2.8
<b>Total Mentions</b>	10	8	2	15	12		14	61	10.2
<b>Next Eldest Sibling</b>									
0+		9	0	N.A.	5	0	N.A.	14	2.8
0-	N.A.	0	2		4	12		18	3.6
1+		10	1		5	2		19	3.8
1-		0	0		0	5		5	1.0
<b>Total Mentions</b>		19	3		14	19		56	11.2

\*Scoring sheet for young children.

† JH's mother has vanished from home (whereabouts unknown) but JH still included her as one of the family.

APPENDIX 1 (b) Number of choices for significant family members for all subjects at Post-test.

SUBJECTS								Mean Scores	
Family Members	MF	JB	JL*	JH	TM (girl)	DB	GL		$\bar{X}$
<b>Father</b>									
0+	Deceased	5	2	4	8	4	2	25	4.2
0-		0	0	0	0	0	0	0	0
1+		4	3	6	4	7	3	27	4.5
1-		0	1	1	0	0	0	2	0.3
<b>Total Mentions</b>		9	6	11	12	11	5	54	9.0
<b>Mother</b>									
0+	7	7	3	4	8	3	8	40	5.7
0-	2	0	0	0	0	4	0	6	0.9
1+	6	6	3	6	5	4	6	36	5.1
1-	0	0	0	0	0	3	1	4	0.6
<b>Total Mentions</b>	15	13	6	10	13	14	15	86	12.3
<b>Nobody</b>									
0+	8	0	0	13	5	11	3	40	5.7
0-	11	8	4	15	7	12	6	63	9.0
1+	9	0	0	9	6	8	3	35	5.0
1-	14	9	3	13	6	11	3	59	8.4
<b>Total Mentions</b>	42	17	7	50	24	42	15	197	28.1
<b>Next Oldest Sibling</b>									
0+	4	4	0	0	3	N.A.	7	18	3.0
0-	4	2	4	1	2		2	15	2.5
1+	6	4	0	3	2		6	21	3.5
1-	2	0	2	2	4		2	12	2.0
<b>Total Mentions</b>	16	10	6	6	11		17	66	11.0
<b>Next Youngest Sibling</b>									
0+	N.A.	9	0	N.A.	4	0	N.A.	13	3.25
0-		0	4		4	2		10	2.50
1+		12	0		5	0		17	4.25
1-		0	2		1	2		4	1.00
<b>Total Mentions</b>		21	6		14	4		44	11.00

\*Scoring sheet for younger children.

APPENDIX 1 (c) Individual scores for each syndrome at pre and post-test, on the Bristol Social Adjustment Guides: The child in School.

Subject	U	W	D	UR	UR Total	Q	H	PM	OV	OR Total
<b>PRE-TEST</b>										
Mark F.	0	0	0	0	0	0	0	0	0	0
Jeff. B.	1	0	0	0	1	2	0	1	1	4
Jeff. L.	1	0	0	0	1	8	6	1	0	15
John H.	0	0	0	1	1	2	5	0	2	9
Tina M.	1	0	0	0	1	0	5	2	0	7
David B.	0	1	0	0	1	2	8	2	0	12
George L.	6	1	1	1	9	0	0	0	0	0
<b>Mean</b>	1.3	0.3	0.2	0.3	2.0	2.0	3.4	0.9	0.4	6.7
<b>POST-TEST</b>										
Mark F.	0	0	0	0	0	0	2	0	2	4
Jeff. B.	0	0	0	0	0	1	0	2	3	6
Jeff. L.	0	0	0	0	0	6	4	3	0	13
John H.	0	0	0	0	0	3	2	0	2	7
Tina M.	0	0	0	0	0	2	8	0	3	13
David B.	0	2	0	0	2	2	2	1	2	7
George L.	0	0	1	3	4	1	0	0	0	1
<b>Mean</b>	0	0.3	0.2	0.4	0.9	2.2	2.6	0.9	1.7	7.3

Key: UR: Under-Reaction      OR: Over-Reaction  
 U: Unforthcomingness      Q: Inconsequence  
 W: Withdrawal      H: Hostility  
 D: Depression      PM: Peer Maladaptiveness  
 UR: Nonsyndromic Under-reaction      OV: Nonsyndromic Over-reaction.

APPENDIX 2. Standard Scores obtained on the Draw-a-Man and Draw-a-Woman tests at Pre-test and Post-test.

SUBJECT	PRE-TEST	POST-TEST
Tina M.	Man 92 Woman 99	Man 84 Woman 99
David B.	Man 94 Woman 87	Man 97 Woman 89
John H.	Man 93 Woman 80	Man 78 Woman 70
Jeffrey B.	Man 87 Woman 80	Man 89 Woman 69
Mark F.	Man 105 Woman 92	Man 113 Woman 79
Jeffrey L.	Man 94 Woman 87	Man 75 Woman 79
George L.	Man 76 Woman 100	Man 81 Woman 78

APPENDIX 3. Raw scores and age scores (year and months) on the pre- and post-test of the Gates-McKillop Reading Diagnostic Tests.

SUBJECT	Oral Reading	Flash Words	Untimed Words	Flash Phrases	Word Parts	Visual Forms	Auditory Blending
Tina M.	9-8 (23.4)	8-6 (16)	8-8 (39)	10-3 (23)	75%	85.7%	93%
David B.	9-9 (23.8)	8-9 (20)	8-9 (42)	9-4 (21)	89%	85.7%	100%
John H.	8-5 (13.6)	7-11 (13)	8-8 (39)	10-3 (23)	80%	85.7%	100%
Jeff B.	7-11 (9.5)	7-8 (12)	8-5 (31)	7-7 (10)	77%	85.7%	90%
Mark F.	8-2 (12.5)	8-3 (15)	8-10 (46)	8-2 (16)	87%	94%	93%
Jeff L.	7-0 (1.7)	6-11 (5)	7-4 (12)	7-1 (6)	68%	68.2%	93%
George L.	8-7 (16.5)	8-9 (19)	8-10 (44)	10-6 (24)	64%	77.8%	50%
	59-6	56-9	59-6	63-2	54.0	582.8	619
$\bar{X}$	8-6	8-1	8-6	9-1	77.1%	83.3%	88.4%
Tina M.	9-9	9-4	9-1	10-6	91%	98%	—
David B.	10-8	9-6	9-6	10-6	94%	95%	—
John H.	9-7	8-10	9-10	10-3	93%	98%	—
Jeff B.	9-9	8-7	8-8	10-6	94%	90%	—
Mark F.	9-7	8-8	8-9	10-3	90%	94%	—
Jeff L.	9-1	--	—	—	—	—	—
George L.	9-10	8-9	8-10	10-6	73%	87%	80%
	67-3	53-8	54-8	62-6	535	562	
$\bar{X}$	9-9	8-11	9-1	10-5	89.2%	93.7%	

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