COORDINATING METAPROGRAMMING
FOR
AN INTEGRATED APPROACH TO LANGUAGE LEARNING

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This project was established to develop a multidisciplinary format for the assessment and treatment of language related learning problems based on an integrated language approach. Seventeen children between the ages of six and nine years who displayed serious language learning difficulties in spite of evidence of normal potential participated in a four week project. Structured activities and facilitative techniques were integrated for the development of language (listening, speaking, reading, and writing). Evaluation by staff and parents and pre- and post-behavioral observations indicated that: an integrated language approach based on metaprogramming is most advantageous for children with language learning difficulties; parents should be active participants in a diagnostic treatment program; a multidisciplinary format is most beneficial for effecting a total language learning approach.

Ce projet a été mis sur pied afin de développer un modèle multidisciplinaire d'évaluation et de traitement des troubles d'acquisition developement) du langage, modèle basé avant tout sur une approche intégrée du langage aux diverses activités offertes. Dix-sept enfants âgés de six à neuf ans, présentant de graves troubles d'acquisition du langage, en dépit d'un potentiel d'acquisition normal, ont participé au projet d'une durée de quatre semaines. Des activités structurées, de même que des techniques de facilitation furent intégrées afin de favoriser le développement du langage (par l'écoute, la parole, la lecture et l'écriture). L'évaluation du programme par le personnel et les parents, ainsi que des observations sur le comportement pré- et post-traitement ont démontré que; une approche intégrée du langage basée sur un programme à facettes multiples est des plus avantageuses pour les enfants présentant des retards de langage; importants; les parents devraient toujours être impliqués activement dans un programme de rééducation du langage; un modèle multidisciplinaire est des plus bénéfiques pour assurer une approche globale du développement du langage d'un enfant.

The Child Guidance Clinic of Greater Winnipeg is a school-based support system offering a multi-disciplinary team of professionals including psychologists, psychiatrists, social workers, speech/language clinicians, reading clinicians, and audiologists. The service delivery is designed to meet the support needs of individual schools. Referrals are accepted for learning difficulties, communication problems and social/emotional problems. The members of

the multidisciplinary team work directly with students, families and school support personnel including teachers, resource teachers, teacher aides, volunteers, guidance counsellors and administrators.

PURPOSE

The Summer Project was established as a Child Guidance Clinic pilot program to develop a multi-faceted integrated approach to language learning, which would incorporate the needs of children with a wide variety of language difficulties. It was designed to provide opportunities for clinical observations and intervention in a group learning environment and individual therapy through the use of metaprogramming. It incorporated the following positions:

1. "Disorders of language comprise the majority of learning disabilities" (ASHA, 1982, p. 937).

2. A total language approach based on the concept of metaprogramming in which both structured activities and facilitative language experiences are integrated within the modalities of language (speaking listening, reading, and writing) would be most advantageous to the child involved.

3. Parents should be active participants in any remediation program for children with language learning problems.

4. A multi-disciplinary diagnostic treatment format is most beneficial for effecting a total language learning approach.

RATIONALE

The position that disorders of language comprise the majority of learning disabilities has been widely supported in the literature. Gonzales (1980, p. 668) stated, "Effective reading instruction builds upon the child's linguistic competence." Goodman (1973) also indicated that instruction in reading assumes that the child has a basic control over his/her language and brings this knowledge to the reading process. Vellutino and Shub (1982, p. 25) stated:

> ... We consider linguistic ability to be extremely important to success in all aspects of reading, and that deficiencies in one or more of the domains of language will have deleterious effect on the acquisition of reading subskills.

Don Holdaway (1979, p. 12) stated that "literacy is a matter of language" and is related to listening and speaking, and that reading and writing should not be taught as discrete subjects isolated from spoken language forms.

A holistic language approach in which language learned through one modality could be used to support language growth and expression in the modalities (speaking, listening, reading, and writing) was suggested as well by Margaret Atwell (1983).

Various techniques for the development of language and literacy have been outlined in the literature. Gonzales (1980) supported a "language experience" approach for the teaching of reading in which children were provided with concrete experiences and opportunities to talk about them. Language was modelled and expanded with emphasis on listening and sharing of ideas rather than isolated drill and correction of grammar and syntax. Boyd (1980) described a facilitation program using "listening books" in which children made gains in semantics and concept of print and letter recognition but required a more formal program for syntax development.

Facilitative language techniques have also been discussed widely in the literature. Hubbel (1977) indicated that a facilitative approach to language development permitted the child to change by modelling. Such techniques include self-talk, parallel talk, modelling, expansion and appropriate use of questioning techniques. Hubbel suggested that encouraging spontaneous talk and training specific language skills were two different endeavors that required quite different clinical strategies. He indicated that a formal teaching program was not necessary for increasing the amount and use of spontaneous language for all children, and that facilitation techniques had been demonstrated to be useful in cases of mental retardation, second language acquisition and functional language delay. Hubbel indicated, however, that a facilitative approach would not seem to be the treatment of choice for children who talk an adequate amount but demonstrate specific processing problems with attention, auditory memory or disordered syntax. He further indicated that it may be appropriate to use both approaches with some children. Hubbel provided a framework for clinical intervention with language disordered children when he introduced the concept of metaprogramming. Within his model, facilitative work emphasizing the interpersonal aspects of language was carried out in a nursery school setting. Parent programs were combined with structured work emphasizing cognitive and linguistic aspects of language during individual clinic sessions.

The importance of parent involvement was emphasized in the position paper of ASHA's National Joint Committee on Learning Disabilities (ASHA, 1983, p. 45) in which it was stated that "Parents of and individuals with learning disabilities should be given maximal opportunties for a meaningful involvement in educational programs."

Although the Child Guidance Clinic provides a multidisciplinary setting, it has been our experience that children are often fragmented in the diagnostic process and treated categorically by clinicians representing different disciplines. The diagnostic treatment program described here was designed to be child focused, rather than discipline specific, in that a variety of procedures were incorporated based on each child's individual needs. Focusing on language learning created a child centered approach to language intervention in which the child and his language were treated as a total entitiy.

GOAL

The primary goal of the project was to develop a format for

multidisciplinary assessment and treatment of language-related learning problems. The following objectives were outlined:

1. to develop a team diagnostic treatment format including input from psychology, speech/language, reading and audiology,

2. to identify learning patterns for each child through on-going observations of oral and written language, behavior and learning styles, and through direct assessment where indicated,

3. to establish individual treatment goals for each child during a four-week program,

4. to establish teaching strategies for each child which could be realistically implemented in the school setting,

5. to develop a parent program for parents of children with language learning problems,

6. to provide a format for professional training.

Seventeen children (13 boys, 4 girls) from within the Winnipeg School Division No. 1 were selected and attended the summer language learning program. All children were between the ages of six and nine, and displayed serious language difficulties, causing them to be at risk for academic progress in spite of evidence of normal potential. Their language difficulty was not primarily due to sensory impairment, intellectual, emotional or second language causes. The children demonstrated a variety of language difficulties. Some evidenced limited vocabulary and concept development while others had difficulty acquiring the forms of language. Some had difficulty listening and understanding, while others could not express their ideas in sequence or evidenced word retrieval difficulties. All had difficulties with written language. All of the children were known to CGC and had been previously diagnosed by either a speech/language clinician and/or a reading clinician as having serious language difficulty warranting intervention. Each evidenced at least a two-year delay in language acquisition and/or language related academic learning as measured by formal test batteries. Clinical records indicated that 15 of the children evidenced normal potential on WISC-R scores and/or Yale Developmental Scales. No information regarding intellectual functioning was available for the other two.

METAPROGRAMMING

The concept of metaprogramming which was the essence of the summer Project involved the coordination of programs for children and their parents through the use of a variety of activities, techniques and personnel. Structured activities and facilitative techniques were integrated for the development of the four modalities of language (listening, speaking, reading, writing) in the areas of content, form and use. (See Appendix I)

METHOD

Children were assigned to one of four groups following two days of behavioral observations. Group selection was made on the basis of facility with written language and oral expression.

Children attended half-days for four weeks and were involved in activities based on the concept of metaprogramming. The project employed clinicians from the fields of psychology, speech, audiology, resource teachers from the Winnipeg School Division, and five student aides who were registered in speech pathology and education university programs. An aide and a clinician or resource teacher were assigned to each group of children. The program was coordinated by administrative supervisors (Area Service Directors) from the Speech and Hearing and Reading Departments of the Child Guidance Clinic. Funding for the project was received from Winnipeg School Division No. 1 and Canada Manpower.

Children participated in a variety of individual, and large and small group activities, emphasizing the total language process. These activities included language experiences, individual direct structured therapy, and individual diagnostic tutoring. A parent program was an integral component.

Continual behavioral observations assisted in determining group placement, monitoring of language, selecting target behaviors, diagnosis of problem solving abilities, and verification of goal attainment. This technique provided on-going assessment information used in the selection and revision of individual goals. Language samples and anecdotal recordings were kept for each child. Recording of observations and reassessment of goals were done daily. Direct testing was administered only in instances where existing data was incomplete or required further verification. This included intellectual assessment, assessment of learning style, audiological evaluations and Werner's Structured Photographic Language Test (1974). Comparisons of pre- and post-behavioral observation checklists were made to determine gains made at the development of listening skills, pre-reading skills, attitude toward written language and learning behaviors. (See Appendix II).

Coordination/Conferencing, Planning

In order to facilitate the coordination of metaprogramming, two hours each day were available for staff conferencing of individual cases, reviewing observational data, analyzing language samples, goal setting and preparing materials. All staff involved in the project contributed to discussions and were made aware of the individual goals and progress of each child.

Planning time also allowed professionals from various disciplines and experience backgrounds time to share ideas, skills, and philosophies pertinent to further development of skills in areas of clinical diagnosis, treatment of language learning problems, and behavior management.

MetaProgramming Components

Daily Schedule

9:00 - 9:15	Free Play
9:15 - 9:30	Circle Time Show 'N' Tell
9:30 - 10:15	Thematic Activities Diagnostic Cooking Tutoring
10:15 - 10:30	Snack Time (large group)
10:30 - 10:45	Listening Activity (small groups) Direct Therapy
10:45 - 11:15	Thematic Activity (small groups) Withdrawal
11:15 - 11:30	Play (large group)
11:30 - 11:45	Story Time and Song (large group)
11:45 - 12:00	Game (large group)

Activities

Free Play. Free Play provided an opportunity for clinicians and aides to welcome children in the morning, monitor language and behavior with peers in less structured settings and to facilitate verbal output and language uses. Children were allowed to choose one of the following activities: sand table, painting, story centre and listening centre.

Circle Time. The total group met for attendance. Sound-symbol concepts were introduced with the letter for the day and the children provided words beginning with this letter. Each day, labels for body parts and the concept of left and right were reinforced as a roll call activity. Listening rules were reviewed and the day's schedule discussed.

Show 'N' Tell. Show 'N' Tell offered an opportunity to develop the informative use of language and to practice listening skills being taught in small groups. Children took turns bringing objects from home to present to the total group. Polaroid pictures taken during these presentations were later used for writing activities in personal diaries.

Thermatic Activities. Controlled language experiences based on a central theme were designed to supply children with first-hand experiences basic to the development of ideas, vocabulary concepts, language structures and uses in both oral and written forms. Themes used were "All About Me" and "Entertainment." Children wrote diaries, scripts, made puppets, designed costumes and sets, wrote invitations, served popcorn and drinks, performed for parents and friends, reviewed their experiences on videotape and wrote stories utilizing Polaroid pictures of their activities.

These language experience activities were used to develop the content, form and use of both oral and written language and followed the "Plan, Do and Review" process. Children were introduced to new vocabulary and concepts. Language structures were modelled and reinforced. Opportunities were created to use language for gaining and sharing information, developing turn-taking when interacting verbally, predicting, problem solving, projecting, and imagining. Children learned language rules, forms and uses through observations and participation in activities which illustrated the relationship between oral and written language. Literacy skills were introduced and developed through various forms of written scripts, lists, written directions, recipes, experience charts, story writing, diaries and note and letter writing.

Cooking. Each child participated in a cooking activity at least once a week. This activity offered opportunities for development of vocabulary, concepts (quantity, measurement, time), categorization skills (fruits, vegetables, meats), and sequencing skills (first, second, next, last). It also allowed for exposure to language uses and forms via facilitation techniques and the use of language for requesting, informing, turn taking, directing, predicting and problem solving. Recipes were introduced in both oral and written forms before beginning to cook, with emphasis on labelling ingredients and sequencing directions. Each day the product of the cooking activity was served at Snack Time. This offered children opportunities to review their recipes and report their cooking experience to the larger group, as well as to use language for socialization. Children used language to direct others and to share experiences during the clean up. At the end of the program each child took home a book containing recipes from all the cooking experiences.

Listening. This activity introduced the listening strategies "Look, Pay Attention and Be Quiet." Many activities were employed to teach and practice these rules, and listening skills were reinforced in each daily session. As well, individual children were taught listening strategies specific to their needs. ("Sit close to the teacher." and "Ask for clarification when you don't understand.")

Story Time. Children were exposed to the language of written materials by listening to stories read to them. The story time activity was designed to encourage an appreciation of literature and to provide opportunities for children for practicing listening skills and using language to predict, project and problem solve. ("What do you think will happen next?" "What would you do?" "How do you feel?") It also served to model for parents the art of reading aloud to children.

Games. Games were chosen that would reinforce listening skills, following directions, turn taking, cooperative behavior, and language concepts (left, right, body parts). Using game situations, children learned to relate oral directions to specific gross/motor movements.

Song. Children were introduced to language concepts and developed an appreciation and enjoyment of language through choral reading and music. One song was selected to be used throughout the program to develop automatic recall of oral language patterns. Words to the song were first introduced orally using a record and then

presented in written form, thus establishing association between a learned oral pattern and its written language form.

Individual Language Therapy. Five of the children who evidenced phonological and syntactical errors in oral language (based on language sampling and Structured Photographic Language testing) attended individual language therapy daily for 20 - 30 minutes. Therapy was highly structured, based on principles of normal language development and behavior modification. Initial treatment goals were based on intake data and baseline testing. On-going language sampling, behavioral observations and daily progress recording were used to monitor progress.

Therapeutic materials incorporated content and pictures from large and small group language experience activities and involved the association of oral and written forms. Emerging language structures emphasized in therapy were reinforced in the group experiential activities via a behavior modification system and modelling techniques. Children wore index cards pinned to their shirts stating structures or skills they were learning. Their cards were checked each time a target behavior was used in a group setting and check marks were used to purchase rewards.

Diagnostic Tutoring. Eleven children who had developed a basic readiness for reading, but displayed little progress in learning to read, were involved in individual or small group diagnostic tutoring. The primary objectives emphasized the use of basic literacy concepts and the establishment of written language as a useful means for communication. Individual programs were designed for each child. Pictures of daily language experience activities provided the stimuli for language experience stories. These stories were used for the development or application of specific written language skills. Children's literature was also used as instructional material. A variety of instructional techniques including impress methods and use of word families was incorporated to meet individual needs.

Parent Program. The children's parents met as a group twice a week for discussion of significant topics such as general child development, self concept and encouragement, language development and facilitation, the reading process, and parental involvement in the school system. Parents also had opportunities to observe the various program activities and attend the children's final presentation. Individual conferences were scheduled with clinicians and teachers and on-going home programs were designed for some families. Two-way mirrors were also utilized for parent observations of individual therapy and tutoring.

PROGRAM RESULTS

Program objectives were evaluated based on questionnaire responses from parents and program staff and comparisons of pre- and post-behavioral observation checklist information.

Objective #1: Development of a team diagnostic treatment format:

At the conclusion of the program, clinicians reported that they had gained a better understanding of the skills and philosophies offered by Psychology, Reading, Audiology and Speech/Language disciplines as they relate to language learning. They found that the process of on-going assessment, goal setting, and reporting established a child oriented rather than discipline oriented focus. The critical factor in the development of this approach was determined to be sufficient time for scheduling daily consultation and collaboration among staff members and for staff directed professional development activitities.

Objectives #2 and #3: Identification of learning patterns through on-going observations; establishment of treatment goals for each child:

On-going diagnosis was accomplished through the use of behavioral observations in large group, small group, and individual situations. Questionnaire responses indicated that this technique provided the required information regarding oral and written language use and individual learning styles. Formal testing was used in two instances in which it was necessary to verify observations with structured tasks.

Initial intake data and behavioral observations were used to establish treatment goals for each child. Comparison of pre- and post-observation checklists showed that the fifteen children who attended regularly for the four week period improved in their attitudes toward written language. The two children who did not attend consistently made few gains in this area. All of the children made gains in acquisition of pre-reading skills. Sixteen of the children showed gains in the area of appropriate learning behaviors. Fourteen children improved attention to and comprehension of written language. (Appendix III)

Results of Pre- and Post-Checklist Observations

Area of Observation	Percentage of Children for Whom Gains Were Observed
1. Attitude Toward Written Language	88%
2. Pre-Reading Skills	100%
3. Learning Behaviors	94%
4. Listening Behaviors	88%

Objective #4: Determination of effective teaching strategies for individuals which could be realistically implemented in the school setting:

Follow-up recommendations for each child were interpreted to family, concerned school personnel, and referring clinicians. Emphasis was placed on the coordination of content of direct therapy with classroom activities, and the integration of language structures and skills emerging from direct therapy into the child's classroom activities.

Objective #5: Development of a program for parents of children with language learning problems:

Every child's family participated in some aspect of the parent program. Parent responses indicated that this component of the program had been beneficial in helping them deal with their concerns regarding their children's learning difficulties and in overcoming previously frustrating experiences in dealing with educational specialists. It was felt that more individual conferencing should have been arranged with parents throughout the course of the program, and that individual counselling may have been helpful for certain families.

Objective #6: Provision of a format for professional training:

Questionnaire responses from professional staff indicated that they had gained in their ability to use specific techniques for language facilitation, behavior management and remediation. All clinicians reported that their experience had been beneficial from the stand point of enhancing professional competence.

RESULTS SUMMARY AND RECOMMENDATIONS

1. An integrated language approach based on the concept of metaprogramming in which both structured activities and facilitative language experiences are integrated within the modalities of language (speaking, listening, reading, writing) are most advantageous for the child with language learning difficulties.

2. Parents should be active participants in any remediation program for children with language learning difficulties.

3. A multidisciplinary diagnostic treatment format including speech/language and reading clinicians, psychologists, audiologists and school personnel is most beneficial for effecting a total language learning approach.

4. Time must be scheduled for case conferences, recording, planning and professinal development in order to effect an integrated program.

APPENDIX I

METAPROGRAMMING

MODALITY	AREA	ACTIVITY
I. SPOKEN	A) Content Vocabulary and concepts (color, foods, quantity, space, time, body)	Thematic experiental activities Cooking activities
	B) Form Grammar Syntax Phonology and Increased verbal output	Facilitative techniques (modelling, expansion, self talk, parallel talk, turn taking) Opportunities for verbal interaction Direct structural therapy Integration of direct and experiential activities. (Reinforcement and story writing.)
	C) Use 1. Communicate needs/wishes, Develop turn taking	Opportunities to interact in small and large groups with peers and adults during experiential activities, play time, snack time.
	2. Inform/Report/ Label	Reporting experiences Show N Tell
	3. Seek information Request	Cooking activity (ask directions) Small group activity (duplicate a model)
	4. Interpret/ Predict	Story time, Cooking Group activity
	5. Imagine	Puppets, Skits, Talent Show, Story time
	6. Direct activity of others	Play, experiential activities, cooking, Parent Program

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APPENDIX I cont'd

MODALITY		AREA	ACTIVITY
II. LISTENING	A)	CONTENT Vocabulary, Story Content Directions	Listening to stories, records, songs
	B)	FORM Follow instructions and sequence	Cooking (duplicate an activity) Experiential activity Games
	C)	USE Listening rules and strategies	Experiential activities Direct instruction Behavior reinforcement Modelling behaviors Parent Program
III. READING	A)	CONTENT - literacy concepts (letter, word, sentence, left-right sequence) - use of context (situation & language) - written directions - sound-symbol relationships - speech-print association - sequencing written info. - letter names - fluency	Reading written accounts of personal experiences Using recipe for cooking Illustrating literacy concepts with dictated stories Using taped books Impress techniques Receiving written messages Games
	B)	FORM - labels - directions - letters/notes - library books - experience stories	Structured and spontaneous large group activities Individual diagnostic tutoring Small group structured activities Spontaneous individual activities

APPENDIX I cont'd

MODALITY		AREA	ACTIVITY
	C)	USE	
		- communication	Receiving written messages
		as audience	Cooking from recipes
		- receive direction	Shared oral reading
		- receive info.	Parent Program
		- appreciation	
IV. WRITING	A)	CONTENT	
		- literacy concepts	Dictated stories
		- written	Personal experience stories
		expression	Self-produced
		of ideas	Copying
		- basic written	Games
		production (name)	Letter writing
		- speech-print	
		association	
	B)	FORM	
		- story dictation	Small group structured
		- story writing	activities
		- labelling	Based on experiences
		- letter writing	Diagnostic tutoring
			Spontaneous individual
			activities
	C)	USE	
		- communication	Letters/notes
		as author	Scrapbooks
		- reporting/	Parent Program
		informing/	
		recording	

APPENDIX II

LANGUAGE CHECKLIST

BEHAVIORS OBSERVED

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1. Receptive Language

   - has adequate vocabulary
     concept development for
     age
   - understands multiple
     meaning words, idioms
   - understands grammatical
     forms (plurals, pronouns,
     possessives, verb tenses)

2. Expressive Language

   A) Content

      - uses a variety of
        words (concrete &
        abstract vocabulary)
      - uses new vocabulary
        in speech
      - recalls specific
        nouns and names
      - does not use non-
        specific vocabulary
        (this, that, those,
        things) or words
        similar in meaning or
        sound

   B) Forms of Language
      Child Uses

      - plurals
      - verbs
        (a) uses regular
        (b) uses irregular
        (c) uses subject/
            verb agreement
      - possessives
      - pronouns
      - comparatives/
        superlatives
      - complete sentences
      - complex sentences
      - question forms

BEHAVIORS OBSERVED

   - relates multiple
     events in sequence
   - the child's speech is
     intelligible (if not,
     see Standardized Test
     Results)

   C) Use of Language

      - maintains topic
      - follows conversational
        rules, does not interrupt
      - self-maintaining (to
        maintain rights and
        and property "I
        want ...")
      - directing (to direct
        activity of self and
        others)
      - reporting on present
        and past experiences
        (includes labelling,
        referring to details,
        events, making compar-
        isons)
      - toward logical reason-
        ing
        (a) to explain a process
        (b) to explain cause
            and effect
        (c) to draw conclusions
      - predicting
        (a) anticipates
            actions, events
        (b) anticipates
            sequence
        (c) anticipates
            possible problems
            and solutions
        (d) recognizes alterna-
            tive courses of
            action
        (e) predicts
            consequences
      - imagining

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APPENDIX II cont'd

LISTENING BEHAVIOR CHECKLIST

BEHAVIORS OBSERVED

Can the child:

1. pay attention (listen to instruction or discussion more than 50% of the time)

2. follow auditory directions (doesn't forget what is said in a few minutes)

3. respond to questions or verbal information within a reasonable amount of time

4. make sound discriminations

5. attend in the presence of background noise

6. always understand what is said

LEARNING BEHAVIOR AND ATTITUDES

BEHAVIORS OBSERVED

Displays interest in achieving
Is eager to learn
Displays interest in sharing ideas
Takes pride in work
Handles minor stress (not easily frustrated)
Has realistic expectations of self
Volunteers for tasks
Completes a task independently
Relates well to adults
Has developed positive peer relationships
Reacts positively to authority
Works well from a model
Positive reinforcement increases behavior
Accepts changes in routine
Doesn't seek inappropriate attention from teachers
Attention span is sufficient for assigned work
Approaches a task reflectively
Approaches a task with expectancy to succeed
Completes a task within required time
Learns by trial and error
Can work in a small group
Can work in a large group
Can be integrated into a regular classroom

APPENDIX II cont'd

WRITTEN LANGUAGE ATTITUTE CHECKLIST

BEHAVIORS OBSERVED	BEHAVIORS OBSERVED

1. Engages willingly in activities involving reception of written language.

2. Engages willingly in activities involving production of written language.

3. Attends well to activities which emphasize written language.

4. Selects reading or writing for recreational activities.

5. Sustains attention to self-selected reading material.

6. Attends to print while being read to.

7. Seeks opportunities to to use written language.

8. Shows confidence in approach to reading activities.

8. Attends to print while being read to.

9. Shows confidence in approach to writing activities.

10. Reads to others without reluctance.

11. Willingly shares written language production with others.

12. Seeks opportunities to use written language.

13. Responds appropriately to written signs and labels.

14. Makes use of written language for application (directions, recipes).

15. Shows interest in extending proficiency in dealing with written language.

16. Handles written materials with care.

APPENDIX II cont'd

PRE-READING CHECKLIST

BEHAVIORS OBSERVED

BEHAVIORS OBSERVED

1. Understands basic liter-
   acy concepts:

   - word
   - letter
   - sentence
   - story
   - number
   - left to right sequence

2. Demonstrates

   - "understanding" of the
     relationship between
     oral and written
     language (i.e. is able
     to follow a line of
     print as it is read
     orally)

   - "understanding" of the
     purpose for reading
     (i.e. to get meaning)

     (a) "explains" that
         purpose of reading
         is to get meaning,
         "find things out"
         etc.

     (b) recognizes when
         written word
         "doesn't make
         sense"

3. Has knowledge of the
   alphabet

   - says letters of the
     alphabet in order

   - writes letters of the
     alphabet in order

   - identifies specific letters
     by name

   - writes specific letters
     identification by name

   - corresponds upper and lower
     case letters

4. Has knowledge of sound symbol
   correspondences

   - consonant singles
   - consonant blends
   - consonant diagraphs
   - vowels

5. - can identify own first name
   - can identify own last name
   - can write own first name
   - can write own last name

APPENDIX III

PRE- AND POST-DATA

	Attitude Toward Written Language (# Positives)		Pre-Reading		Learning Behaviors		Listening	
	Max. Score 16		Max. Score 22		Max. Score 24		Max Score 6	
	July	August	July	August	July	August	July	August
1.	4	3	0	3	7	13	0	0
2.	10	11	1	21	19	17	5	6
3.	0	1	6	13	2	13	1	2
4.	5	2	13	15	13	4	2	1
5.	–	7	8	13	5	15	2	6
6.	3	8	7	20	2	7	3	5
7.	8	15	15	19	23	24	3	6
8.	3	11	1	10	14	20	5	5
9.	2	16	16	22	13	22	6	6
10.	0	5	8	14	8	21	1	5
11.	–	4	7	9	18	18	4	6
12.	8	12	18	21	24	21	5	6
13.	5	14	11	19	13	24	4	6
14.	4	5	7	12	21	20	5	6
15.	3	14	11	19	18	20	2	1
16.	2	11	0	13	5	19	4	5
17.	12	15	3	12	17	23	3	5

Individual raw scores pre- and post-obtained from behavioral observations.

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