THE ACLD-R&D PROJECT

FINAL REPORT

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September 1981

ACLD-R&D PROJECT
2701 East Camelback Road, Suite 450
Phoenix, Arizona 85016

Supported by Grant Numbers 76-JN-99-0021 and 78-JN-AX-0022 from the National Institute for Juvenile Justice and Delinquency Prevention, Office of Juvenile Justice and Delinquency Prevention, Law Enforcement Assistance Administration, U. S. Department of Justice. Points of view or opinions in this paper are those of the author and do not represent the official position or policies of the U. S. Department of Justice.

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PREFACE

The Learning Disabilities/Juvenile Delinquency Project was a four-year research and development program. This is the final report for the ACLD-R&D component which was an initiative to conduct an educational program aimed at the remediation of a specific target population.

This report includes the following:

1. Historical Overview
2. Program Design/Description
3. Staff Reports - Summaries and Excerpts
4. A Case Study Including Exhibits of Data Reporting Forms
5. Description of the Population
6. Index - Individual Pre/Post-test Results of Woodcock Reading Mastery Inventory and Key Math Tests
7. Conclusions and Recommendations
8. Appendix I - Bibliography
   Appendix II - Prescription Code

The Project Director of the ACLD-R&D Project and author of this report expresses appreciation to the program staff, the various advisory committees, cooperating agencies and the research component for their contributions and dedication to the project. The program succeeded only through a concentrated effort by all concerned and involved.

HISTORICAL OVERVIEW

During the past several years, increasing attention and concern have been paid to the possibility of an empirical relationship between specific learning disabilities (LD) and juvenile delinquency (JD). In response to this interest and concern, the National Institute of Juvenile Justice and Delinquency Prevention (NIJJDP), Office of Juvenile Justice and Delinquency Prevention (OJJDP), commissioned a study by the American Institutes for Research (AIR) that summarized the available data and made policy recommendations.

The AIR report[1] concluded that while the existing literature clearly indicated the learning problems of delinquents warranted further investigation, it would be premature for OJJDP to fund major service delivery initiatives as the evidence on a link between LD and JD was inconclusive at best. Nevertheless, the topic was deemed worthy of further, more systematic exploration. The report recommended that carefully controlled research be conducted to determine the incidence of LD among a few basic populations, including the juvenile offender and the non-delinquent. The report also recommended the conduct of a development project to assess the effects of diagnosing and treating LD among juvenile delinquents.

In light of these recommendations, NIJJDP funded an LD/JD Project in October, 1976. The purpose of the program was to obtain reliable data that would assist in the development of informed policy and programs with respect to learning disabilities and juvenile delinquency. It consisted of three

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1. Murray, C. A., The Link Between Learning Disabilities and Juvenile Delinquency: Current Theory and Knowledge, U. S. Government Printing Office, Washington, D.C., 1976.

major components: (1) a study of the prevalence of LD among samples of officially non-delinquent adolescents and juvenile offenders (as defined by records of adjudication) in several parts of the country; (2) a research and development effort aimed at the remediation of groups of delinquents with learning disabilities, located at the same sites as the prevalence study; and (3) formative and summative evaluations of the LD/JD remediation program. Thus, there were five major objectives set to be achieved through the project's three components. These objectives were as follows:

1. The determination of the prevalence of LD in groups of adjudicated delinquent and officially non-delinquent 12-to-15 year old boys;

2. an exploration of some of the definitional issues concerning learning disabilities;

3. the conduct of an instructional (remediation) program for selected groups of 12-to-17 year old boys and girls who have been adjudicated delinquent and classified as learning disabled;

4. an evaluation of the effectiveness of the remediation program, with respect to resulting changes in the participants' academic achievement and delinquent behavior; and

5. the follow-up of youths in the officially non-delinquent public school sample, to determine what changes in delinquent behavior have occurred, and the relationship of these changes to LD.

Two organizations were funded by grants from the NIJJDP to conduct the project. The Association for Children with Learning Disabilities (ACLD) assumed the responsibility for the remediation program (development component) targeted at the remediation of LD offenders in the metropolitan areas of Baltimore, Maryland; Indianapolis, Indiana; Phoenix, Arizona; and at the Arizona Youth Center in Tucson, Arizona. The National Center for State

Courts (NCSC)[2] was awarded a grant to conduct both the prevalence study and the evaluation of the LD/JD remediation program. The NCSC contracted with the Educational Testing Service (ETS) to administer psycho-educational diagnostic assessments of the students. (See Table I)

The first tasks to be initiated and completed were those involving planning and preparation. In the latter part of 1976 and early 1977, the NCSC evaluators and the ACLD project representatives met numerous times with a national advisory group of researchers and practitioners from the areas of learning disabilities and juvenile delinquency. Also, ACLD and NCSC staff met with local advisory groups in the three target cities.

Discussion at these meetings focused upon a wide range of issues. Researchers were concerned about the difficult definitional issues, the research design and the type of educational model selected. Practitioners were concerned with the restrictions of the model, due to research purposes.

At any rate, at these early meetings, operational definitions of LD[3] and JD[4] were established, a battery of psycho-educational tests was identified and an academic remediation program was formulated.

Agreement from key agencies (in educational and juvenile justice systems) to cooperate was gained. Following this accomplishment, the most time-consuming

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2. The first phase of the research program was conducted at Creighton University and ended on 8/31/78. The two-year continuation of the research and evaluation components was conducted by the National Center for State Courts.

3. Barrows, T. S.; Campbell, P. B.; Slaughter, B. A.; Trainor, M. L., Psycho-Educational Diagnostic Services for Learning Disabled Youth, Educational Testing Service, Princeton, New Jersey, 1977.

4. Greguras, F. M.; Broder, P. K.; Zimmerman, J., Establishing an Operational Definition of Juvenile Delinquency, Institute for Business, Law and Social Research, Creighton University, Omaha, Nebraska, 1978.

APPROACH TO INDIVIDUALIZED REMEDIAL PROCEDURES

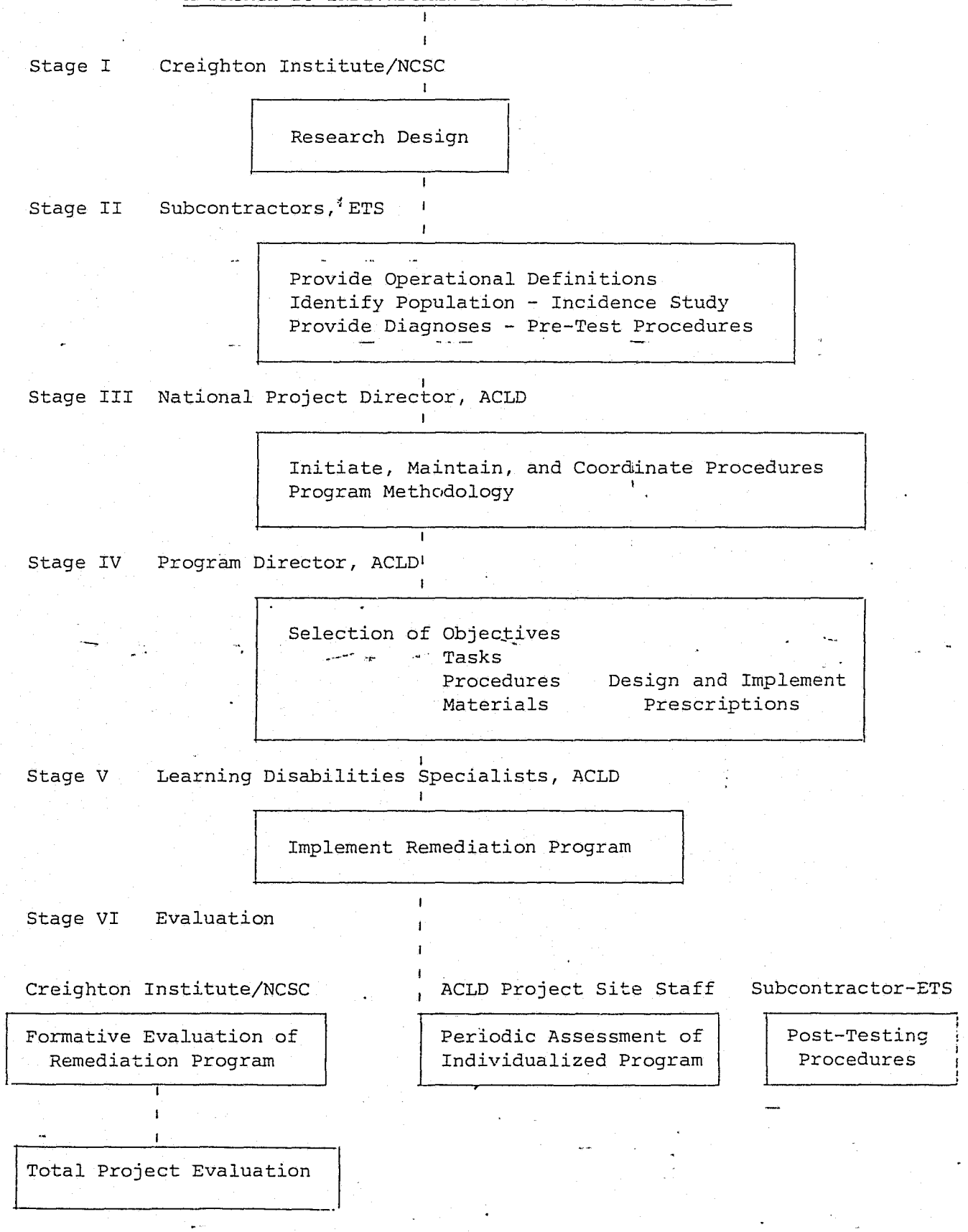

Table I

task of all during this stage was that of obtaining written informed consent[5] from the parents of the juveniles. The basic research and evaluation design as exhibited in Table II (see following page) was adopted.

There was a review of educational records of 12-15-year old male juveniles[6] for whom informed consent had been received.

The process implemented by the ETS diagnostic assessors was based on the following:

> "At a conceptual level, LD is considered to be evidenced by a significant discrepancy between a child's expected achievement (based upon intelligence test scores) and his or her actual achievement. Additionally, the discrepancy must not be attributable primarily to mental retardation, physical handicap, emotional disturbance, or environment disadvantage. The discrepancy is presumed to result from interference in the processes of receiving information, using it in cognition, or communicating the cognitive result.
>
> "Two major procedures were used to operationalize this concept. First, a review of educational records was done to screen out children who obviously were not learning disabled. Second the children who could not be screened out were given a battery of standardized tests.
>
> "In the review of each child's school records, trained reviewers searched for any evidence of discrepancies in test scores or school grades, any clinical or anecdotal observations suggesting LD, and evidence of factors that would rule out LD as a primary classification (e.g., mental retardation, emotional disturbance, etc.). The interviewers were trained to err on the side of caution; if there were insufficient records or doubt about the proper judgment, the child was to be referred for complete testing. Children for whom sufficient data were available and who showed no recorded indications suggesting LD were classified as not learning disabled and referred only for interview.

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5. Greguras, F. M.; Broder, P. K.; Zimmerman, J., The Impact of Legal Contracts on Human Subjects Protection: A Preliminary Case Study, Creighton University, Omaha, Nebraska, 1979.

6. Study criteria set age limits for the youths to be included and specified that the subjects be primarily English-speaking and not have evidence of mental retardation, severe emotional disturbance, or physical handicap as primary handicapping conditions.

Schematic Representation of Study Design

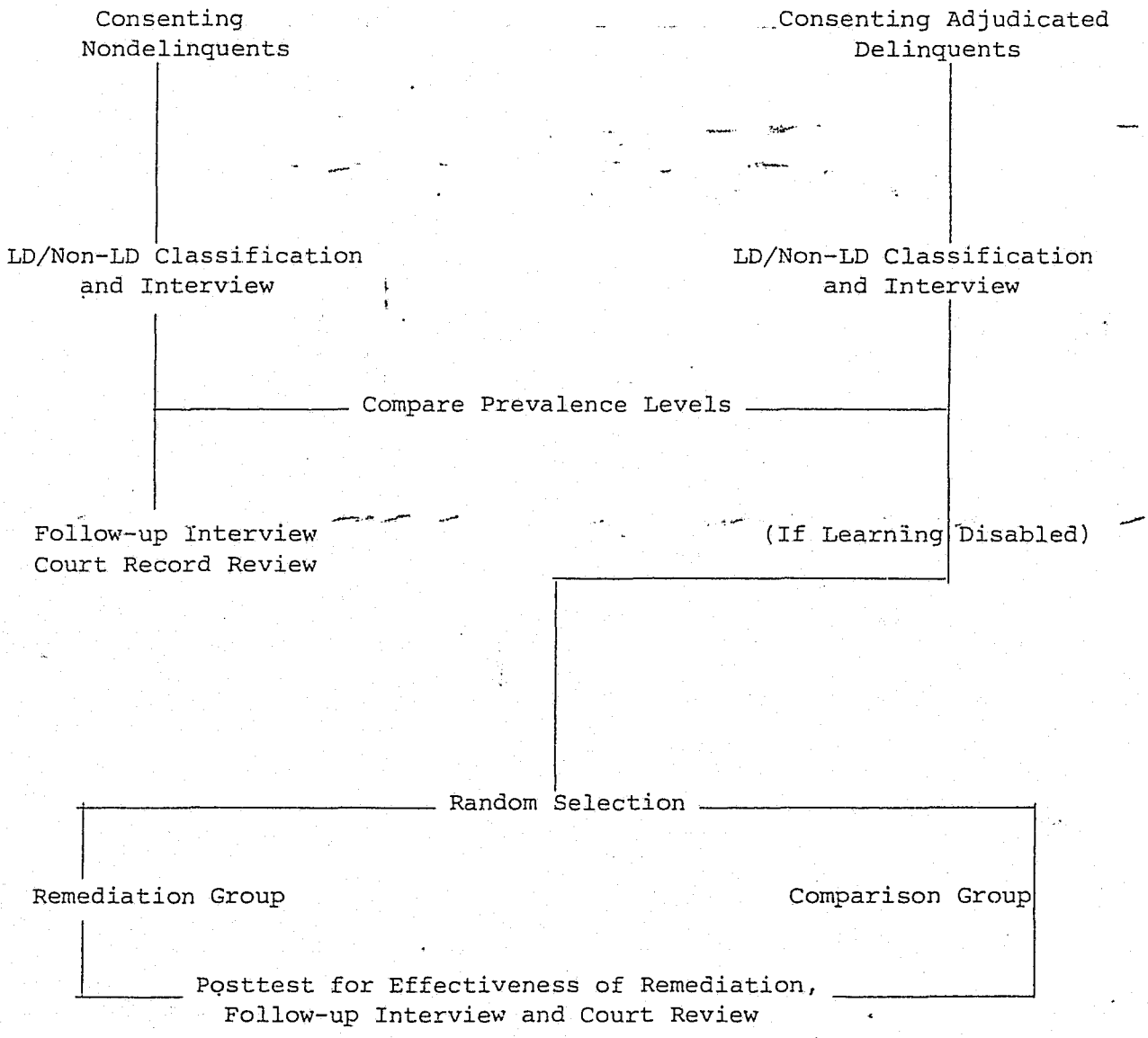

Table II

"Those children who were not classified as non-learning disabled on the basis of the records review were given a three-and-one-half hour battery of tests. The main testing instruments used were a children's test of Intelligence (Wechsler Intelligence Scale for Children - Revised), tests of reading and mathematics achievement (the Woodcock Reading Mastery Test and the Key Math Diagnostic Arithmetic Test), and a test of perceptual-motor ability (the Bender-Gestalt).

"Based upon the test scores (and including ratings of observations of the child's behaviors during the testing session), each child was then classified as learning disabled or not. The classification decision was made by a computerized algorithm to ensure a consistent application of the decision rules. Briefly, a child was classified learning disabled when the protocols revealed three independent discrepancies among the following: a two-year or greater discrepancy among three WISC-R factor scores, (Witkin, 1974), between the WISC-R scores and the achievement scores, or between the achievement scores; a Bender-Gestalt score of three or more (Koppitz (1963) scoring); two or more ratings of pronounced difficulties on the WISC-R observations; and three or more ratings of pronounced characteristics in the behavioral observations. Finally, children whose achievement test scores were at or above age-appropriate grade levels and those having a full-scale IQ more than two standard deviations below the mean were classified as non-learning disabled, rather than learning disabled." (Keilitz, I.; Saks, M. J.; Broder, P. K., The Evaluation of the Learning Disabilities/Juvenile Delinquency Remediation Program; Evaluation Design and Interim Results, pp. 55-56, National Center for State Courts, Williamsburg, Virginia, 1979.)

In addition, an interview was administered from juveniles whose records were reviewed, as well as from those who were tested. The interview included questions about personal characteristics, family background, attitudes toward school, and self-reported delinquent activity.

The diagnosticians were able to classify 1600[7] LD or non-LD. Of the 968 juvenile officially non-delinquent group, 183 were identified as LD (18.9%). Of the 628 adjudicated juveniles, 229 were identified as LD (36.5%). Certainly,

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7. Through a succession of double checks of the data and removal of erroneous cases, the number of juveniles who met the study's criteria and who could be classified as LD or non-LD dropped from 2208 to 1596.

these data indicate that LD juveniles are at greater risk as vulnerable than non-LD juveniles to penetrate the juvenile justice system.

Of the adjudicated delinquent youths who were classified as learning disabled, half were selected at random, by the evaluators, for inclusion in the remediation program, the remainder were assigned to a control group.

VOLUME I

A. ACLD-R&D REMEDIATION PROGRAM

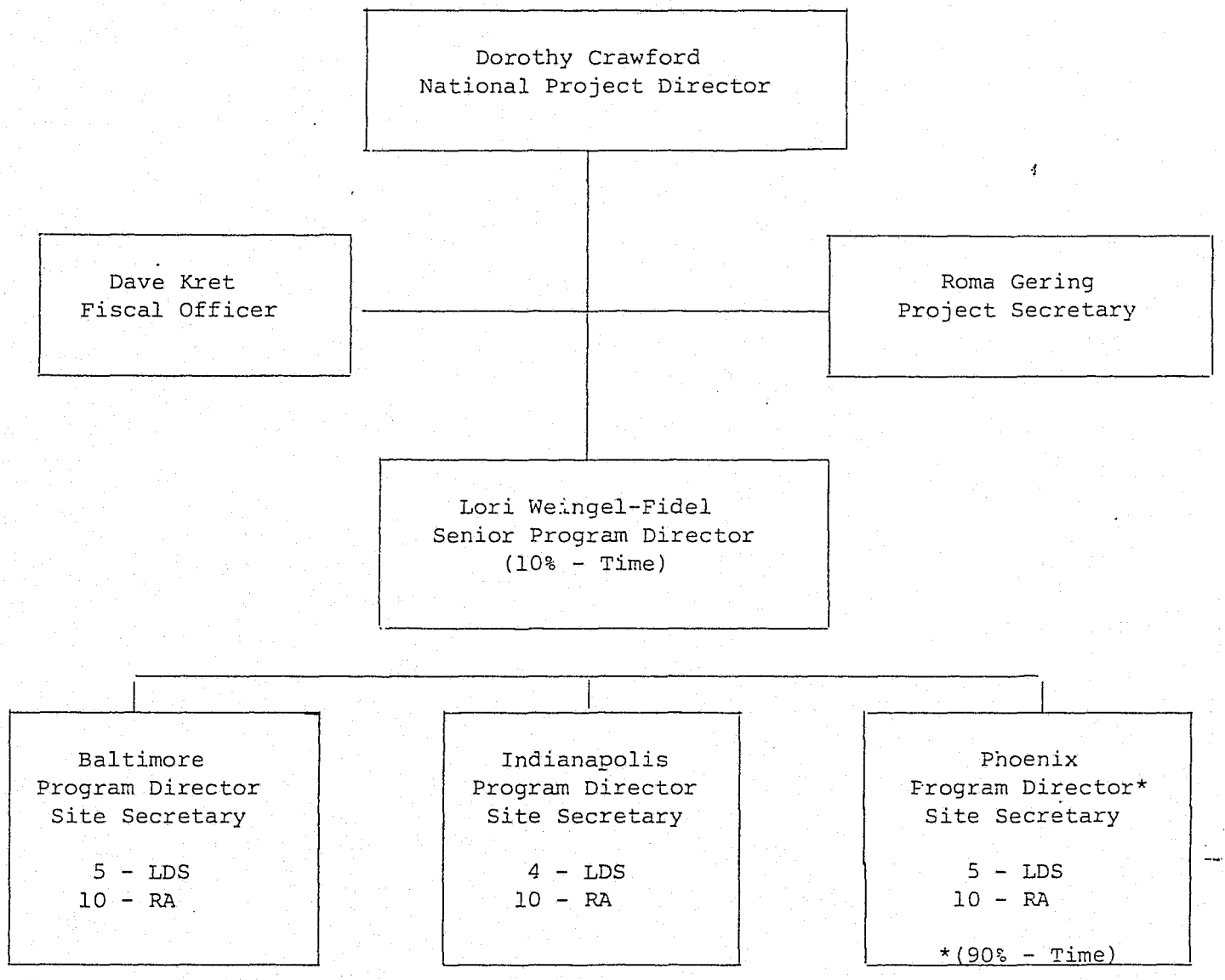
DESIGN/DESCRIPTION

The remediation program was conducted in three locales, each representing a different demographic focus. Baltimore represented an urban, high density eastern black community; Indianapolis, a mid-western area, rural/semi-rural community with an appalachian and minority population; and Phoenix, representing a southwestern goegraphical area and a multi-ethnic population.

Each site had a program team to implement and conduct the remediation program. The teams consisted of a Program Director, Learning Disability Specialists and Aides. The program staff were certified teachers of Special Education in the states where they resided. The Program Directors held Masters or Doctorates in Special Education; they directed the program locally. Nationally, the Project Director was responsible for administering the overall grant program. (See Table III).

The program began in September 1977, and ran through July 1979, with the goal of providing at least the equivalent of one hour for each school day of a school year (i.e., 9 months) of remediation to each juvenile in the remediation sample population. The program was based on an academic treatment model in contrast to other models such as the behavioral-theoretical or medical. Remedial methods focused on school subjects and were written to ameliorate or compensate for students' deficiencies in the basic academic skill areas.

ACLD-R&D Project
Staff Organizational Chart



LDS = Learning Disability Specialist
RA = Research Assistants

Remediation Component
National Project Office
2701 East Camelback Road, Suite 450
Phoenix, Arizona 85016

Table III

There were three major program objectives. These were to improve scholastic achievement, reduce the juveniles' delinquent activities and improve school attitudes. The program evaluation[8] was designed to examine the data collected to determine if the remediation program achieved these objectives.

Program strategies were established. The strategies were designed as a vehicle to facilitate conducting a successful program for a group of juveniles whose school records indicated that historically they had experienced school failure in the basic academic skills. The strategies were: 1) work on a level that increases proficiency in the functional areas; 2) use each juvenile's preferred modality; and 3) employ techniques for learning how to learn.

The sample population at each site received remediation whenever and wherever it could be arranged - preferably during the time the juvenile was in an educational setting. Remediation sessions took place in school facilities, libraries, correctional facilities, detention centers, city jails, parks, place of youth's employment, project site offices, and at times at the youth's home. The LD Specialists functioned as itinerant teachers. They traveled from location to location in order to conduct remediation

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8. Dunivant, N.; Saks, M. J.; Broder, P. K. An Evaluation of the Effectiveness of the ACLD Remediation Program in Improving the Educational Achievement of Learning-Disabled Juvenile Delinquents. (In preparation)

   Dunivant, N.; Saks, M. J.; Broder, P. K. Preventing Delinquency among Learning-Disabled Juvenile Delinquents: Evaluation of the ACLD Academic Remediation Program. (In preparation)

with their assigned students. The caseload per LD Specialist averaged from 6 to 12 students with 1 to 3 hours' remediation per week with each student.

Goals and objectives were written to delineate the type of remediation that would be most appropriate for each youth. The following sequence of events became standard procedure once a juvenile was assigned to the remediation group:

1. Review of student's diagnostic evaluation from ETS including recommendations. Review by site Program Director and full staff.
2. Caseload assignments by site Program Director to LD Specialists.
3. Locate and initial contact with student by LD Specialists.
4. Administration of additional formal/informal testing, i.e., Written Language Sample, Slingerland, Malcomesius, etc., by LD Specialsts.
5. Remedial prescription written using all diagnostic evaluation results (Appendix II - Prescription Code).
6. Student and Program staffing - remediation scheduling and location.
7. Writing lesson plans and identification of resource materials
8. On-going remedial instruction.
9. Weekly staffing - Program Director with staff.
10. On-going assessment and monitoring of individualized remedial prescriptions.

The program model was based on the premise that learning disabilities produces poor achievement; poor achievement creates strain; and the combination of LD, poor achievement and strain results in juvenile delinquency.

The program was three-dimensional in design initially. One dimension was to teach in a direct manner basic academics in the functional skill areas: language, reading, written language, and/or arithmetic using the juvenile's preferred learning modality. Secondly, to stress continued learning gaining information in spite of low skill entry level. The third dimension was a focus on positive movement and modification in self-concepts. This latter dimension was deleted as it presented yet another variable to measure in an already complex research design.

Also, initially, there was a planned formative (on-going) evaluation to be conducted by NCSC. With a formative evaluation, program staff would have an objective, on-going, and up-to-date assessment of each student's individualized prescription to provide a basis for redesign when necessary. Unfortunately, the formative evaluation feed-back was not operational until a few months before the conclusion of the remediation program. All assessments and evaluations of this nature were made by the Site Program Directors and Project Director on at least a quarterly basis.

The remediation model was a combination of two academic treatment programs: (1) ability (process) training, and (2) task analysis.[9] The attempt was made to use the segments of the two models which would be the most effective and omit the segments which would not appear to be useful for 12-16 year old adjudicated delinquents with LD. A battery (Table IV)

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9. Piazza, R. (Ed.). Three Models of LD. Guilford, Conn.: Special Learning Corp., 1979.

   Ysseldyke, J. E.; Salvia, J. Diagnostic-Prescriptive Teaching: Two Models. Exceptional Children, 1974, 41.

DIAGNOSTIC BATTERY USED
FOLLOWING SCREENING AND DECISION PROCESS

1. WISC-R
2. BENDER VISUAL MOTOR GESTALT TEST
3. WOODCOCK READING MASTERY TEST
4. ROSNER'S AUDITORY ANALYSIS
5. HIDDEN FIGURES TEST
6. KEY MATH DIAGNOSTIC ARITHMETIC TEST
7. CHILDREN'S EMBEDDED TEST (PART 2)
8. NUMBER COMPARISON TEST
9. HIDDEN PATTERNS
10. SWINTON-WEPMAN VISUAL ORIENTATION TEST
11. THURSTONE FLAGS

PROGRAM STAFF TESTING

1. WRITTEN LANGUAGE SAMPLE
2. MALCOMESIUS SPECIFIC LANGUAGE DISABILITY TEST
3. SLINGERLAND (IN SOME INSTANCES)
4. OTHER INFORMAL TESTS

Table IV

of tests identified each juvenile's impaired perceptual processes and defined the juvenile's preferred modality (visual, auditory, tactile or kinesthetic. The diagnostic evaluation also indicated each juvenile's basic level of achievement in reading and arithmetic, written language, and spelling.

A thorough study of each juvenile's file was made. This included an evaluation of the juvenile's academic status to assist in decision making. Informal reading, math, spelling, and interest inventories were administered. Generally, prescriptions were written after the informal testing. Lesson planning followed the completion of the prescription.

Remediation sessions followed after completion of lesson plans. The sessions had specific goals and time limits. These were formulated to facilitate success in learning. Each youth had a separate folder which contained the individual short term objectives, lesson plans, materials and workbooks.

Lessons were outlined in detail using a task analysis approach where each learning step was presented singularly. Mastery of each task was demonstrated before the next step was introduced by the Specialist. Informal assessment techniques were used based on the R&D Prescription Code to determine the entry level of remediation. Teaching in these small components helped to build a better academic foundation.

Affective considerations were incorporated in order to facilitate intervention strategies. There were three primary factors involved. They were the student capability levels, remediation setting and positive and negative reinforcement.

THE REMEDIATION PROGRAM FRAMEWORK - A CATEGORIZATION OF THE FUNCTIONAL AREAS; SOME OF THE MAJOR DISORDERS INVOLVED; SINGULAR TASKS USED TO AMELIORATE THE LEARNING DISORDERS; AN EDITED LIST OF THE MOST SUCCESSFUL INSTRUCTIONAL MATERIALS USED; AND THE MAJOR MODALITIES AND LEARNING STYLES DEFINED.

Language Arts

The language arts encompass the curriculum activities of (1) listening, (2) speaking, (3) reading, and (4) writing. Usually, these skills follow a hierarchy of development in the order as listed (Mackintosh, 1964).

Two of the four elements of the language arts fall into the category of expressive skills; and the other two are receptive skills. Listening and reading are receptive skills (input). Speaking and writing are expressive skills (output).

The auditory is the primary channel for language acquisition and interpersonal communication.

Definition of Receptive Language

Receptive language is the process of understanding verbal symbols. This includes the abilities of tone discrimination, phonemic discrimination, and discrimination of small word parts within a sentence (Spradlin, 1967).

Disorders of Auditory Receptive Language:

Hears but does not understand what is said.
Unable to relate the spoken word to the appropriate unit of experience.
Inconsistent responses.
Cannot listen and becomes frustrated in conversational situation.
Needs demonstrations.
Cannot respond to simple commands.
Demonstrates difficulty with abstract language or certain parts of speech.
Improperly differentiates words.
Does not use meaningful language.
Echolalic - repeats what is heard without understanding.
Cannot formulate good sentences spontaneously.
Cannot retain a series.

Tasks:

Training to improve comprehension.
Teach to differentiate meaning units and associate these with the appropriate verbal symbols.
Teach spoken word related to experience. (Simultaniety).
Provide repetition - words and concepts must be reinforced numerous times.
Vocabulary - teach concrete words and concepts; enrich word meanings.
Parts of speech
nouns - teach principle of naming;
verbs - teach words represent an action;
adjectives - teach words represent qualities and stand for concepts;
adverbs;
pronouns;
prepositions - most difficult to master. Must teach to deal with concept of space and time.
Improve attention.
Develop organizational skills for performing routine activities.

Materials:

Basic Education: Reading, Follett Publishing Co. Book I uses a phonics approach to teach word recognition and decoding skills. The Instructor's Manual contains extensive teaching suggestions. Book II consists of fifty structured lessons. Each lesson contains a list of new vocabulary words, an informative reading selection and structured comprehension and spelling checks.

Language Exercises Series, Steck-Vaughn Company. Traditional grammar workbook program which easily fits into any curriculum. The grade levels are color-coded with a wide variety of exercise material for each phase.

Michigan Prescriptive Program In English, Ann Arbor Publishers, Inc. This program helps students obtain a 10th grade equivalency or pass the G.E.D. test. Materials are highly simplified and directed specifically to this objective.

Definition of Expressive Language

Expressive language is the process of producing spoken language (Spradlin, 1967). It is the ability to recall the spoken language and say the words one has in mind. Expressive language is the ability to transmit

the heard signals into their motor-kinesthetic equivalents and to make use of spoken language as a means of communication.

Types of Expressive Language Disabilities

Reauditorization and Word Selection

Words are understood and recognized, cannot be remembered for spontaneous usage.

Tasks:

Facilitate the spontaneous recall of words.
Organize the input. Present word in context, in pairs, in association and by category.
Facilitate recall by providing cues
  usage in context - teach words as used in a sentence;
  associate words in terms of common usage (bread and butter);
  associate words by opposite (big - little);
  teach words in a series or categories;
  utilize kinesthetic and tactual cues.
Rapid naming drills.
Teach them to monitor themselves.
Continued usage - recall improves with rehearsal.

Auditory - Motor Integration

Difficulty learning to say words; student can comprehend and reauditorize but cannot execute the motor patterns necessary for speaking.

Tasks:

Teach the auditory - motor patterns for speaking.
Teach control of the oral musculature.
Teach new sounds by taking inventory of movements, phonemes and words the child can produce.
Teach symbolic and meaningful vocalization.
Develop motor plan
  visual - watch model to learn to produce sounds;
  verbal instructions - give detailed instructions for proper tongue and lip placement;
  motor - kinesthetic - guide tongue, lips and jaw into position.

Defective Syntax

Able to use single words and short phrases but unable to plan and organize words for the expression of ideas in complete sentences.

Tasks:

Develop a correct, natural, spontaneous flow of language.
Automatic grammatical structures. Coordinate experiences with sentence patterns that are on child's mental and language level.
Arrange meaningful experience through play activities or pictures.
Master simple sentence construction. Teach present, past, and future tense verbs.
Teach adjectives - noun combinations.
Arrange sentences into stories.

Materials:

Many Faces of Youth Posters, DLM. This poster series encourages a better self-concept and expressive language skills. It introduces students to their emotions allowing them to see, understand and discuss how others react to their feelings.

Activity Cards, Newspapers, Follett Publishing Co. Recipe-type box of activity cards which teach newspaper reading skills by requiring student to respond through language activities.

Cambridge G.E.D. Program, Cambridge Book Co. This is a revised and enlarged edition of a book which is a preparation of the High School Equivalency examination. It helps to promote correctness and effectiveness of expression.

Definition of Reading

Reading is a visual symbol system superimposed on previously acquired auditory language. (Myklebust & Johnson). Reading assumes the ability to integrate nonverbal experience, differentiate one symbol from another, attach meaning to it and retain it.

The inability to read creates problems in school learning, limits social maturity, limits social responsibility, and leads to dependency on others.

Characteristic Correlates

The following characteristics often occur with a reading disorder:

Auditory and visual memory disorders
  unable to remember letter sounds;
  unable to revisualize letters and words.
Memory for sequence of letters and sounds.
Left-right orientation
  cannot identify left and right on themselves, others, or inanimate objects.
Time orientation
  inability to tell time or acquire a sense of time.
Body image
  drawings of human figure lack good organization and detail.
Writing and spelling
  writing is possible only after the ability to read has been achieved;
  until a child can interpret and remember words, he cannot use them for spontaneous written expression;
  deficit in spelling because the written form requires simultaneous ability to revisualize and reauditorize letters.
Topographic disorder
  inability to read graphs, maps, globes and plans;
  cannot associate meaning with these representational materials or spatialize symbolically.
Deviate motor plan
  inferior coordination, balance and manual dexterity;
  laterality disturbance.

Characteristics of visual deficits - can see but cannot differentiate, interpret or remember words.
  visual discrimination - confuse letters of words which appear the same, Ex. bag, beg - ship, snip;
  rate of perception - slow at scanning and scrutinizing words;
  reversal tendencies - dig for big;
  inversion tendencies - u for n, m for w;
  follow and retain visual sequence - cannot duplicate a pattern with or without a model present, revisualization;
  visual memory - nonverbal and verbal;
  drawings - omit detail;
  visual analysis and synthesis - inability to arrange parts.

Tasks:

Teach a letter sound.
Teach words that begin with same sound.
Teach identification of letter to its sound.
Teach word - sound associations.
Blend sounds into meaningful words.

Present word families (pan, fan, tan, ran).
Teach long vowel combinations and consonant groups that are represented by a single sound.
Simple sentences, paragraphs and stories.

Characteristics of Auditory Deficits

Auditory discrimination and perception
- inability to hear similarities in initial or final sounds of words;
- unable to hear the double sounds of consonant blends;
- short vowel sounds;
- concept of rhyme;
- cannot listen for part of a word and think of another whole word with the same ending;
- unable to make rule generalizations.

Auditory analysis and synthesis
- cannot break word into syllables or individual sounds;
- cannot combine parts of words to form a whole;
- cannot retain syllables and put them together.

Reauditorization
- cannot reauditorize sounds or words;
- cannot remember letter sounds or words.

Auditory sequentialization
- cannot follow rhythm pattern;
- distorts pronunciation of multisyllable words (emeny for enemy).

Tasks:

Teach whole word.
Teach auditory - visual correspondence.
Examine ability to hear similarities and differences in words.
Distinguish similar parts of words.
Follow an auditory sequence.
Blend sounds into words.
Dissect words into syllables or individual sounds.

Reading Comprehension - ability to give meaning to what is read.

Tasks:

Teach to associate meaning with graphic symbol.
Teach to understand words in context and to select the meaning that fits the context.
Teach to read in thought units.
Teach to understand units of increasing size: the phrase, clause, sentence, paragraph and whole selection.
Teach to acquire word meanings.
Teach to select and understand the main idea.

Teach to follow directions.
Teach to draw inferences.
Teach to understand the writer's organization.
Teach to evaluate what is read: recognize devices and to identify tone, mood, and intent of the writer.
Teach to retain ideas.
Teach to apply ideas and to integrate them with one's past experience.

Materials:

Reading, Comprehension

Breakthrough Reading Series, Allyn & Bacon. High interest-low vocabulary series with a fresh approach to reading for the problem reader. Separate teacher manuals provide techniques for increasing reading comprehension. The stories have mature interest with a readability level ranging from grades one to eight.

Reader's Digest Top Picks, Reader's Digest Service. Unique reading improvement program for students in grades five through twelve provides audio lessons, duplicating masters, and readers for six exciting topics dramatically illustrated with photos and drawings. Reading levels on all materials are for grades five through seven.

Hip Reader, Book Lab, Inc. A beginning reading program for teenage and adult non-readers which begins below the third grade level where most remedial programs for older students function. The basic set contains all materials required to initiate and organize a program for non-readers, packaged in convenient storage boxes and self storage containers. The texts have a gradual and consistent approach to building of consonants, vowels, basic phonic elements, and vocabulary building. They are illustrated with photographs of teenagers of various ethnic backgrounds and contain stories related to the lives of the students. The correlated workbooks encompass skills such as cursive writing, spelling, auditory discrimination, language structure and comprehension concepts.

Reading, Word Attack

DLM-Sound Foundations Program I, DLM. Innovative "five-point" method of individualized study promotes the word attack skills essential to reading and spelling with accuracy and confidence. The five points for Program I are picture matching, rhyming, word configuration, word unscrambling and spelling through context. It is packaged in a sturdy file with the teacher's manual.

Spellbound, Educators Publishing Service. Workbooks for phonic reading and spelling for adult learners based on the Gillingham method. The lessons are geared to step-by-step progress from simple, consistent rules to more complex ones and the exceptional cases. Students use

own observations to confirm rules. Students' command of spoken language is used to engage them in the process of logical word attack skills, mnemonic spelling devices and "best guess" strategies.

Writing Road to Reading, William Morrow Co. This book presents in full working detail the Spalding Method for rapidly teaching children, or adults, accurate speech, writing, spelling and reading. The core of the method is teaching the "saying" with the writing of the sounds used in spoken English.

Reading, Study Skills

Arco G.E.D. Prep, Arco Publishers. Complete preparation for G.E.D. tests which are tests of general educational development. There are two practice tests which provide review under actual test conditions. All adults, regardless of previous education, may take the secondary equivalency tests for a high school diploma.

Dictionary Skills, Scholastic Book Services. High-interest dictionary skills workbooks which enable one to teach students all the basic dictionary skills which include alphabetizing, dividing the dictionary, finding and using guide words, etc. Also included are dictionary puzzles and match-up activities.

Real Life Reading Skills, Scholastic Book Services. This practical workbook program presents teaching basic reading and writing skills within the context of actual job situations. The skills book is divided into eight units, each concentrating on a specific job area, such as "general office work", "government jobs", and "service jobs." The workbook is designed to be self-directing, to be used individually, at home, or on a classwide basis.

Writing

Writing is a highly complex process and is the last to be learned. It is a form of expressive language, a visual symbol system for conveying thoughts, feelings and ideas. Must be able to interpret and use a visual code.

Visual and auditory discrimination required for reading.
Visual - motor integration necessary for forming letters.
Cognitive and language functions necessary for selecting and organizing words into simple sentences.

Disorders of Written Language

A disorder in visual-motor integration.
Can speak and read but cannot execute the motor patterns for

writing letters, numbers or words. He may be able to spell orally, but cannot express ideas by means of visual symbols because he cannot write (dysgraphia).

A deficit in revisualization.

Recognizes words when he sees them. Can read. Cannot revisualize letters or words, so he cannot write spontaneously nor from dictation. He cannot evoke the visual image from hearing the spoken form.

A deficiency in formulation and syntax.

Can communicate orally, can copy, can revisualize and spell words correctly, but cannot organize thoughts into their proper form for written communication. Does not write the way he speaks.

Written Language, Productivity

Creative Growth With Handwriting, Zaner-Bloser. This workbook provides many opportunities for strengthening and refining the writing and language arts skills. On every page there is a new challenge to write because there is something to say. There are ample opportunities to individualize instruction. Through activities which challenge each student to think and reason, the use of good penmanship is demonstrated.

Individual Corrective English, McCormick-Mathers Publishers. A skills development program in a traditional workbook format with remedial English exercises.

Proving the Rule Series, Argus Communications. Stories relating to young people's involvement in their community with suggestions for writing at the end of each story. This "lifeline" series has been prepared by the members of the Schools Council Moral Education Curriculum Project.

Written Language, Syntax

Thought Tracking, Ann Arbor Publishers, Inc. This programmed self-instructional material provides practice in skills of cues and comprehension. Whole words are selected visually rather than letters. The selected words, as they are held in mind, build into tracks of thought. The selected vocabulary and tasks are suitable for all ages and will increase visual accuracy and sequential thought.

Modern English, Heath & Company. Features a multitude of example sentences and exercises that help develop good habits of using English accurately and correctly. Fundamentals of usage, grammar, sentence structure, vocabulary training, and spelling are stressed.

The Mature Student's Guide to Reading and Composition, SRA. This guide helps develop reading, writing and survival skills for junior

and senior high students. It teaches reading and writing concurrently.

Written Language, Abstract

Allyn & Bacon Literature Series, Allyn & Bacon. An exceptional series combining the best short story literature with exciting original illustrations. It includes major authors from America and around the world and is great as an introduction to the format of the short story. Skill building questions and activities follow each selection.

Double Action Anthology, Scholastic Book Services. For junior and senior high students whose skills and vocabulary levels are at 3.0 to 5.0. This book of short stories is sequentially-graded and each is accompanied by pre- and post-reading exercises which encourage the student's writing.

Written Language Cards, DLM. Two boxes of cards picturing people with cartoon-type dialogue or thought balloons for students to write appropriate responses. One box concerns social awareness about school and work situations that appeal to students of more mature interests and experiences. In the careers box students will be encouraged to think and write creatively about a variety of careers.

Spelling

Spelling requires more auditory and visual discrimination, memory sequentialization, analysis, synthesis and integration, all performed simultaneously than with any other skill or functional area.

Only one pattern or arrangement of letters is accepted as correct. Reproducing a word is an excoding task.

Process

Analysis	Synthesis
Discrimination of phoneme	Say grapheme
Phonetic analysis	Write grapheme
Motor speech patterns	Reauditorize phoneme
Articulation	Hold correct sound sequence
	Motor

The entire process is an integration of visual, auditory, and kinesthetic modalities.

A person may be a poor speller and a good reader but a poor reader is usually a poor speller.

Spelling should be merged with phonics.

Materials:

Spelling, Oral

Michigan Programmed Spellers, Ann Arbor Publishers, Inc. Re-usable workbooks with basic word lists presented in eight levels. Words are chosen on the basis of the frequency in which they appear in materials presented to students throughout their learning experience. They are programmed and self-instructional. The program also develops skills in visual and auditory discrimination, vocabulary, sight word writing and phonics.

G.E.D. Writing Skills, Contemporary Books. This material prepares student to take the high school equivalency test while teaching language arts skills.

Morrison McCall Spelling Scale, Harcourt Brace & World, Inc. Eight lists of fifty words each are presented in this booklet which was originally designed for testing spelling ability.

Spelling, Written

English Made Simple, Doubleday & Co., Inc. Planned for people who are habitually unsure of their spelling, grammar, punctuation; discontent with the range and flexibility of their vocabulary; uneasy about the clarity and force of their writing.

Linc to Writing, Reading and Spelling, Educators Publishing Service. This series of workbooks presents a highly structured sequential program for introduction of sounds and letters; review and evaluation exercises; practice in reading, writing and blending of sounds; reinforcement activities for areas of deficiency. It is primarily for the dyslexic.

Definition of Arithmetic

Arithmetic is the ability to do quantitative thinking dealing with relationships of quantity, space, form, distance, order and time.

The two categories of children who fail in arithmetic are:
children with language or reading problems;
children with disturbances in quantitative thinking.

Problems which interfere with arithmetic performance:

Reauditorization - child cannot quickly recall numbers.
Deficits in auditory span - child cannot hold and process all the facts in mind and therefore cannot work the problems.
Visual perception deficits - 3, 8, 6, 9, inversions, rotations and distortions.
Revisualization - cannot remember what the numbers look like
Disorders of writing - motor patterns for numbers.

Characteristics of Disturbances in Quantitative Thinking - these children can read, write and use spoken language, but cannot learn to calculate.

Visual-spatial organization and integration. Cannot quickly distinguish shape, size, amount, length.
Usually good auditory abilities.
May excel in reading vocabulary and syllabication skills but have difficulty at higher levels of reading comprehension.
Disturbances in body image.
Disorientation - right/left directions.
Disturbances in visual - motor integration either for writing or for non-verbal motor skills.
Poor at social perceptions and in making judgments.
On IQ tests - higher on verbal than non-verbal functions.

Arithmetic Disturbances:

Inability to establish a one-to-one correspondence.
Inability to count meaningfully.
Inability to associate the auditory and visual symbol. Relationship between symbol and quantity is not established.
Inability to learn both cardinal and ordinal system of counting.
Inability to visualize clusters of objects within a larger group.
Inability to grasp the principle of conservation of quantity (10¢ is the same whether 2 nickels, 1 dime or 10 pennies).
Inability to perform arithmetic operations.
Inability to understand the meaning of the process signs.
Inability to understand the arrangement of the numbers of the page.
Inability to follow and remember the sequence of steps to be used in math operations.
Inability to understand the principles of measurement.
Inability to read maps and graphs.
Inability to determine what process is necessary for solving problems.

Tasks:

Teach shape and form
Teach size and length.
Teach one-to-one correspondence.
Teach meaningful counting.
Teach visual symbols.
Teach principle of conservation of quantity.
Teach visualizing groups
Teach language of arithmetic.
Teach process signs.
Teach alignment and arrangement of numbers.
Teach sequence of steps.
Teach problem solving and reasoning.

Materials:

Math Computation

Math Around Us, Scott Foresman & Co. At each grade level this is a complete, self-contained basic math program. The texts are consumable and non-consumable. The supplementary materials are varied and include a chart for analyzing student weaknesses and prescribing material for teaching and practice.

Taskmaster Math Pak, Taskmaster, Inc. These are packs of re-usable wipe-clean cards with self-correcting math tasks which are easy for the student to use. It is basic drill with a difference. The boxes are graded according to ability and/or grade level.

The I Hate Math Book, Creative Publications. This paperback book, for teachers and students, is designed as a series of easy, interesting learning experiences. They involve tricks, events and experiments, and require few tools or materials. Definitely exciting for students who dislike math, don't understand it, or are bored by it.

Math Concepts

The Answer Is - What's The Problem, DLM. This series of three books tells students the answer and requires them to identify the problem. Each page is divided into five flip cards. The answers are printed on the top flip card of each page, and the corresponding problems are presented at random in the remaining flip cards. Students flip through the book to find problems which will match the answers. Books are designed for those who understand the four math processes.

Banking, Budgeting and Employment, Frank Richards. A two-part work text presenting in simplified form the terminology and procedure of Banking, Budgeting and Employment. It includes such common forms as are encountered in everyday life.

Cuisenaire Rods, Creative Publications. These rods are manipulative aids for modeling math concepts at any point in the learning process. A key to their success is the use of color and length as their only distinguishable characteristics. Students physically represent number relationships by assigning any number name to one of the rods, and once doing so, finding names for all the remaining rods relating to it.

Problem Solving Math
Using Dollars and Sense, Fearon Publishers, Inc. A text workbook in the Pacemaker Practical Arithmetic series presented at a 3.0 reading level. It provides a logical progression through lessons and exercises based on concrete situations involving the use of money.

Figure It Out, Follett Publishing Co. A practical program that teaches basic arithmetic and how to work with money and measurements. These paperbacks feature daily living examples such as purchasing groceries, tires, gas, cars, and computing interest rates on loans.

Thinklab Kit, SRA. These kits develop problem-solving and thinking skills for students from second graders to adults. They are designed to exercise student's insight, creativity, and reasoning abilities through activities which are sequenced by difficulty. These kits are non-consumable and develop skills of thinking, comprehension, and problem solving in a variety of curriculum areas.

The major modalities for learning that are necessary for achievement in the functional areas are as follows:

Auditory - the auditory channel is the basic means by which the individual maintains contact with his environment. It is the primary channel for language acquisition and communication.

Discrimination - the ability to differentiate between sounds of similar frequency.
Analysis - take whole and break it into parts.

Synthesis - blend parts into whole
relates to verbal language
very important in reading and spelling.
Memory - critical for language development. Retaining a sequence of sounds within words and a sequence of words within sentence is essential for comprehension and for expressive use of the spoken word.
Sequential
Non-sequential

Temporal - concepts for telling time (days, seasons, hours, etc.); inner sense of time.

Visual - the visual channel is the means by which the individual interprets information that is seen.

Discrimination - the process of detecting differences in objects, forms, letters or words.
Analysis - ability to analyze visual stimuli by separation of a whole.
Synthesis - ability to identify a word as a total visual unit. Ability to arrange parts properly.
Memory -
sequential - ability to revisualize or retain the visual image in the correct order.
non-sequential - ability to remember what was seen.

Motor

Tactile-Kinesthetic - ability to interpret and give meaning to sensory stimuli experienced through the sense of touch.
Gross Motor Coordination - hands and speech.
Fine Motor Coordination - hands and speech.

Integration is the processing of multiple stimuli which are being transmitted through different modalities.

The sensory integration areas are:

Auditory-Visual-Motor
Visual-Motor
Auditory-Motor
Auditory-Visual

Learning Styles

The goal of teaching is to help students integrate learning modalities. Integrative learning refers to all of the modalities functioning simultaneously as a unit. It is speculated that deficiencies in social perception, conceptualization, nonverbal learning, comprehension, etc., may be the result of an impairment in the integrative system. This has been referred to as the Dyslogic Syndrome by John A. Wacker in an article in the September, 1975 Texas Key.

Intersensory refers to learning that takes place from the interrelation of two or more modalities. This is where one type of information is converted to another in the processing of the brain. For example, when visual input is combined with material received auditorily, conceptualization takes place.

In many people this interaction of senses does not take place and the result is confusion because different modalities are delivering conflicting sensations.

Integration of sense modalities must relate to output as well as reception. The breakdown for some individuals comes when relating information in a written code or in a verbal response.

The reception of information through one modality might interfere with reception from another. The lower tolerance of the learning disabled student to receive and process information from several sources of stimulation can cause symptoms such as confusion, poor attention, irritable behavior, poor recall, retrogression, refusal of the task, moodiness, temper tantrums, and sometimes seizures.

Most people have a preferred learning mode but are unaware of this. Most of us integrate our learning modalities for optimal learning results. Many students with learning disorders are unable to integrate these.

SCHEDULING/TRACKING AND MANAGING SAMPLE POPULATION

All personnel kept a detailed daily log of activities and events.

Group 1 - Locators

1. The locators recorded in a log book all attempts to contact a specific client.

2. After the client was located, a correct (current) address and phone number were recorded.

3. The school schedule and work schedule were recorded. If the school counselor's name and phone number were known, they were also noted.

4. The locator explained the Project, using a comprehensive script, to the client.

5. The locator scheduled an appointment with a member from Group 2.

6. All completed data were sent to Group 2.

Group 2 - Testing Data Collectors and Reviewers

1. Reviewed the file data and compiled any questions.

2. Determined any additional testing, such as Detroit, Malcomesius, Written Language Sample, other.

3. Administered and scored additional testing. Kept all testing protocols together in the file.

Group 3 - Prescription Writers

1. Wrote prescriptions according to form provided, complete with sample and easy to follow instructions.

2. All prescriptions were written by the Learning Disability Specialists.

3. Sent completed file to Group 4.

Group 4 - Schedulers and Community Coordinators

1. At this stage, remediation was initiated. The scheduler and community coordinator arranged a place for remediation to occur.

2. The clients were assigned to Specialists, mostly by geographic area.

Role of Program Director

Every procedure was prone to knots, kinks and revision. The Program Director had to:

1. Oversee the effectiveness, ensure quality control and problem solve in all four aforementioned groups.

2. Document any difficulties and develop strategies to effectively remedy them.

In addition to the forms used as exhibited in the Case Study, there is a bibliography of the remediation program's reports in Appendix I. The printed products of the remediation program include its resource materials catalog, curriculum guide and assessing written language sample procedures. To fully comprehend the program's methods and treatment strategies, it is important to study all the printed products in addition to this document.

B. PROGRAM STAFF REPORTS - SUMMARIES AND EXCERPTS

BALTIMORE SITE
Program Director, Belton Wilder, Ph.D.

My major tasks consisted of hiring staff and making certain that they maintained control of the data collection process that was clearly outlined in the policy and procedures manual. I was also responsible for getting to know our caseload of students to make certain they were accounted for and that they were maintained in their respective groups (control and experimental).

There were goals and objectives written by me in the beginning of my tenure. Of course, they were consistent with the policy and procedures established by ACLD and ACLD Project Director during the formation of this national study. The goals consisted of:

1. Maintaining all students assigned to us by ETS.
2. Engaging the remediation participants in consistent remediation.
3. Motivating the students to insure their constant participation.
4. Reporting all terminations to the project office.
5. Reporting all academic activities to the National Center for State Courts.
6. Working with the control trackers as they monitored the movement of the control group of students and as they questioned the LD Specialists regarding the remediation experimental group's participation.

There were also telephone calls with the Project Director on a weekly basis. These calls assisted with technical advice that was needed to insure an efficiently operated program. When there were decisions that needed immediate attention, the Project Director made herself available to assist me with making those decisions.

We survived the cumbersome process of reporting data to the National Center for State Courts and waiting for them to provide feedback. We survived the problems of chasing our students around town for the purpose of conducting remediation, thereby making it possible for a collection of raw data to be available. We survived working with community agencies who would not cooperate on some occasions and would not allow us to collect data on juveniles who were chosen for the research and development study. We sur-

vived all of these things simply because of our determination and commitment to the tasks at hand.

The ACLD-R&D was commissioned by NIJJDP to document the possibility of a relationship between learning disabilities and juvenile delinquency. We were hired by the ACLD-R&D to do the leg work in this study, collect and report data, track and control all clients for that purpose. We were responsible for involving these clients in a program of change. This program of change consisted of an academic treatment model.

Looking back at the study, and the personnel who worked hard and diligently to make the study a success, I can say truthfully that there was an impact by all of us. I sincerely feel that we touched the lives of these young people. We made promises to each one and we were able to follow through on most of the promises.

We became their friends as well as trusted confidants. We provided them with a service that made life an improvement for them. We could not change the total picture of their lives because of limited resources, but we were able to make a good impression . . . a gesture toward change in a very positive direction.

LD Specialist, Elizabeth Leinwand

I have been a Learning Disability Specialist for the ACLD-R&D Project since June, 1977. My primary goals have been:

- Analyze formal and informal assessment data
- Determine learning deficits and assets
- Select appropriate materials

- Design activities to promote students' success

- Increase students' functional skills
  Encourage reading for pleasure
  Provide feedback to students so they can monitor their own progress

- Provide consistent educational experience (be there, be on time, be prepared)

- Show respect for students. Expect respect from students

- Develop a working relationship with students (be a teacher who is friendly not just a friend)

The one-to-one teaching situation provided an opportunity for learning that most of my students had never experienced before. They showed enthusiasm, trust and motivation that were inhibited in regular classroom settings. They surprised themselves by being able to acquire skills which had been troublesome since elementary school. Several of my students read a book for the first time during the remediation program. Some asked for reading material to read during their own time, another first. Students became adventurous. They wanted to know if there was anything else to learn in math after long division. They all talked about getting their high school equivalency diplomas.

LD Specialist, Marcella Valentine

Participation in the full sense of the word played an important part in the successes at the Baltimore site. The majority of the students participated fully when not experiencing a disruption in their other programs which were rather frequent. Of course, the student's residence (institution or home) along with some parental interest and support of program bear weight in the successful scheduling for remediation on a regular basis for many students.

This LD Specialist attempted to set positive and realistic educational goals and objectives for the students. The students were asked to help decide what was important to learn.

LD Specialist, Randy Rothman

The sense of cooperation among all staff members was mutually supportive. This support included administrative backing to insure the maintenance of the experimental population.

My job occasionally encompassed teaching cognitive behavioral skills before it was possible to proceed with academic remediation. An indirect result of the persistent tracking was the development of a sense of structure established by LD Specialists for the student. This element was often missing from their lives.

A factor that should be considered in evaluation of skills progress is the reading expectancy level which compares the student's chronological age to his mental age derived from the IQ level. Certain students who achieved intermediate level reading scores but did not demonstrate much growth after remediation may have reached their expected potential.

LD Specialist, Kathy Reed

I feel that as a Specialist I have contributed all of the energies and commitment to the Project that I have. I feel I looked at each student as an individual and that I worked with him to the best of my ability.

LD Specialist, Marian Veits

In order to remediate clients chosen to be in the program, it was necessary to do the following:

- review all diagnostic and test data administered by ETS
- administer and interpret additional assessments both formal and informal
- write prescriptions, including objectives, methods and materials based on diagnostic observations
- update diagnostic/prescriptive reports according to student's progress
- keep lesson plans including objectives, strategies, materials and results
- track students, make remediation appointments and change schedules to meet the demands of student relocations.

Written activities which were concomitant with remedial procedures included:

- keeping student records
- maintaining research records
- reporting mileage
- completing a weekly log
- filling out other personnel forms

Most of the students I taught showed an improvement in school-related behaviors, i.e., the ability to organize their work, maintain a notebook, self-correct work, develop rough drafts and write final papers. This type of activity may not have resulted in higher test scores directly, but did, as some students reported, help them with their other school programs and give them an increased sense of self-confidence.

For many of our students, the ACLD-R&D Project presented them with a positive academic experience for the first time. For some of our clients who had been truant for so long, it was the only academic exposure they had had in many years.

INDIANAPOLIS SITE
Program Director, Jamia Jacobsen, M.Ed.

The Staff: Teachers were recruited who met the qualifications and guidelines of the project, who had the personality and perseverance to travel in good and bad weather, and track youths in areas that were not considered the best. Whenever possible, each teacher hired was assigned to an area of the city in which the teacher lived. Emphasis was placed on selecting teachers from each geographical area of the city during the first or initial hiring.

All staff had their Individual Educational Prescriptions (IEP's), lesson plans, and remediation sessions scheduled and carried out with minimal effort. The paperwork was turned in as scheduled and was comprehensive. The staff was informed on teaching procedures and utilized innovative and expert reinforcement techniques. An intensive inservice program was presented and the teachers were exposed to a variety of materials.

The staff members were assigned names and addresses of parents or guardians who had not responded to the initial letters from Creighton University, later National Center for State Courts, and a door-to-door campaign was conducted to obtain the signatures and cooperation of these parents or guardians on the Informed Consent for Participation form. Each teacher called in a telephone tally for parents' names of adjudicated youths to try to obtain informed consent. Each had to be familiar with the schools within their area. Each was introduced to the correction facilities in Indiana.

Praticum students were also an active part of the program in the first year. All were in a Master's program within the Special Education field.

Research Assistants (RA) were assigned to the Project during the second grant period. The RA's were obtaining degrees in Education, Psychology, Criminal Justice fields, or were retired teachers.

Materials were vital to each teacher. They desired to have input in the selection of the materials. This was a most positive aspect of this project.

LD Specialist, Marjorie Chance

The project has given me the chance to teach in different settings in a one-to-one situation which has been interesting and challenging.

"When he saw he was learning, he began believing in himself and his problems became fewer. He decided that he preferred positive attention rather than the negative. He has not been in trouble since last May. He learned how to combine words grammatically because he was sold on the idea of getting his G.E.D. He will have his certificate before the project ends."

LD Specialist, Richard Przybysz

I would like to have had more feedback from the National Center for State Courts. I believe the program has shown its value and that a long term program offering assistance to adjudicated juvenile delinquents should be arranged.

LD Specialist, Vickie Seymour

I expected to learn and grow professionally through my employment in the project. My expectations were met and surpassed.

There are factors facing these youths daily that are unknown to most middle class citizens. Survival for these kids is difficult and often the educational system doesn't offer what they need.

LD Specialist, Debra Weber

We were not only teachers but evaluators, social workers, mediators, trainers, psychometrists, public health workers, parole and probation workers, big sisters, idols, intruders, detectives and objects of scorn. This meant not fearing trashy alleys, mean dogs, pool halls, roaches, rats, crap games and motorcycle gangs. It meant not expressing opinions on values not shared with the student. It meant being hip to street language. I became more and more intolerant of the welfare system, violence, liquor, drugs, truancy, laziness and child neglect.

Locating space for remediation was always a problem in public schools where space was at a premium. Often available areas were in extremely distracting locations.

Research Assistant, Susan Maxfield

Good rapport between youth and LD Specialist is very important. The students are not receiving high school credit and they are not being paid. Motivation depends on this positive relationship.

PHOENIX SITE
Program Director, Loretta Weingel-Fidel, M.Ed.

Programmatic Guidelines: The primary task during the first month of the project was the writing of programmatic guidelines. Included in this was the writing of:

1. remediation program objectives
2. a framework categorizing the functional areas involved in a learning disability remediation program
3. a discussion of the major modalities for learning necessary to achievement in the functional areas

4. a classification of tasks both teacher and student

5. suggested methodology and materials

6. a compilation of task checklists for the functional areas

7. a flow chart of individualized remedial procedure

Other duties included interviewing job applicants for the positions of Learning Disability Specialists.

During the initial planning, it was necessary to do a lot of reading of background information. Familiarity with the AIR study: The Link Between Learning Disabilities and Juvenile Delinquency, the Creighton Institute LD/JD File, and the GAO Report became mandatory prior to the writing of programmatic guidelines.

Telephon: One of the most time-consuming (December-March), as well as important activities was the telephon, whose purpose was to gain parental consent for both the adjudicated juvenile delinquent and public school population. Literally thousands of parents were telephoned and informed of the goals of the ACLD-R&D Project for the purposes of enlisting their child's participation. Volunteers to do the phoning were recruited from the (1) Courts, (2) Private Schools, (3) District Schools' LD staff, (4) Arizona ACLD, (5) Junior League, (6) University School of Nursing, (7) State Center for Law in the Public Interest, (8) University Department of Special Education, (9) PTA, (10) Organization of Junior Women, (11) State Department of Rehabilitation and Vocation, as well as miscellaneous others. All of these volunteers were trained at intensive inservice sessions by both ACLD and National Center for State Courts.

Community Support and Participation: The planning stage of the project included numerous activities designed to create good public relations between the project and the community. These activities established a network of support and public interest for the issues being raised by the ACLD-R&D Project.

Because of the extensive groundwork done at this time, an excellent community relationship was developed and maintained throughout the project.

Inter and Intra Component Planning Sessions: The planning stage of the project was a time for idea exchanging, procedure and policy writing, format development and overall structuring of the foundation and workings of the ACLD-R&D Project. Throughout this phase, the interactions between ACLD, Educational Testing Service and National Center for State Courts were characterized by high productivity and excellent rapport.

LD Specialist, Denise Frenz

There are a few factors (in the program) which I found disappointing. The type of clients with whom I was working spent most of their time moving in and out of residential placements and correctional institutions. The majority of these clients fell into the category of "status offenders" and had no great propensity toward criminal behavior and that which they did display was learned through their incarcerated environment. Their learning disabilities were greatly subordinated to their institutional behaviors, making academic remediation difficult.

During the course of the project, there were many different types of agencies I contacted in my role as an LD Specialist.

1. High school and elementary districts
2. Department of Corrections
3. Major juvenile correctional institutions
4. Department of Corrections Parole Division
5. Private residential placements
6. Half-way houses
7. Juvenile probation - parole officers

Major inservice workshops were designed to develop skills, understanding and knowledge of the juveniles with whom the LD Specialists worked.

1. Differential diagnosis-diagnostic instruments
2. Auditory and visual processing -explanation of processes
3. Developmental hierarchy of writing tasks
4. Wechsler Intelligence Test interpretation
5. Writing diagnostic statements
6. Methods and materials
7. The Spalding Method - reading
8. Key Math and Woodcock interpretation
9. How to do a Written Language Sample Analysis
10. Process deficits
11. Multiple stimulus integration
12. Short term memory - explanation of the process
13. Symbolic operations: language, reading, writing, math
14. Discussion of case data - concerns
15. Writing prescriptions appropriately

16. Analyzing pre/post-test measures

17. Malcomesius and Detroit test administration and interpretation

LD Specialist, Wendy Whiteman

My job as an LD Specialist in the remediation phase of the ACLD-R&D Project was to remediate students living in the greater central Phoenix area, ranging in ages from twelve to eighteen years. All had been identified as adjudicated delinquents with characteristics of learning disabilities. After having been screened and pre-tested, clients' files were then referred to the LD Specialist to begin remediation and processing.

My caseload was comprised of the lower to middle-upper income bracket with diversified ethnic backgrounds. Sessions for remediation were held at the most convenient setting for the client. Client success in the program was affected heavily by individual sociological and psychological factors.

LD Specialist, James Lambourne

My students were assigned to a residential treatment center. The students were confined to one campus which conducted a graduated system of increasing freedoms and responsibilities. They had regular treatment and school program schedules in which they were required to participate. One major stipulation was that the project's program could not interfere with the center's program.

LD Specialist, John Beard

Upon receipt of the clients' files at the site office, the following procedures were carried out:

1. Review file for testing and general information concerning client;

note errors in test scoring; assess tests for deficit areas. Files with errors returned to Educational Testing Service for corrections.

2. Note address, phone number and Parole Officer, if possible. Contact client by phone and ascertain his placement and general feelings about the project, (ask name of Parole Officer if this was not already known); arrange to meet client to begin remediation. If client could not be located by information in file, it became necessary to locate and contact the client's Parole Officer, who many times was extremely helpful in providing pertinent information regarding the client.

Client Tracking: In some cases, it became necessary for the LD Specialist to track remediation clients. Reasons for this were:

1. Client not showing up for sessions. This usually resulted in contacting parents and/or responsible agencies to elicit their support in keeping the client in remediation.

2. Client changing locations (move, transfer, facilities, AWOL, relocation), necessitating pick-up by another LD Specialist.

3. Client refusing to work and wanting to drop out of remediation.

Remediation Sessions: Approximately one to three hours per client per week was spent in remediation. In some cases, students were met one day per week in a two-hour time block. In all cases, length of remediation sessions was dependent on the following:

1. Type of setting (institutional, school, home, whether or not client was working).

2. Schedule of classes and activities in public school, residence, or institution.

3. Time of day.

4. Location of client.

5. Available space.

Observations of Remediation Sites: Public Schools - generally, these provided the best atmosphere conducive to remediation. Because of ample space, it was easy to obtain the use of a classroom, library, study room, or small office to conduct remediation sessions.

Private/Residential - these agencies, like public schools, were cooperative and supportive toward remediation. Scheduling a client for remediation was generally easier to execute in contrast to public schools where scheduling was at the convenience of the daily schedule or teacher. Available space was less readily available, often resulting in frequent changes in working space. This factor did not contribute positively to the quality of remediation sessions, as many times there were frequent and numerous distractions such as noise, people walking by and talking to client, or last minute schedule changes.

Home Environment - several clients were worked with at their homes. Overall, this environment was least conducive to remediation efforts, as distractions were less easy to control. Such distractions as TV, stereo, phone calls, family members present, people coming and going, etc., were frequent occurrences, however, maintaining contact with parents was easier.

Other Facilities - on a few occasions it was necessary to meet clients at a public library or city park. This situation arose because of unavailability of space at the client's placement facility or the inconvenience

to the family of working in the home. Because of the quiet atmosphere and accessibility, these situations proved conducive to remediation.

SUMMARY OF PROBLEMS FROM THE NATIONAL PROJECT OFFICE

1. Administrative

The primary administrative problem was mainly in the realm of logistics. They were staggering from the initiation of the project. Most activities appeared to be of equal importance and equally complex.

Gaining the cooperation of key agencies at each site consumed many hours of travel and meetings. In most cases, each participating school district's Board of Education was approached by representatives of both grants. Numerous meetings were conducted with key individuals from the courts, corrections, educational agencies and advisory groups. In one school district, the School Board requested (and we acquiesced) the Informed Consent letters to parents be written in both Spanish and English. This was done to be certain that all parents would understand the purpose of their son/daughter's participation. The problems and solutions of gaining Informed Consent were well documented in quarterly progress reports to NIJJDP.

The assignment of caseloads to LD Specialists by geographic area was the next major logistic. The sample population was particularly transient at the Phoenix site. Throughout the months of remediation, scheduling was an administrative headache. One practical aid was the Student Tracking Form (STF), particularly page 4 (See Case Study, page 49). Using page 4 of the STF enabled the LD Specialists to track their caseloads.

There were some internal management problems. These were duly reported, documented and resolved.

2. Program

a. A major program problem was one of circumstances beyond our control. The sample population, according to the project's design, was to be 12-16-year old juvenile delinquents. As it turned out, the average age of the sample population was 15.2 years when they started in the program. By the fall of 1978, most of those participating were 16.2 - 18.0 years of age.

Few of the juveniles had received special services for their LD. By and large, the LD Adolescent not receiving any assistance during the elementary school years, is one with severe emotional overlay. So, the staff were faced with writing an academic treatment program for actually a multi-handicapped population. The greatest difficulty was developing resource materials that could be adapted to the varying deficits; but material whose content would be interesting to the older adolescent. The point is, an academic treatment model is difficult to implement and conduct with the older adolescent especially when one is restricted to presenting strictly academic intervention to a population that has experienced academic failure all their school years.

b. The second program problem was lack of feedback from the formative evaluator. The most constructive feedback would have been from the Monthly Activity Tally (MAT) reports (See Case Study, page 49). Unfortunately, the data was not translated in any form from the researcher to the program staff.

Major program revisions were not made because of not receiving the feedback. Program modifications were made through the Program Director's assessments and evaluations of each site's on-going remediation program. Additional technical assistance was issued by the Project Office. This assistance was produced by the Project Director's surveying the MAT reports, site evaluations and making recommendations from the information available.

3. In sum, the project was very complex, with a wide variety of agencies cooperating, assisting and participating in the study. Therefore, the problems encountered were not of the magnitude that one would anticipate with a project of its scope.

Problems Cited by Program Directors According to Program Component and Problem Category*

Program Component	Problem	Number	Percent
Student	Attendance/Absenteeism	27	5
	Delinquency	15	3
	Behavioral Control	7	1
	Educational Progress	1	a
	Attrition	30	6
	Total	80	16
Teacher	Student Rapport	11	2
	Relationship with Others	3	1
	Morale	11	2
	Performance	22	4
	Attrition	39	8
	Personal Matters	7	1
	Total	93	19
Instruction	Quality (Overall)	6	1
	Scheduling	73	14
	Process/Content	12	2
	Materials	4	1
	Total	95	19
Program	Access/Coordination	22	4
	Management	31	6
	Policies	25	5
	Physical Space	10	2
	Support Staff	10	2
	Public Relations	18	4
	Personal Development (Staff)	9	2
	Total	125	25
Setting	Environment	8	2
	Social/Political Mileau	1	a
	Funding	6	1
	Research/Evaluation Reactivity	83	17
	Total	98	21
Total		491	100

[a]Less than 1 percent.

*Based on a personal communication from the Evaluator.

Ten Categories of Significant Events and Problems
Cited Most Frequently by Program Directors of the LD/JD Project*

Significant Events	Problems
Scheduling	Research/Evaluation Reactivity
Research/Evaluation Reactivity	Scheduling
Policies	Attrition (Teacher)
Access/Coordination	Management
Performance (Teacher)	Attrition (Student)
Public Relations	Attendance/Absenteeism
Educational Progress	Policies
Attrition (Teacher)	Performance (Teacher)
Delinquency	Access/Coordination
Behavior Control	Public Relations

*Based on a personal communication from the Evaluator.

C. CASE STUDY

The following case study has been selected at random from the number of juveniles who received 55 or more hours of remediation from the R&D staff of LD Specialists.

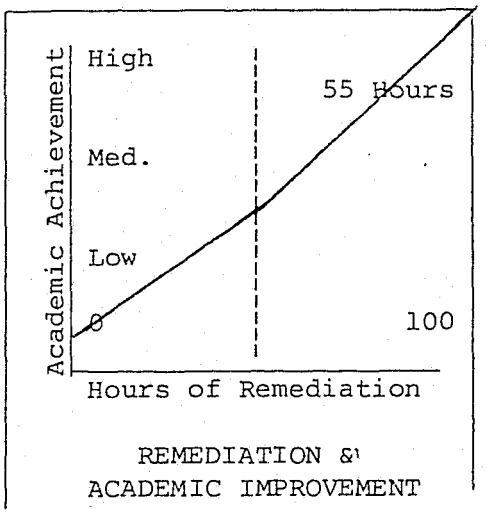
The selection was made on the basis that the final data documented that:

1. There was noticeable improvement in academic achievement after 55-65 hours of remediation. There was a threshold effect when this remediation level was reached. If the student did not receive at least 55 hours of remediation, there was not much academic improvement.

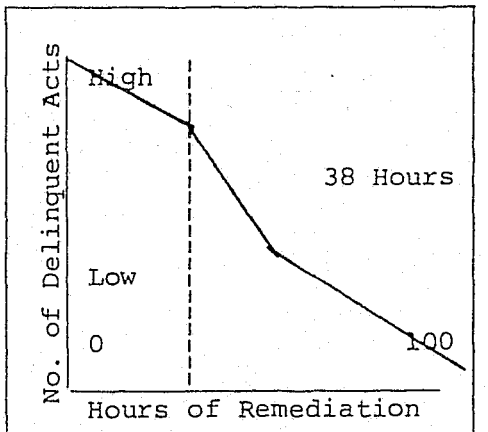
2. There was also a threshold for the reduction of delinquent activity. When the student received at least 35 hours of remediation, there was a decline in delinquent activity. As the amount of remediation increased, the amount of delinquent activity decreased. (See Table V).

CASE STUDY ANALYSIS: CLIENT A

Client A is a 14-year 11-month old learning disabled youth who is on parole living in a half-way house. His first contact with the courts was at the age of 12 years 2 months because of possession of a dangerous substance. At that time, he was placed on probation, lived at home and attended a public school. Subsequent to his adjudication as a delinquent, he was apprehended two more times for possession of drugs and finally he was sent to a correctional training school because of drugs and grand theft auto. He had been on parole at the half-way house for approximately 3 months when he came into the R&D Project.



REMEDIATION &
ACADEMIC IMPROVEMENT



REMEDIATION &
REDUCTION IN
DELINQUENT ACTIVITY

Table V

His parents were married and living together. He was the 3rd child of four. His parents reported (as did he) that none of the other children had been in trouble nor had any school related problems. Client A reportedly had had experience with school failure since the third grade. He had not been identified as LD prior to his involvement in the project.

This client was in the remediation program from September 14, 1978, until June 10, 1979. He was at the half-way house the entire time. He was twice a runaway but called the LD Specialist to meet. His formal remediation sessions did not commence until November 8, 1978, following completion of informal testing, staffing and written individualized educational plan. He received remediation for 7 months, with a total of 62 hours' remediation.

Client A is functioning with the bright average range of intelligence as indicated by the WISC-R. He performs better in non-verbal areas than verbal. He demonstrates a short attention span, especially towards auditory stimuli. Auditory memory and auditory discrimination skills are inadequate and in need of remediation. Visual processes are well-developed and function effectively.

The client is functioning significantly below grade level in math. He demonstrates incomplete mastery of basic computational skills, as well as decimals and fractions. His awareness of time is also deficient. Reading skills indicate incomplete mastery of phonics and word identification. Memory of material appears to be interfered with by client's auditory processing of the stimuli/symbols resulting in an incomplete memory for what is read.

Informal testing by the LD Specialist using the Malcomesius indicated a problem in near-point copying with the reversal of b and d. In the visual memory evaluation there was a tendency to improperly recall the sequence of letters. He evidenced difficulty recalling numbers in sequence when the visual-motor performance was tested. The auditory testing evidenced difficulty in discriminating b and d sounds and reversing order of words and phrases and letters within words. The auditory to visual evaluation was good suggesting that his performance improves when visual stimuli immediately follows auditory stimuli.

The Student Tracking Form indicates the parent of this youth was contacted by telephone on September 11, 1978. The LD Specialist found out about the client's placement and the situation leading to it. He has had involvement in GTA (Grand Theft Auto) and drugs.

The school was contacted initially on September 12th. Their attitude was cooperative and they were supportive of the project.

The student was contacted in person on September 12th at the half-way house by the LD Specialist. They talked for thirty minutes and the client seemed very cooperative. He was given a brochure to read which explained the project and he seemed to fully understand it. He willingly agreed to participate. The impression of the Specialist of the first planning session was that the client was cooperative and interested. Informed consent was received so that remediation could proceed.

The initial tutorial meeting was on September 14th when the Student's contract was negotiated. The remediation prescription was written on November 8th.

The first Written Sample Analysis was taken in December of 1978. The Summary of Scores showed that he had a Productivity of 50 words, 5 Total Sentences, and 10 Words Per Sentence. His Syntax Quotient was 68. In Semantics he had a Vocabulary Quotient of 2.12, a Readability Level of 4.4, Abstraction Level of 14 A-D and had 3+ in Impromptu Writing Competence. The following June (1979) he scored 93 Words, 10 Total Sentences and 9.3 Words Per Sentence in Productivity. The Syntax Quotient was 76.9. The Semantics Scores were: Vocabulary Quotient 2.38, Readability Level 4.1, Abstraction Level 21 A-I, and an Impromptu Writing Level of 5.

The Prescription Outline recommended a timeline of three months for work in the client's problem areas. The materials used in Reading Comprehension and Vocabulary were Hip Reader (Book Lab, Inc.), Breakthrough Reading Series (Allyn & Bacon), Critical Reading Series (Ann Arbor Publishers). The objectives were to learn to identify sequential order; and learn to evaluate and identify the author's purpose, viewpoint and competency. The teaching method was to present short stories with questions at the end of the selections. Under word attack skills, the problem area focused on phonetic analysis. The objective was for the student to learn to analyze words in order to identify the phonetic components. Instructional materials identified were Sound Foundations Program I (DLM), and the Spalding Writing Road to Reading (Wm. Morrow Co.).

In the academic area of Spelling, through the use of phonograms, word dictation and work on vocabulary development, the objective was to develop knowledge of spelling rules. Spellbound, Spalding, Word Study I and II were among the materials used.

In the remediation of the perceptual area of auditory processing, the same materials were used. Teaching strategies included dictating words and sentences to student, conversational interaction and oral reading with questions presented afterwards by the instructor.

Math had the two problem areas of fractions and time. Materials which were used for remediation included Spectrum Math, SRA Computational Skills and Adventures with Arithmetic (Fractions, Decimals and Percents). The teaching strategies included an intensive review of addition, subtraction, multiplication and division operations for fractions. After drill and practice in all these areas, decimals and percents were reviewed and word problems were presented to help apply these skills. Concepts of time relative to everyday situations were reviewed and practiced.

Lesson plans were developed based on these prescriptions and included objectives, activities, materials and results. As an example: the objective for Math for the period of April-May was to develop a better understanding of the calendar; the activity was to use math problems based on the actual calendar month; material for this activity was taken from Success With Math (Allyn & Bacon). The listed results showed that after the first session, the youth was confused about computing days of the month, hours in the day and minutes in the hour. The second session spent on this activity resulted in better understanding.

The Monthly Activity Tally (MAT) of April-May which records the breakdown of each activity according to time spent, material used, prescription code, and the teacher rating of 0, +, ++, showed that this youth

was consistently successful and had only one low rating in a two-week period. He missed one therapy session because of a dental appointment and spent about 45 minutes in each session with most activities lasting between 10 and 25 minutes.

The resulting computerized Formative Evaluation Report (from the research staff), which includes all remediation activity instances and times, indicates that this client spent a total of 3,840 minutes, engaged in 276 activities, and concentration was placed on the deficit functional areas according to pre-test results.

The Woodcock and Key Math pre-test and post-test results are graphed where raw scores have been converted to grade equivalency. The graphs indicate the following gains and losses:

Woodcock:	
Letter Identification	No gain (12.9 yr. pre/post testing)
Word Identification	2.9 yr. gain
Word Attack	2.5 yr. gain
Word Comprehension	4.2 yr. gain
Passage Comprehension	0.8 yr. gain
Key Math:	
Numeration	No gain (8.0 yr. pre/post testing)
Fractions	No gain (8.6 yr. pre/post testing)
Geometry & Symbols	2.0 yr. gain
Addition	2.8 yr. gain
Subtraction	4.5 yr. gain
Multiplication	1.1 yr. gain
Division	0.1 yr. gain
Mental Computation	No gain (10.0 yr. pre/post testing)
Numerical Reasoning	1.0 yr. loss
Word Problems	No gain (10.0 yr. pre/post testing)
Missing Elements	No gain (10.0 yr. pre/post testing)
Money	2.0 yr. gain
Measurement	No gain (10.0 Yr. pre/post testing)
Time	4.4 yr. gain

PARENTAL CONSENT FORM

(PLEASE COMPLETE AND RETURN IN THE ENCLOSED ENVELOPE)

I, _____, GIVE/DO
(NAME OF PARENT OR GUARDIAN - PLEASE PRINT) (PLEASE

NOT GIVE MY PERMISSION FOR MY CHILD, _____
CIRCLE ONE) (NAME OF CHILD - PLEASE PRINT)

TO PARTICIPATE IN THIS RESEARCH STUDY.

I HAVE READ THE ACCOMPANYING LETTER AND I UNDERSTAND IT. I CONSENT TO ALLOWING THE RESEARCH STAFF TO INTERVIEW AND TEST MY CHILD AND REVIEW HIS OR HER EDUCATIONAL AND JUVENILE JUSTICE SYSTEM RECORDS IN THE SUMMER OR FALL OF THIS YEAR, AND AGAIN IN THE SUMMER OR FALL OF NEXT YEAR. I FURTHER CONSENT TO MY CHILD'S PARTICIPATION IN THE PROJECT'S PROGRAM OF SPECIAL INSTRUCTION IF HE OR SHE IS SELECTED. I UNDERSTAND THAT THE INFORMATION THAT IS GATHERED IN THE INTERVIEWS AND THE RECORDS REVIEWS WILL REMAIN CONFIDENTIAL AND WILL BE USED ONLY FOR RESEARCH PURPOSES, EXCEPT THAT THE RESULTS OF THE EDUCATIONAL TESTS WILL BE MADE AVAILABLE TO THE _____COUNTY JUVENILE COURT, AND TO THE PROJECT'S REMEDIATION TEACHER IF HE OR SHE IS SELECTED FOR SPECIAL INSTRUCTION. I ALSO UNDERSTAND THAT I MAY TERMINATE MY CHILD'S PARTICIPATION AT ANY TIME WITHOUT PENALTY OF ANY KIND.

_____
(SIGNATURE OF PARENT OR GUARDIAN)

_____
(STREET ADDRESS)

_____
(CITY, STATE, ZIP CODE)

_____
(TELEPHONE NUMBER)

_____
(DATE)

STUDENT TRACKING FORM (PAGE 1)

STUDENT'S NAME: CLIENT A CODE # 000 BIRTHDATE _____ (CA _____)

GUARDIAN'S NAME: _____ ADDRESS: _____

HOME TELEPHONE: _____ BUSINESS TELEPHONE: _____

SCHOOL CORPORATION: _____ SCHOOL: _____

CLASS PLACEMENT/GRADE: _____

PROBATION OFFICER: _____ PHONE: _____

X DIAGNOSTIC SUMMARY REVIEWED DATE: 9-8-78

COMMENTS: INFORMATION SUFFICIENT

X TERMINATED PROGRAM DATE: 6-10-79

X REASONS: REMEDIATION PROGRAM COMPLETE

FINAL REPORT FILED DATE: 6-20-79

STUDENT TRACKING FORM (PAGE 2)

STUDENT'S NAME: CLIENT A

CODE #: 000

X INITIAL CONTACT WITH SCHOOL DATE: 9-12-78

PERSON MAKING CONTACT: LD SPECIALIST PHONE ___ IN PERSON X

OUTCOME: COOPERATIVE ATTITUDE - SUPPORTIVE OF PROJECT

X INITIAL CONTACT WITH STUDENT DATE: 9-12-78

PERSON MAKING CONTACT: LD SPECIALIST

LOCATION: _____ DURATION: 30 MINUTES

OUTCOME: CLIENT VERY COOPERATIVE. HE WILL PARTICIPATE WILLINGLY. GAVE HIM A BROCHURE TO READ AND HE FULLY UNDERSTANDS IT.

X INITIAL CONTACT WITH PARENTS OR GUARDIANS DATE: 9-11-78

PERSON MAKING CONTACT: LD SPECIALIST

TELEPHONE X IN PERSON ___ STUDENT PRESENT ___

LOCATION: _____ DURATION: _____

OUTCOME: FOUND OUT CLIENT'S PLACEMENT AND SITUATION LEADING TO IT. CLIENT HAS HAD INVOLVEMENT IN GTA AND DRUGS.

COMMENTS: _____

STUDENT TRACKING FORM (PAGE 3)

STUDENT'S NAME: CLIENT A

CODE #: 000

X FIRST IMPRESSION PLANNING FOR REMEDIATION (DESCRIBE BRIEFLY):

COOPERATIVE AND INTERESTED IN WHAT WE WILL BE DOING

X INITIATE REMEDIATION (FIRST CLASSROOM ENCOUNTER) DATE: 9-14-78

X REMEDIATION PRESCRIPTION WRITTEN DATE: 11-8-78

X SUCCESS RATING - TEACHER DATE: 1-8-79

X CONTRACT NEGOTIATED DATE: 9-14-78

INFORMED CONSENT X NON-CONSENT __

EXPLAIN: VERBAL

X SUCCESS RATING - STUDENT DATE: 1-8-79

COMMENTS:

STUDENT TRACKING FORM (PAGE 4)

STUDENT'S NAME: _____

CODE #: _____

MODIFICATIONS IN REMEDIATION PROGRAM

SETTING, LOCATION, PERSONNEL, AND SCHEDULE

DATE	MODIFICATION	EXPLANATION

SPECIALIST LD SPECIALIST

DATE NOVEMBER 8, 1978

ACLD-R&D PROJECT PRESCRIPTION OUTLINE

CLIENT NAME CLIENT A

ADDRESS

PHONE CODE 000 D.O.B.

P.O. PHONE

SCHOOL GRADE 9

REMEDIATION SITE

SUMMARY OF DIAGNOSTIC FINDINGS:

CLIENT IS FUNCTIONING WITHIN THE BRIGHT AVERAGE RANGE OF INTELLIGENCE AS INDICATED BY THE WISC-R. HE PERFORMS BETTER IN NON-VERBAL AREAS THAN VERBAL. HE DEMONSTRATES A SHORT ATTENTION SPAN, ESPECIALLY TOWARDS AUDITORY STIMULI. AUDITORY MEMORY AND DISCRIMINATION SKILLS ARE INADEQUATE AND IN NEED OF REMEDIATION. VISUAL PROCESSES ARE WELL DEVELOPED AND FUNCTION EFFECTIVELY.

CLIENT IS FUNCTIONING SIGNIFICANTLY BELOW GRADE LEVEL IN MATH. HE DEMONSTRATES INCOMPLETE MASTERY OF BASIC COMPUTATIONAL SKILLS. HIS AWARENESS OF TIME IS ALSO DEFICIENT. READING SKILLS INDICATE INCOMPLETE MASTERY OF PHONICS AND WORD IDENTIFICATION. MEMORY OF MATERIAL APPEARS TO BE INTERFERED WITH BY CLIENT'S AUDITORY PROCESSING OF THE STIMULI/SYMBOLS RESULTING IN AN INCOMPLETE MEMORY FOR WHAT IS READ.

TEST RESULTS-

WOODCOCK READING

READING LEVEL OR GRADE PLACEMENT 7.0

LETTER IDENTIFICATION - (SUMMARY OF FINDINGS) GOOD - RECOGNIZES ALL

WORD IDENTIFICATION SOME DIFFICULTY WITH MULTI-SYLLABLE WORDS (EXPOSTULATE, PLAGIARISM)

WORD ATTACK SLIGHT DIFFICULTY WITH PHONICS

WORD COMPREHENSION DIFFICULTY WITH ANALOGIES AND WORD MEANINGS; INADEQUATE VOCABULARY SKILLS

PASSAGE COMPREHENSION DIFFICULTY IN RECOGNIZING CONTEXT CLUES; INADEQUATE VOCABULARY SKILLS

KEY MATH

GRADE PLACEMENT 7.5 SUMMARY OF DIAGNOSTIC PROFILE

NUMERATION COUNTING BY 3'S, DECIMALS, RATIO, PLACE VALUE

ESCRIPTION
E THREE

FRACTIONS SKILLS ADEQUATE (CONCEPTS)

GEOMETRY & SYMBOLS CONCEPTS OF PARALLEL, PERPENDICULAR

ADDITION DECIMALS, FRACTIONS

SUBTRACTION DECIMALS, FRACTIONS

MULTIPLICATION DECIMALS, TWO-DIGIT WHOLE NUMBERS

DIVISION DECIMALS, FRACTIONS

MENTAL COMPUTATION SKILLS ADEQUATE

NUMERICAL REASONING SKILLS ADEQUATE

WORD PROBLEMS SKILLS ADEQUATE

MISSING ELEMENTS SKILLS ADEQUATE

MONEY PRACTICAL SKILLS - CHANGE, AMOUNTS

MEASUREMENT SKILLS ADEQUATE

T[redacted] CALENDARS, TIME

PRESCRIPTION
PAGE FOUR

SPECIFIC LANGUAGE DISABILITY TEST (MALCOMESIUS)

TEST I VISUAL TO MOTOR - FAR POINT COPYING

EVALUATION OF PERFORMANCE SKILLS ADEQUATE - ERRORS DUE TO CARELESSNESS; PRINTS (LEGIBLE)

TEST II VISUAL TO MOTOR - NEAR POINT COPYING

EVALUATION OF PERFORMANCE REVERSAL OF "B" AND "D"; PRINTS - LEGIBLE; LETTERS PROPORTIONATE

TEST III VISUAL DISCRIMINATION

EVALUATION OF PERFORMANCE NO APPARENT DIFFICULTY

TEST IV VISUAL MEMORY

EVALUATION OF PERFORMANCE SLIGHT TENDENCY TO IMPROPERLY RECALL SEQUENCE OF LETTERS, OTHERWISE SKILLS ARE ADEQUATE

TEST V VISUAL MEMORY TO MOTOR

EVALUATION OF PERFORMANCE EVIDENCES DIFFICULTY RECALLING NUMBERS, BUT NOT WITH LETTERS AND WORDS

TEST VI AUDITORY DISCRIMINATION

EVALUATION OF PERFORMANCE EVIDENCES DIFFICULTY DISCRIMINATING "B" AND "D" SOUNDS

TEST VII AUDITORY MEMORY TO MOTOR

EVALUATION OF PERFORMANCE ADDS SOUNDS TO END OF WORD, I.E., GRAND FOR BRAN; SUBSTITUTES E'S FOR A'S, E'S FOR I'S; REVERSES ORDER OF WORDS IN PHRASES AND LETTERS WITHIN WORDS, E.G., IE FOR EI; OMITS INDIVIDUAL SOUNDS FROM WORDS

TEST VIII AUDITORY TO VISUAL

EVALUATION OF PERFORMANCE EVIDENCES NO DIFFICULTY, SUGGESTING THAT PERFORMANCE IMPROVES WHEN VISUAL STIMULI IMMEDIATELY FOLLOW AUDITORY STIMULI

TEST IX COMPREHENSION

EVALUATION OF PERFORMANCE DEMONSTRATES AVERAGE ABILITY TO RECALL AUDITORILY PRESENTED FACTS

TEST X AUDITORY TO MOTOR (SPELLING)

EVALUATION OF PERFORMANCE CONFUSES A'S AND I'S, E'S AND I'S; OMITS LETTERS WITHIN WORDS; DOES NOT HEAR ALL SYLLABLES WITHIN A WORD; SOME TENDENCY TO SPELL PHONETICALLY

PRESCRIPTION
PAGE SIX

REMEDIATION RECOMMENDATIONS
11/8/78

PROBLEM AREA	OBJECTIVES	METHOD	MATERIAL	TIMELINE
READING: COMPREHENSION				
21.01 SEQUENCE	LEARN TO IDENTIFY SEQUENTIAL ORDER	TASK ANALYSIS	BOOK LAB, INC. A)*HIP READER; B)*ALLYN & BACON BREAKTHROUGH READING SERIES	3 MONTHS
21.11 CRITICAL JUDGMENTS	LEARN TO EVALUATE AND IDENTIFY THE AUTHOR'S PURPOSE, VIEWPOINT AND COMPETENCY		BOOK LAB, INC. HIP READER BLACK HISTORY SERIES; ANN ARBOR PUBLISHERS CRITICAL READING SERIES	3 MONTHS
WORD ATTACK SKILLS				
22.03 PHONETIC ANALYSIS	LEARN TO ANALYZE WORDS TO ENABLE STUDENT TO IDENTIFY THE PHONETIC COMPONENTS		A)** DLM SOUND FOUNDATIONS PROGRAM I; B)** WILLIAM MORROW CO. WRITING ROAD TO READING	3 MONTHS
SPELLING	USE PHONOGRAMS; REVIEW AND DEVELOP KNOWLEDGE OF SPELLING RULES; TIE IN WITH WORK ON VOCABULARY DEVELOPMENT		SPALDING SPELLBOUND WORD STUDY I & II	3 MONTHS

*A) A BEGINNING READING PROGRAM FOR TEENAGE & ADULT NON-READERS WHICH BEGINS BELOW THE 3RD GRADE LEVEL. THE BOOKS HAVE A GRADUAL & CONSISTENT APPROACH TO BUILDING OF CONSONANTS, VOWELS. STORIES HAVE MATURE INTEREST WITH A READABILITY LEVEL RANGING FROM GR. 1-8.

*B) HIGH INTEREST, LOW VOCABULARY SERIES

**A) 5 POINT METHOD OF INDIVIDUALIZED STUDY (1)PICTURE MATCHING; (2) RHYMING; (3) WORD CONFIGURATION; (4) WORD UNSCRAMBLING; AND (5) SPELLING THROUGH CONTEXT.

**B) METHOD FOR RAPIDLY TEACHING CHILDREN OR ADULTS ACCURATE SPEECH, WRITING, SPELLING AND READING. CORE OF THE METHOD IS TEACHING THE "SAYING" WITH THE WRITING OF SOUNDS USED IN SPOKEN ENGLISH

PRESCRIPTION
PAGE SIX (CONT.)

PROBLEM AREA	OBJECTIVES	METHOD	MATERIAL	TIMELINE
AUDITORY PROCESSING	WRITE WORDS AND SENTENCES FROM DICTATION; ENGAGE IN CONVERSATION; ORAL READING - ASKING QUESTIONS AT END OF MATERIAL		SPALDING SPELLBOUND WORD STUDY I & II	3 MONTHS
MATH				
FRACTIONS	REVIEW ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION OPERATIONS FOR FRACTIONS; DRILL AND PRACTICE ALL AREAS; PROCEED TO DECIMALS/PERCENTS; USE WORD PROBLEMS TO HELP APPLY SKILLS		SPECTRUM SRA COMPUTATIONAL SKILLS ADVENTURES WITH ARITHMETIC A) FRACTIONS B) DECIMALS C) PERCENTS	3 MONTHS
TIME	REVIEW CONCEPTS OF TIME RELATIVE TO EVERYDAY SITUATIONS		SPECTRUM	3 MONTHS

(VISUAL LEARNER)

LESSON PLAN FORM - 4-79

STUDENT CLIENT A — REMEDIATION — PROGRAM DIRECTOR COMMENTS

SPECIALIST JANE DOE

DATE APRIL-MAY

ACADEMIC AREAS	DEFICIT AREAS
READING	PASSAGE COMPREHENSION
MATH	TIME

OBJECTIVE	ACTIVITY	MATERIALS	RESULTS
INCREASE KNOWLEDGE OF THE CONTEXT CLUES FOR PASSAGE COMPREHENSION	TEACH INFERENCES FROM TITLES AND PICTURES	SCIENCE RESEARCH ASSOCIATES CAREER READING SERIES	4/22 INTERESTING DISCUSSION
	READ STORIES WITHOUT ENDINGS. HAVE STUDENT MAKE SOME UP	ANN ARBOR CRITICAL READING SERIES	4/26 ORAL WORK BETTER THAN WRITTEN
	USE NEWSPAPERS TO HELP DEVELOP UNDERSTANDING OF DIFFERENT INTERPRETATIONS	SCHOLASTIC CONTACT	4/28 BEGINNING TO THINK MORE CRITICALLY
TO DEVELOP A BETTER UNDERSTANDING OF THE CALENDAR	USE MATH PROBLEMS BASED ON ACTUAL CALENDAR - DEC. - MAY	ALLYN & BACON SUCCESS WITH MATH	4/25 CONFUSED ABOUT COMPUTING DAYS OF THE MONTH, HOURS IN THE DAY, MINUTES IN THE HOUR
			4/28 BETTER UNDERSTANDING

MONTHLY ACTIVITY TALLY (MAT)

Reporting Period 4-23-79 to 5-18-79

Name of Student: Client A Name(s) of Teacher(s): _____

Place of Remediation: _____

Date	Activity	Prescription	Material	Duration	Rating (0,+,++)
4-23	Teach inferences	21.04	SRA Career Reading	20	++
	Read stories without endings	21.08	Ann Arbor Critical Reading	15	++
	Using calendar for May work on math problems based on calendar	51.15G	Allyn & Bacon Success w/ Math	10	0
4-26	Use newspapers to contrast different interpretations	21.09	News-papers	15	++
	Repeat calendar work	51.15G	Success w/Math	16	+
	Basic Math Computation	51.01, 02, 03, 04	Flash Cards	14	+
4-28	Work on Inferences	21.04	Career Reading	25	+
	Review Computations skills (Mult.)	51.03	Success with Math	20	+
4-30	Use sports pages of newspaper to distinguish fact and opinion	21.05	News-papers	10	+
	Use list of criteria for judging reading story	21.11	Book Lab Hip Reader p. 31-36	25	++
	Review multiplication skills	51.03	Merrill Skilltapes	10	+
5-3	Dentist appointment - missed				
5	Present pictures from folder for interpretation	21.07	Teacher Made	15	++

One day there was this guy named carl and he was high. Well any ways, he started spaced out and he thought he saw his chick. (he was seeing things). Actually, it was some little third grader and he was 2. Well any way he came down and touched his ass. The end. 50

Words = 50

Sentences = 5.

Words per sentence = 10.

Well, one day Lisa was scopen out the scene with guys and she really dug on this dude named George. Now George was a stuck up jock and Really a tight wad with Chicks. So Lisa was stuck with having to ask George to go to the prom both. She was (so) Really nervous! So she asked him in class. And he acted all nice. And held her hand and said yes that night. She was with her mom getting ready waiting till 9 o'clock for George. He never came. Turns out he went with Sally.

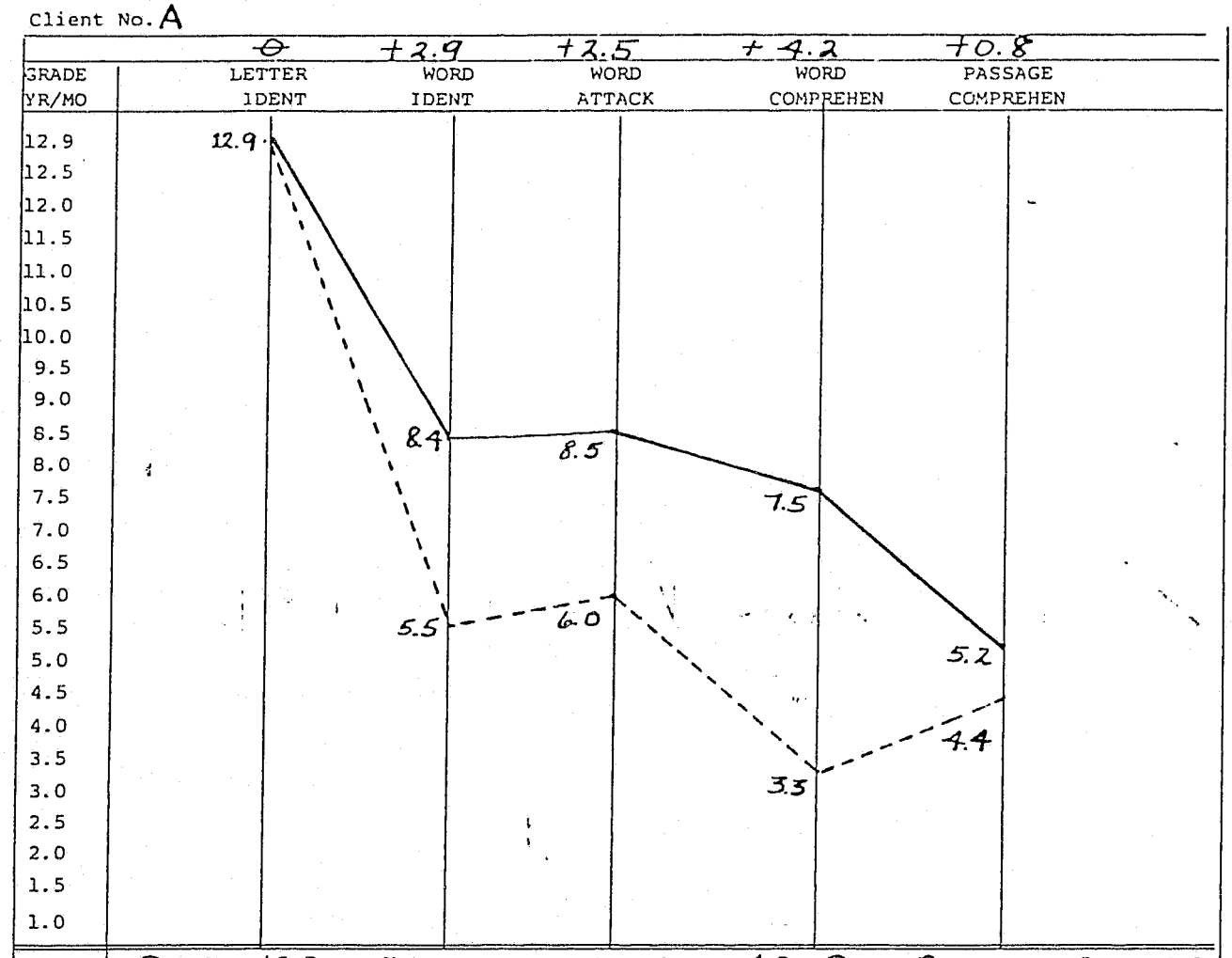
POOR LISA.

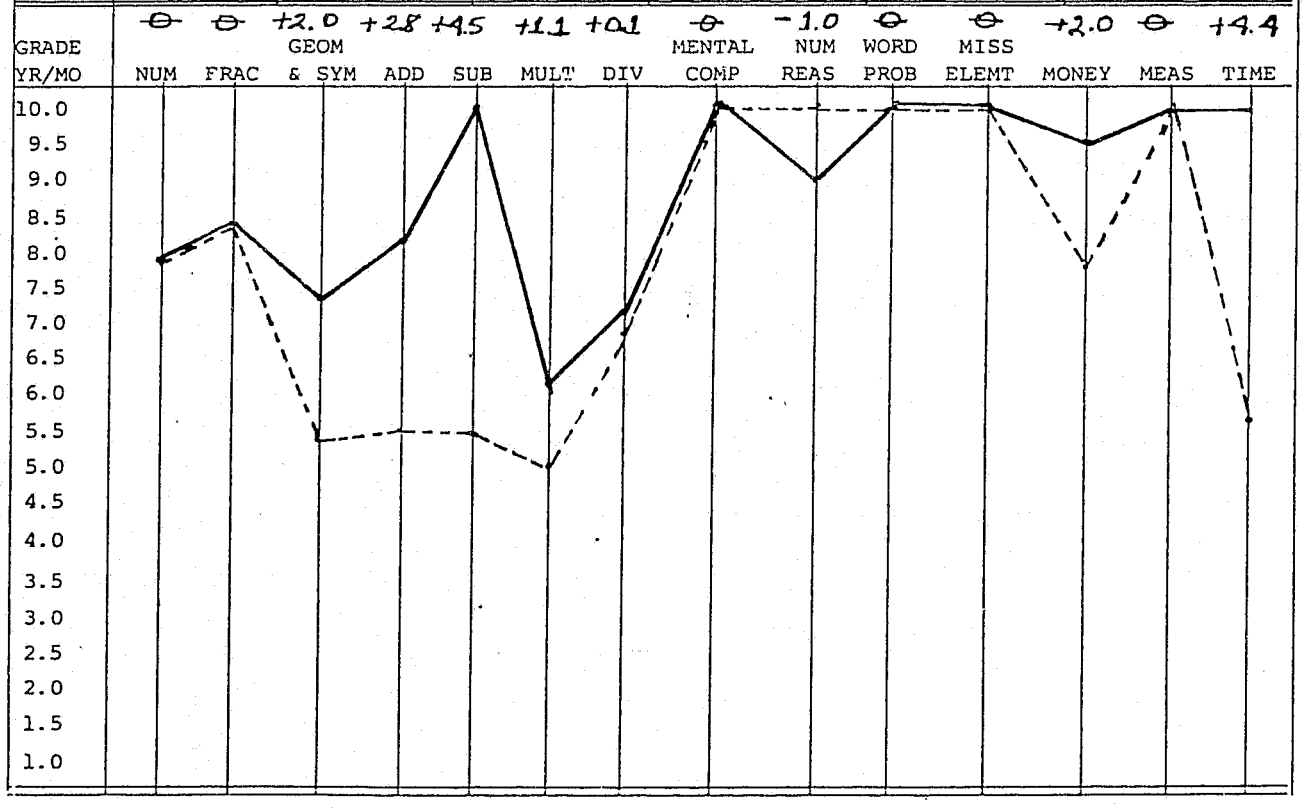
#0 93

#5 10

W/S 9.3

Client No. A





LEGEND= --------PRE-TEST RESULTS PER CLIENT EXHIBITED.
_____POST-TEST RESULTS PER CLIENT EXHIBITED.
RAW SCORES ARE CONVERTED TO GRADE EQUIVALENCY.

RECAP: MINUTES IN REMEDIATION
1351 READING
960 MATH
1549 OTHER BASIC SKILLS

Total Time 62 Hours
(3,840 Minutes)

VOLUME II

A. A DESCRIPTION OF THE SAMPLE POPULATION

The population was 415 teenagers who had been found delinquent by juvenile courts, informed consents had been obtained, and through the study's diagnostic process by the Educational Testing Service (ETS) had been identified as learning-disabled (LD). The juveniles were randomly assigned in near equal numbers to receive remediation or to a comparison/control (no-treatment) group. The population was from the juvenile courts of Baltimore City, Maryland; Indianapolis, Marion County, Indiana; Phoenix, Maricopa County, Arizona; and from 7 correctional training schools in three states.

The final learning disabilities/non-learning disabilities classifications were made by a computer formula. Through the use of the formula, significant discrepancies between ability and achievement test scores were objectively evaluated. The formula pointedly evidenced that although all 415 deliquents had learning problems, 102 juveniles (25%) did not meet the established criteria for being classified LD. The profiles of the 102 non-LD juveniles were flat and low while the test profiles of the 313 LD teenagers exhibited high-low test performance results.

The research data are based on the sample classified LD by the formula. However, the 102 non-LD juveniles were allowed to continue in the study and received the same treatment as those adolescents who were LD according to the study's criteria. LD was determined on the basis of results from a battery of aptitude and achievement tests. The juveniles were classified

learning-disabled when their protocols exhibited at least 3 significant discrepancies among test scores or if there were clear indications of perceptual problems. Differences of about 15 points were required among the Witkin WISC-R factors and between the Woodcock total reading score and the Witkin WISC-R factors. Discrepancies of approximately 23 points between the Key Math and Woodcock scores and among the Key Math and the Witkin WISC-R factors were judged significant. A Bender-Gestalt score of 3 or more and 2 or more ratings of pronounced testing difficulties were used as indicators of major visual perception and behavioral problems. Juveniles who achieved at or above expected grade level for their chronological age on the achievement tests or whose full-scale IQ score was more than approximately one standard deviation were classified non-LD. About 75% of the LD classifications were made solely on the basis of discrepancies among the WISC-R and achievement test scores.

The LD delinquent juveniles in this study were predominantly deficit in verbal abilities compared to performance aptitudes. As a matter of fact, of those classified as LD, 95% had higher performance than verbal scores. For approximately 50% of the LD sample, the difference between performance and verbal IQ scores was greater than 15 points.

The LD remediation group was comprised of 91% males and 9% females. The ethnicity statistics reveal the group was ethnically diverse with 45% Whites, 38% Blacks, 10% Hispanics, 6% American Indians and 1% others. The group was 12 to 17 years of age with an average age of 15.2 years at the beginning of the study. Half of the participants were from

Phoenix, 30% from Baltimore, and 20% from Indianapolis. At the time of pre-testing, 58% were on probation or parole or in a community placement; and 42% were at youth correctional training schools. Adjudications were 47% for crimes against property, 28% for status offenses, and 14% for crimes against persons. On the average, the juveniles had been adjudicated on two offenses during the year preceding the pre-testing and reported having committed 200 delinquent acts.

Other sociodemographic characteristics were regarding the average age, parent education and number of children in the family of each LD juvenile in the sample. The average age was 15.2 years. The parents averaged almost 12 years formal academic education. Last, the average number of children in each family was 5.4.[10]

B. INDEX - PRE/POST-TEST RESULTS OF WOODCOCK READING MASTERY INVENTORY TEST AND THE KEY MATH DIAGNOSTIC ARITHMETIC TEST OF THE ACLD-R&D SAMPLE POPULATION

PREFACE

This Index is divided into 4 sections. The first section contains samples of the pre/post-test results of the LD remediation group. The second section exhibits samples of the pre/post-test results of the LD comparison group. The third section contains the samples of the pre/post-test results of the non-LD remediation group. The fourth section is of the non-LD comparison group.

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10. Dunivant, N.; Saks, M. J.; Broder, P. K. Preventing Delinquency Among Learning Disabled Juvenile Delinquents: Evaluation of the ACLD Academic Remediation Program. July 1981.

All raw scores have been converted into grade equivalencies. The dotted line indicates pre-test results and the solid line shows the post-test results.

For those in the remediation groups, the numbers above each sub-test of the Woodcock reading graph are the number of minutes spent in remediation activities for the specified skill. In the lower left corner of each page there is a recap of the number of minutes in remediation of reading, math and other basic academic skills.

The first graph on each page is the Woodcock Reading Test. The sub-test areas are, letter identification, word identification, word attack, word comprehension, and passage comprehension. On this instrument raw scores can be converted to grade equivalents ranging from 1.0 to 12.9 grades. The second graph is the Key Math. The subtests of this instrument are, numeration, Fractions, Geometry/symbols, addition, subtraction, multiplication, division, mental computation, numerical reasoning, word problems, missing elements, money, measurement, and time. This test "tops" out at 10.0 grade level.

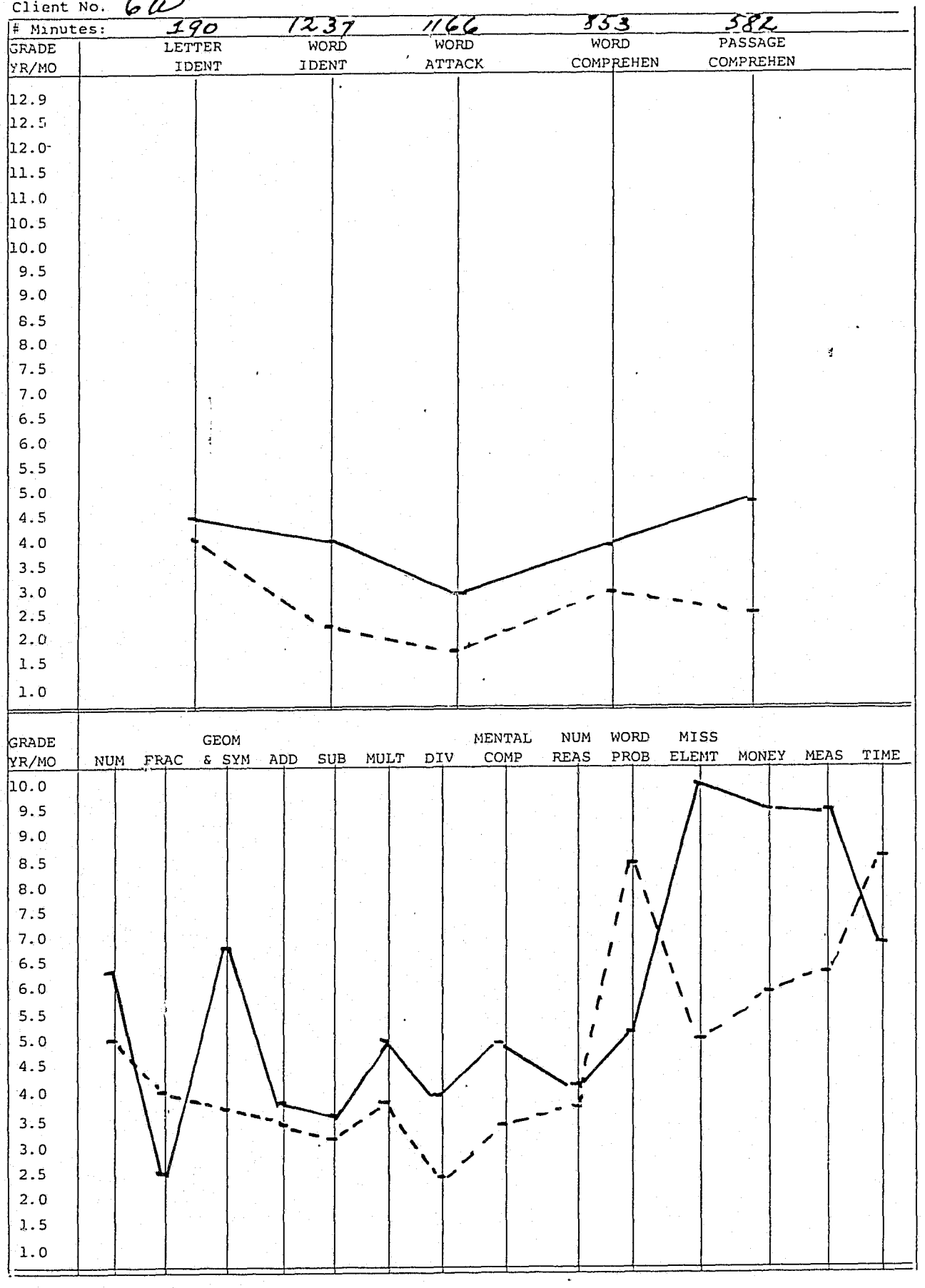
The purpose of this Index is to give the reader a feel for the individualized achievements or losses based on time spent in remediation sessions.

INDEX

SECTION I

Sampling of
The LD Remediation Group Pre/Post-Test Results

Client No. 6a



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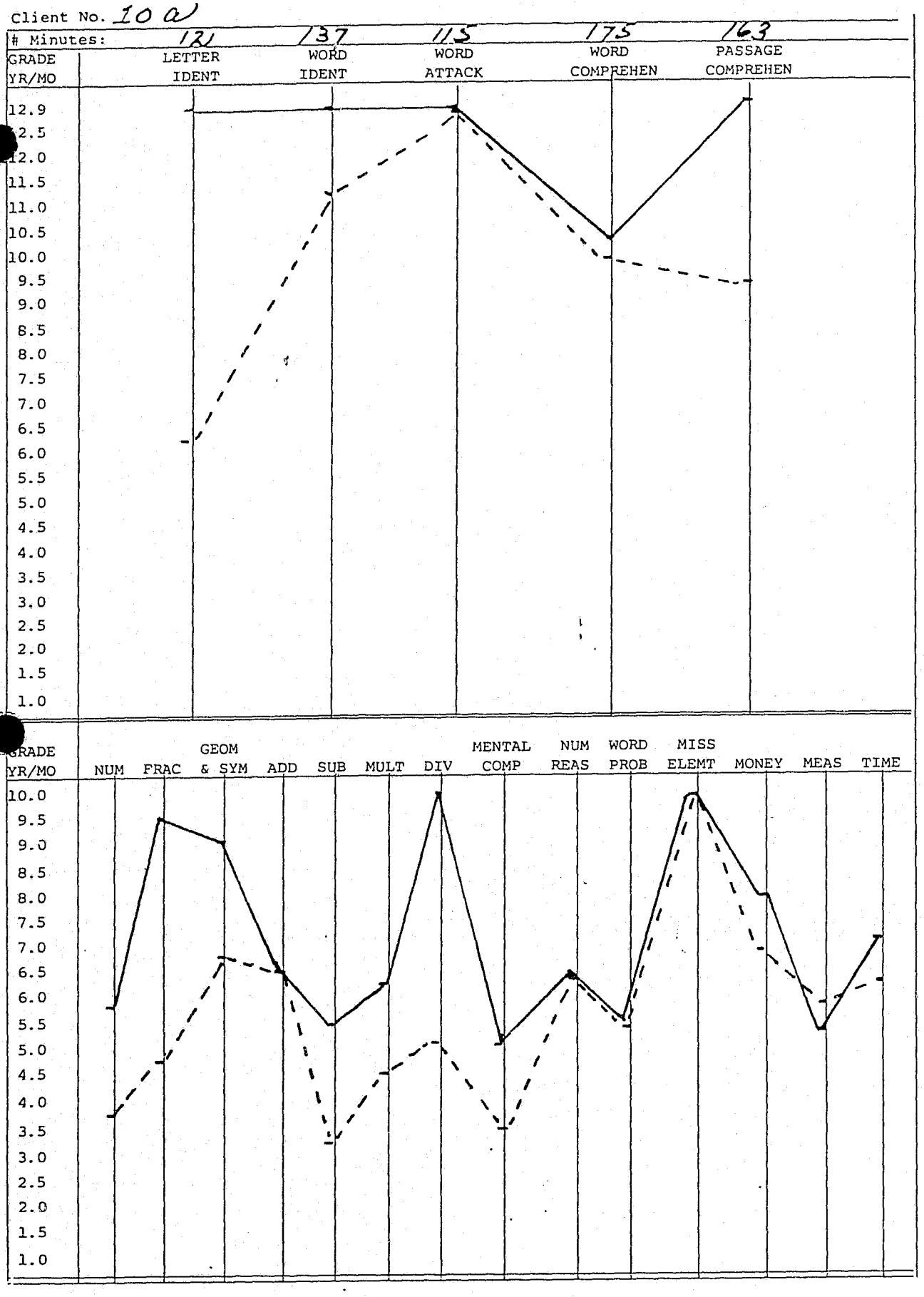
RAW SCORES ARE CONVERTED TO GRADE EQUIVALENCY.

RECAP: MINUTES IN REMEDIATION
4028 READING
2094 MATH
222 OTHER BASIC SKILLS

Client No. 10 a)



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_____ POST-TEST RESULTS PER CLIENT EXHIBITED.
RAW SCORES ARE CONVERTED TO GRADE EQUIVALENCY.

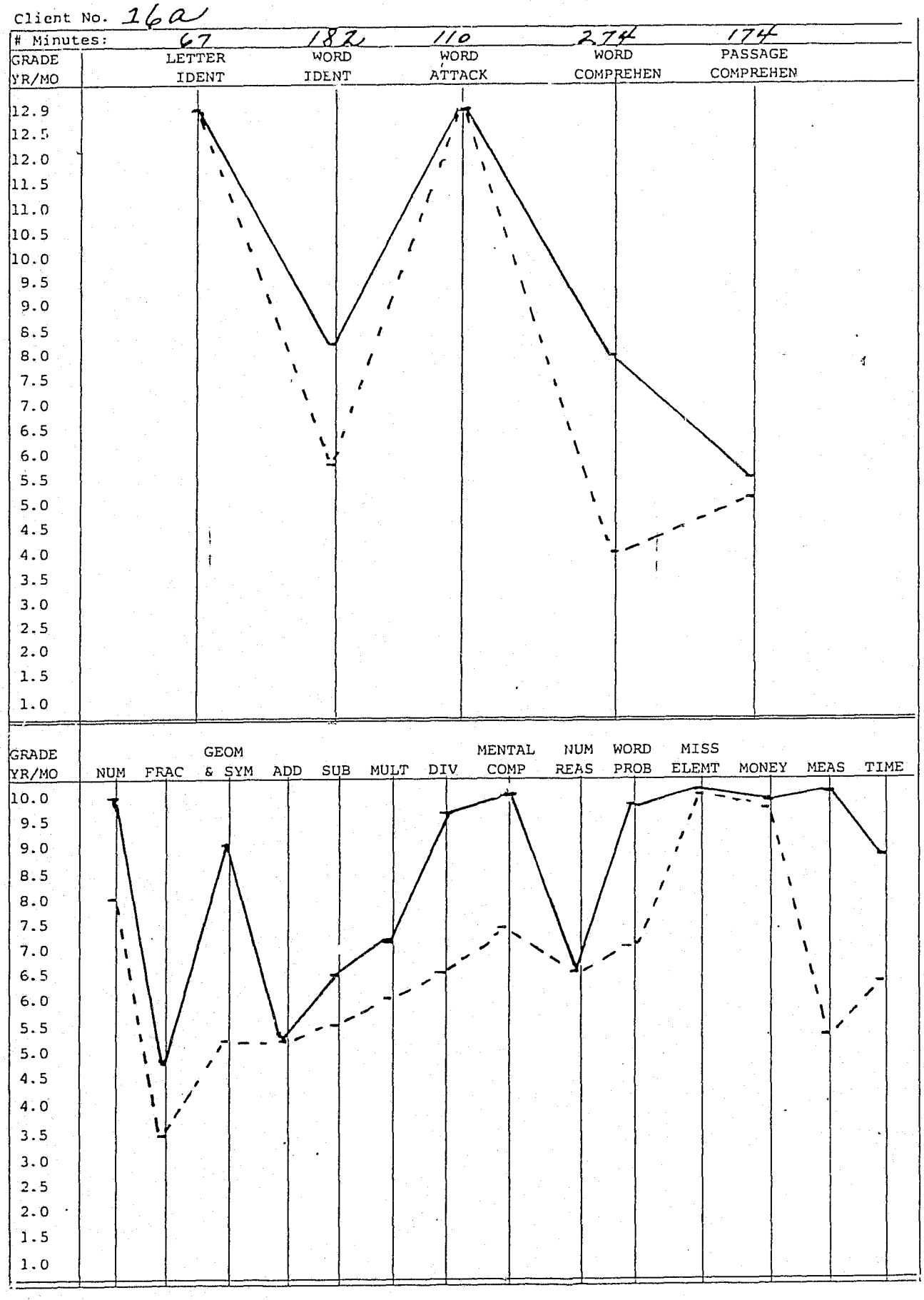
RECAP: MINUTES IN REMEDIATION

602 READING

1769 MATH

4504 OTHER BASIC SKILLS

Client No. 16a



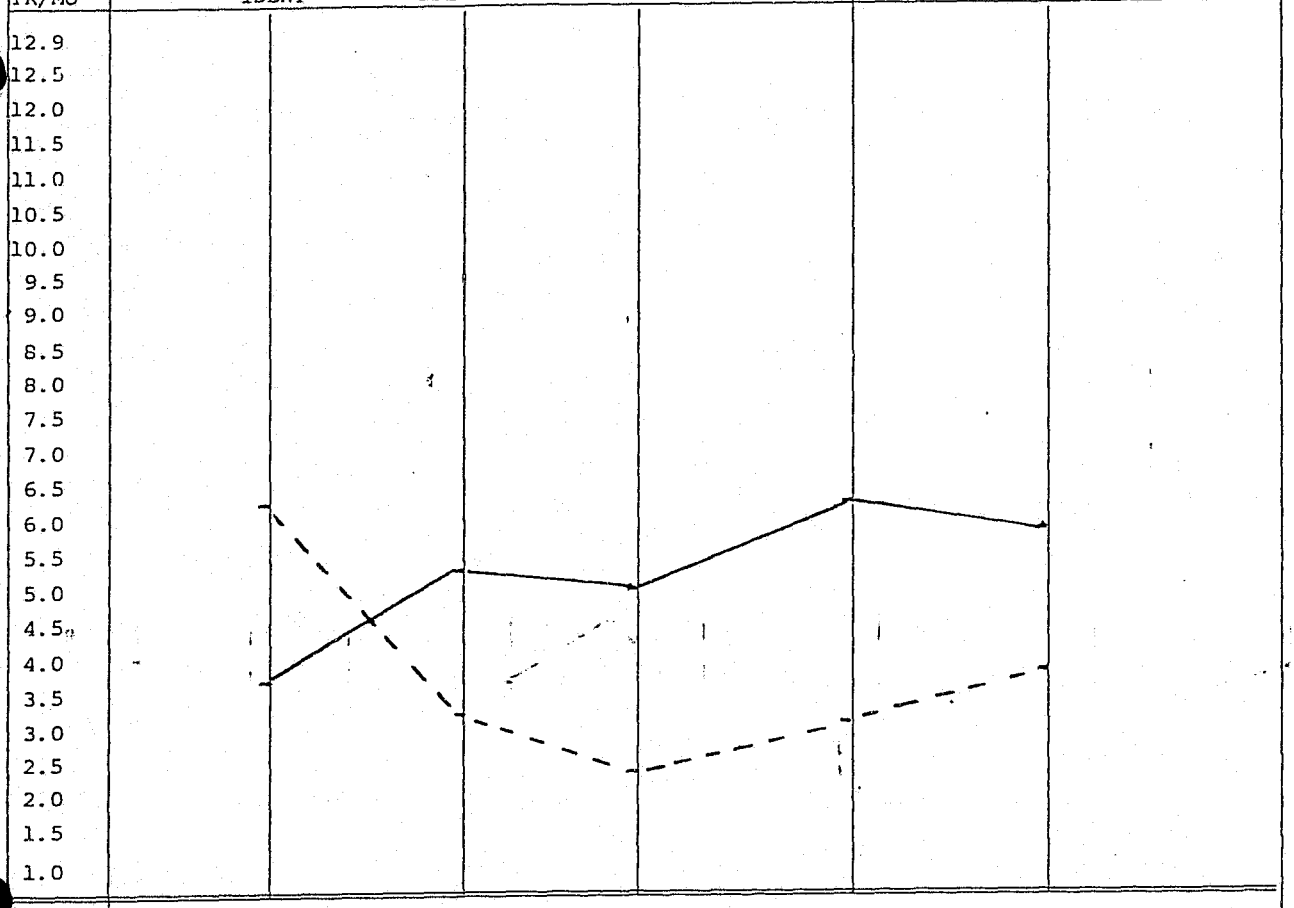
LEGEND= --------PRE-TEST RESULTS PER CLIENT EXHIBITED.
_____POST-TEST RESULTS PER CLIENT EXHIBITED.
RAW SCORES ARE CONVERTED TO GRADE EQUIVALENCY.

RECAP: MINUTES IN REMEDIATION

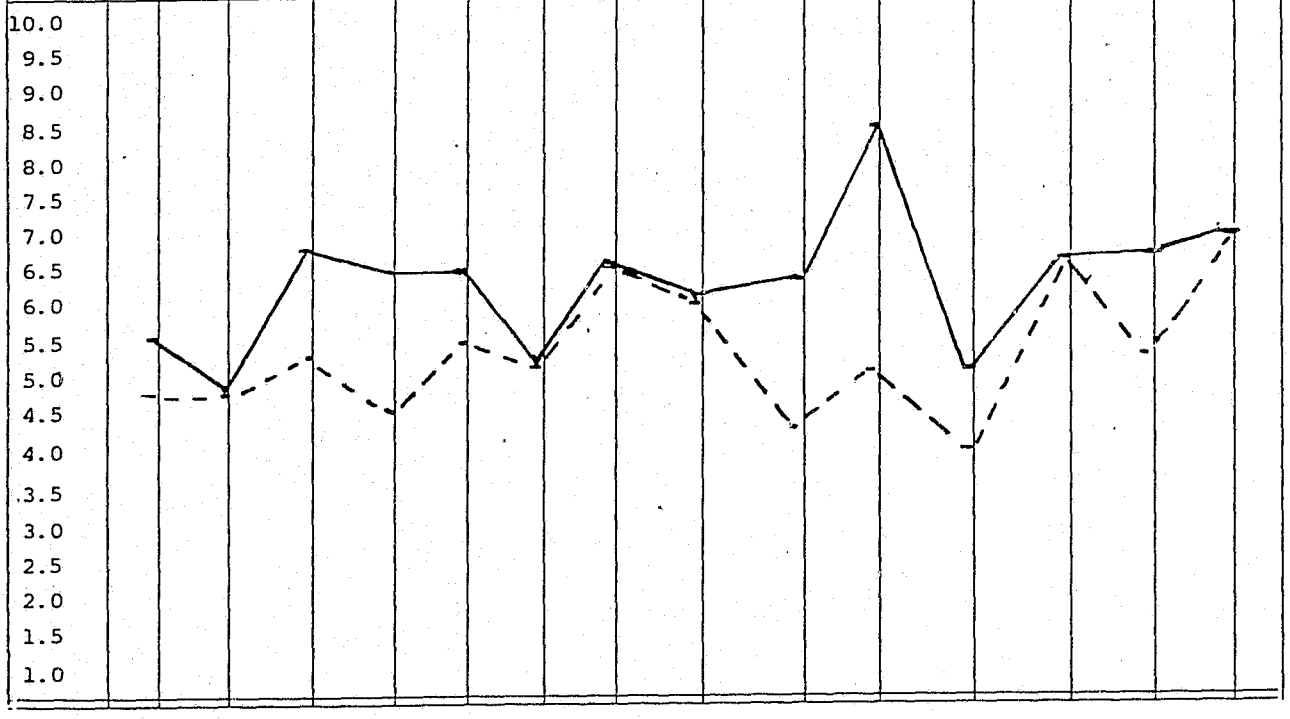
807 READING
434 MATH
2161 OTHER BASIC SKILLS

Client No. 44a

# Minutes:	156	657	548	1071	895
GRADE YR/MO	LETTER IDENT	WORD IDENT	WORD ATTACK	WORD COMPREHEN	PASSAGE COMPREHEN



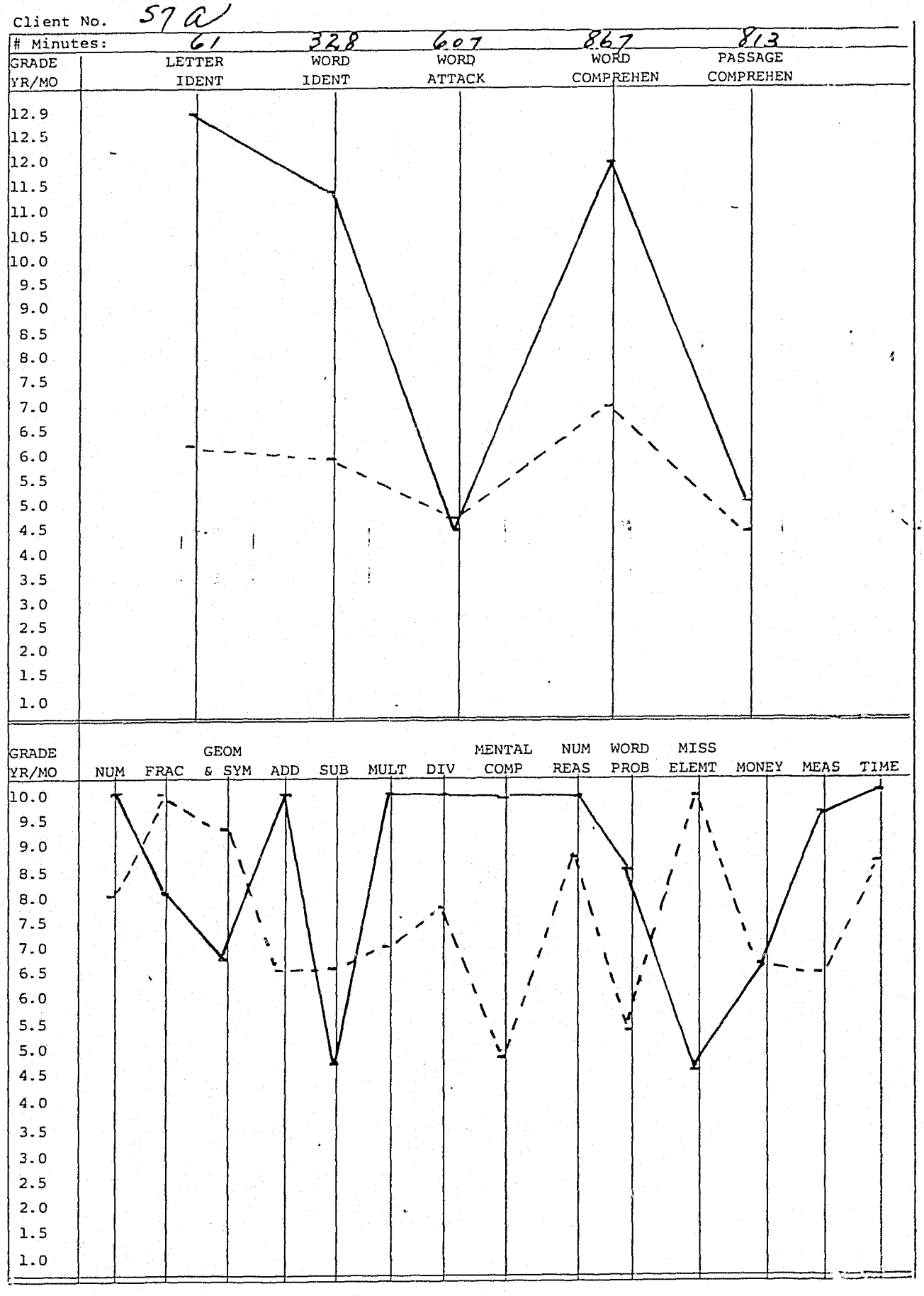
GRADE YR/MO	NUM	FRAC	GEOM & SYM	ADD	SUB	MULT	DIV	MENTAL COMP	NUM REAS	WORD PROB	MISS ELEMT	MONEY	MEAS	TIME



LEGEND= --------PRE-TEST RESULTS PER CLIENT EXHIBITED.
_____ POST-TEST RESULTS PER CLIENT EXHIBITED.
RAW SCORES ARE CONVERTED TO GRADE EQUIVALENCY.

RECAP: MINUTES IN REMEDIATION
3327 READING
2076 MATH
1899 OTHER BASIC SKILLS

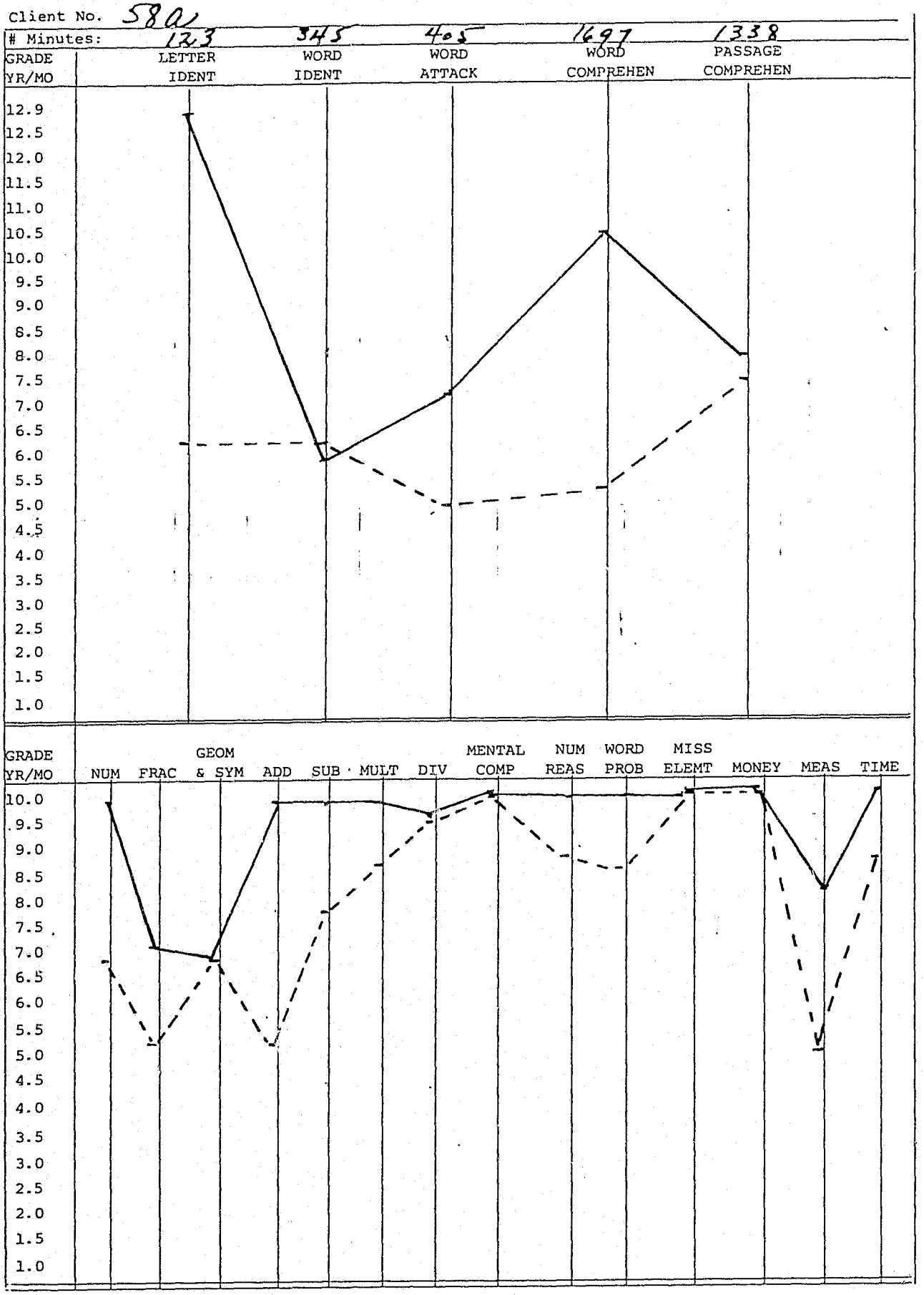
Client No. 57a



LEGEND= --------PRE-TEST RESULTS PER CLIENT EXHIBITED.
_____ POST-TEST RESULTS PER CLIENT EXHIBITED.
RAW SCORES ARE CONVERTED TO GRADE EQUIVALENCY.

RECAP: MINUTES IN REMEDIATION
2676 READING
1172 MATH
79 OTHER BASIC SKILLS

Client No. 580



LEGEND= --------PRE-TEST RESULTS PER CLIENT EXHIBITED.
_____ POST-TEST RESULTS PER CLIENT EXHIBITED.
RAW SCORES ARE CONVERTED TO GRADE EQUIVALENCY.

RECAP: MINUTES IN REMEDIATION
390 8 READING
426 MATH
N/a OTHER BASIC SKILLS

C. CONCLUSIONS AND RECOMMENDATIONS

I. CONCLUSIONS

Historical Summary: The remediation program was implemented to demonstrate the value of diagnosing and treating LD as a tool to prevent delinquency or as a rehabilitative treatment program. The ultimate purpose of the project was to provide information to assist in the development of informed policy with respect to learning disabilities and juvenile delinquency. The purpose of the remediation program was to create a vehicle (a) to measure the impact of remediation on the educational performance of school related attitudes of LD juvenile delinquents; and (b) to assess the effects of remediation on subsequent delinquency. The program model was based on the hypothesis that LD plus school failure plus social stress equals juvenile delinquency. Therefore, the remediation program had three major objectives for its sample population: (1) increase academic achievement; (2) change school attitudes; and (3) reduce delinquent activity.

The results of the effects of the remediation program and research data have been thoroughly documented in a series of reports by Broder and Dunivant. Two of the reports are: An Evaluation of the Effectiveness of the ACLD Remediation Program in Improving the Educational Achievement of Learning Disabled Juvenile Delinquents, National Center for State Courts, Williamsburg, Virginia, May 1981; and Preventing Delinquency Among Learning-Disabled Juvenile Delinquents: Evaluation of the ACLD Remediation Program, National Center for State Courts, Williamsburg, Virginia, July 1981.

Some extremely important results of the remediation program and

research data are now evident. First, the data indicate there is definitive evidence that LD causes delinquency. Second, the school failure hypothesis was pretty much confirmed. Third, the remediation improved reading and arithmetic achievement test performance. The point of dramatic gains was where 55-65 hours of remediation had been received. Overall gains were found for written language expression skills. Remediation was most effective for younger delinquents with low performance ability and for older juveniles with high performance ability. The delinquents with high pre-test arithmetic achievement scores gained more than did those with low pre-test scores. Overall, the remediation program was more effective for the LD delinquents than the non-LD delinquents. Fourth, change in school attitude was minimal. Fifth, the remediation program participants evidenced in post-testing a significant decline in delinquent activity compared to the control group. There was a threshold effect when the juveniles received at least 35 hours of remediation. Finally, the program was conducted as designed.

The ACLD-R&D remediation program results indicate that certain academic intervention will rehabilitate LD delinquents. Additional results infer that with early identification and the same type intervention future delinquency could be prevented among children with LD.

These conclusions are of significant import in relation to the continuing increase of juvenile crime; the incidence of LD in both officially non-delinquent and adjudicated delinquent populations; and the serious social and economic costs of crime which could be drastically reduced by appropriate remediation programs.

II. RECOMMENDATIONS

Remediation Program Recommendations:

Develop individualized learning plans.

Evaluate to determine specific learning disabilities and the adolescent's primary learning modality.

Develop a plan that focuses on the strengths of this modality, teach to the strength and not the weakness.

Develop a plan that allows for at least 50 hours of remediation work in a school year.

When possible, have remediation relate to school subjects and school activities.

Provide lots of structure. Design a highly structured environment for the youth.

Work in a neutral environment that is free of distractions.

Work in short 20-minute sessions rather than in longer blocks of time.

Design a variety of program modifications to the ACLD model such as social skills training, motivational development, vocational skills training and, where possible, work experience/on the job training.

Develop techniques to avoid teacher and student "burn-out."

Policy Recommendations

The establishment of adequate psychoeducational testing programs in the lower school grades in order to diagnose learning disabilities at the earliest possible age.

The creation of appropriate individualized programs in the school systems that correct or minimize the problems of learning-disabled youngsters.

The development within court systems of clinical services which can detect learning-disabled children who have escaped earlier detection

The development of inservice training programs for law enforcement, courts and institutional staff to detect learning disabilities and problems.

The development of uniform policy and programs between the educational and juvenile justice systems.

In sum, looking at our national school drop-out rate and recidivism rate in the juvenile justice system, we seem to be compounding failure rather than building on success. In short, the old attitudes, cliches, myths, and dogmas are not working. Clearly, we need to take a new look at those factors that lead youth into trouble, failure, and an ever-increasing drain on their collective potential and on society's ability to foot the costs.

To effectively serve the LD youth, there must be a combined cooperative effort of staff and public officials who can create, implement, conduct, and fund an appropriate service delivery program for this high risk group of youth.

BIBLIOGRAPHY

MAJOR TECHNICAL REPORTS OF THE STUDY

Remediation Program Papers

Crawford, D.; Wilson, M. Resource Materials Catalog. A compilation of the remediation program's multi-media resource materials by academic skill area, grade level of content interest, reading level, publisher, series and item titles, types of materials and description with a catalog guide. April 1980. 100 pp.

Wilson, M.; Crawford, D.; Gering, R. An Academic Treatment Model Curriculum Guide. This is a combination guide and manual divided into four sections. It contains a detailed glossary, discussions on various LD commonalities, learning styles and a complete curriculum. The curriculum guide presents instructional objectives, teaching strategies matched to learning styles and suggested resource materials, all of which were part of the remediation program. July 1980. 242 pp.

Lambourne, J.; Crawford, D. Procedures for Assessing Written Language Samples. A booklet which describes the procedures and methods used in drawing and assessing written language skills of the remediation/control groups of the project. November 1980. 38 pp.

Crawford, D.; Wilson, M. Appropriate Resource Materials for the Juvenile Delinquent With Learning Disabilities. A booklet which categorizes the resource materials and programs used by publisher, skill area and in the order which the materials were found to be most appropriate and/or successful. February 1980. 19 pp.

Crawford, D.; Wilson, M. The General Educational Development Program: An Alternative for the Delinquent With Learning Disabilities. This pamphlet presents the framework of the program used for the juveniles in the remediation program who were school dropouts with little interest in returning to any form of academics. April 1980. 9 pp.

Crawford, D.; Wilson, M. Affective Considerations for Developing Intervention Strategies Used in the ACLD-R&D Project. A booklet describing affective considerations and intervention strategies used for teaching the sample population. June 1980. 13 pp.

Crawford, D. ACLD-R&D Final Report. This report is in two volumes. The first gives a detailed narrative description of the remediation program - the approach, goals, methods of an academic treatment model with a timeline and a complete case study. The second volume is an index exhibiting pre/post-test results of both the remediation and control populations with conclusions and recommendations. September 1981.

BIBLIOGRAPHY (Cont.)

Research Papers

Barrows, T. B.; Campbell, P. B.; Slaughter, B. A.; Trainor, M. L. Psychoeducational Diagnostic Services for Learning Disabled Youths: Research Procedures. July 1977. 34 pp.

Broder, P. K.; Dunivant, N. Change in Delinquent Behavior as a Function of Learning Disabilities: A Two-Year Longitudinal Study. February 1981. 41 pp.

Broder, P. K.; Dunivant, N.; Smith, Elizabeth C.; Sutton, L. P. Further Observations on the Link Between Learning Disabilities and Juvenile Delinquency. July 1980. 50 pp.

Broder, P. K.; Zimmerman, J. Establishing the Reliability of Self-reported Delinquency Data. August 1978. 27 pp.

Campbell, P. B. The Definition and Prevalence of Learning Disabilities. March 1978. 19 pp.

Campbell, P. B.; Slaughter, B. A.; Broder, P. K.; Zimmerman, J. The Link Between Learning Disabilities and Juvenile Delinquency: Interview Guide. March 1977. 11 pp.

Campbell, P. B.; Varvariv, D. S. Psychoeducational Diagnostic Services for Learning Disabled Youth: Validation Analysis. October 1979. 73 pp.

Greguras, F. M.; Broder, P. K.; Zimmerman, J. Records Access and Subject Participation in Criminal Justice Research: A Preliminary Case Study. January 1978. 31 pp.

Greguras, F. M.; Broder, P. K.; Zimmerman, J. Establishing an Operational Definition of Juvenile Delinquency. March 1978. 32 pp.

Keilitz, I.; Saks, M. J.; Broder, P. K. The Evaluation of the Learning Disabilities/Juvenile Delinquency Remediation Program: Evaluation Design and Interim Results. August 1979. 75 pp.

McCullough, B. C.; Zaremba, B. A. A Comparative Analysis of Standardized Achievement Tests with Learning Disabled and Non-learning Disabled Adolescent Boys. October 1979. 19 pp.

Zimmerman, J.; Broder, P. K. Deriving Measures of Delinquency from Self-Report Data. April 1978. 49 pp.

BIBLIOGRAPHY (Cont.)

Zimmerman, J,; Rich, W. D.; Keilitz, I.; Broder, P. K. Some Observations on the Link Between Learning Disabilities and Juvenile Delinquency. May 1979. 45 pp.

Dunivant, N.; Saks, M. J.; Broder, P. K. An Evaluation of the Effectiveness of the ACLD Remediation Program in Improving the Educational Achievement of Learning-disabled Juvenile Delinquents. (In preparation)

Dunivant, N.; Saks, M. J.; Broder, P. K. Preventing Delinquency Among Learning-disabled Juvenile Delinquents: Evaluation of the ACLD Academic Remediation Program. (In preparation)

Dunivant, N. A Causal Analaysis of the Relationship Between Learning Disabilities and Juvenile Delinquency. (In preparation)

PRESCRIPTION CODE

Language

11 Receptive
- 11.1 Phonology
- 11.2 Morphology
  - A. Nouns
  - B. Verbs
  - C. Pronouns
  - D. Adjectives
  - E. Adverbs
  - F. Prepositions
  - G. Possessives
  - H. Conjunctions
- 11.3 Semantics
  - A. Word Association-Synonyms, Antonyms, Homonyms, Puns, Multiple Meanings
  - B. Logical Statements
  - C. Classification
  - D. Verbal Analogies
  - E. Inclusion-Exclusion (some, none, all, etc.)
  - F. Detect Errors
  - G. Non-Literal Understanding (idiom, metaphor, simile, proverb)
  - H. Problem-Solving
  - I. Use of Articles
- 11.4 Syntax
  - A. Word Order
  - B. Types of Sentences
  - C. Transformations
- 11.5 Receptive Vocabulary (meaning of words)
- 11.6 Oral Comprehension (facts, main ideas, concepts through listening activities)
- 11.7 Vocabulary Building
- 11.8 Oral Recall

12 Expressive
- 12.1 Phonology
- 12.2 Morphology (See 11.2 - A through H)
- 12.3 Semantics (See 11.3 - A through I)
- 12.4 Syntax (See 11.4 - A through C)
- 12.5 Basic Word Definitions
- 12.6 Articulation
- 12.7 Vocabulary Building
- 12.8 Discussion and/or Conversation Skills
- 12.9 Building rapport through Discussion
- 12.10 Oral Reading

Reading

21 Comprehension
- 21.1 Main Ideas
- 21.2 Sequence (time, place, ideas, events, steps)
- 21.3 Comparison
- 21.4 Inference
- 21.5 Distinguish Fact and Fiction: Fact and Opinion
- 21.6 Character Traits
- 21.7 Sense Relationships (time, place, cause-effect, events, characters)
- 21.8 Anticipate Outcomes
- 21.9 Recognize Author's Tone, Mood, Intent--Interpret Emotions
- 21.10 Draw Conclusions; Make Generalizations
- 21.11 Critical Judgments
- 21.12 Word Meanings (Antonyms, Synonyms, Homonyms, Multiple Meanings, Figurative Meanings)
- 21.13 Basic Word Definitions
- 21.14 Reading with Accuracy

22 Word Attack
- 22.1 Sight Vocabulary
- 22.2 Context Clues
- 22.3 Phonetic Analysis
  - A. Consonants
    1. initial, medial, final
    2. consonant blends
    3. consonant digraphs
    4. silent consonants
  - B. Vowels
    1. short
    2. long
    3. digraphs
    4. diphthongs
- 22.4 Structural Analysis
  - A. Compound Words
  - B. Contractions
  - C. Inflectional Endings
  - D. Suffixes
  - E. Prefixes
  - F. Syllables
- 22.5 Dictionary Skills
  - A. Alphabetizing
  - B. Use of Guide Words
  - C. Definitions-Multiple Word Meanings
  - D. Pronunciation
  - E. Special Usage (abbreviations, plurals, homonyms, etc.)

23 Study Skills
- 23.1 Following Directions
- 23.2 Using Reference Skills
  - A. Table of Contents and Index
  - B. Dictionary
  - C. Encyclopedia
  - D. Glossary
  - E. Library
- 23.3 Outlining
- 23.4 Skimming
- 23.5 Note Taking
- 23.6 Reading Schedules
- 23.7 Map Reading
- 23.8 Vocabulary Building
- 23.9 Applications and Forms

Spelling

31 Oral

32 Written
- 32.1 Sound Symbol Integration (phonic)
- 32.2 Structural Analysis
  - A. Root + Affix
  - B. Root + Inflectional Ending
  - C. Syllabication
- 32.3 Vocabulary Building

Written Language

41 Productivity
- 41.1 Mechanics
- 41.2 Appearance
- 41.3 Copying with Accuracy

42 Syntax
- 42.1 Word Order
- 42.2 Noun-Verb Agreement
- 42.3 Verb Tense
- 42.4 Descriptive Words (adjective, adverb)
- 42.5 Sentence Variety
  - A. Simple
  - B. Compound
  - C. Complex
- 42.6 Paragraph Formation
  - A. Topic Sentence
  - B. Development (supporting details)
  - C. Transitions
  - D. Conclusions

43 Abstraction - Ideation

43.1 Concrete-descriptive (simple descriptions, names of objects, simple sentences, denotation of size, color, appearance)

43.2 Concrete-imaginative (infer ideas, generalize)

43.3 Abstract-descriptive (stories dealing with time and sequence, characters assigned roles)

43.4 Abstract-imaginative (stories with plot, imaginative setting, figures of speech, moral values, continuity, relationships)

44 Vocabulary

44.1 Vocabulary Building

Arithmetic

51 Computation

51.1 Addition of Whole Numbers
- A. No regrouping
- B. Regrouping
- C. Vertical
- D. Horizontal
- E. Columns

51.2 Subtraction
- A. No regrouping
- B. Regrouping
- C. Verticle
- D. Horizontal

51.3 Multiplication
- A. No regrouping
- B. Regrouping
- C. Verticle
- D. Horizontal

51.4 Division
- A. Even
- B. Remainder
- C. Set up for student
- D. Student sets up
- E. Averaging

51.5 Fractions
- A. Factoring numbers
- B. Reducing to lowest terms
- C. Equivalent factors
- D. Decimal equivalents
- E. Percentage equivalents

51.6 Addition of Fractions
- A. Like denominators
- B. Unlike denominators
- C. Mixed numbers
- D. Vertical
- E. Horizontal

51.7 Subtraction of Fractions
- A. Like denominators
- B. Unlike denominators
- C. Mixed numbers
- D. Vertical
- E. Horizontal

51.8 Multiplication of Fractions
- A. Simple fractions
- B. Mixed numbers

51.9 Division of Fractions
- A. Simple fractions
- B. Mixed numbers

51.10 Addition of Decimals
- A. No regrouping
- B. Regrouping
- C. Vertical
- D. Horizontal
- E. Columns

51.11 Subtraction of Decimals
- A. No regrouping
- B. Regrouping
- C. Vertical
- D. Horizontal

51.12 Multiplication of Decimals
- A. No regrouping
- B. Regrouping
- C. Vertical
- D. Horizontal

51.13 Division of Decimals
- A. Even
- B. Remainder
- C. Decimal in division
- D. Set up for student
- E. Student sets up

51.14 Percent
- A. Application
- B. Changing percents to decimals
- C. Changing decimals to percents
- D. Changing percents to fractions

51.15 Measurement
- A. Linear
- B. Liquid
- C. Weight
- D. Dry
- E. Metric
- F. Temperature
- G. Time (e.g., Calendar)

	51.16	Telling Time (clock skills)
	51.17	Money
	51.18	Square Root
	51.19	Exponents
	51.20	Ratio
	51.21	Graphs
	51.22	Interest
	51.23	Geometry
		A. Shapes-Recognition
		B. Circumference of a Circle
		C. Perimeter
		D. Area
		E. Angles
		F. Volume
		G. Surface
	51.24	Accuracy in computations
	51.25	Solving mathematical equations
	51.26	Changing decimals to fractions
	51.27	Changing decimals to percents
	51.28	Algebra
52		Concepts
	52.1	Counting
	52.2	One to one correspondence
	52.3	Numerals
	52.4	Sets
	52.5	Seriation
	52.6	Spatial relations
	52.7	Place value
	52.8	Odd-even numbers
	52.9	Properties (commutative, associative, distributive)
	52.10	Symbol/Abbreviations
	52.11	Roman Numerals
	52.12	Terminology
53		
	53.1	Mental arithmetic
	53.2	One step word problems
	53.3	Two step word problems
	53.4	Problems with irrelevant information
	53.5	Problems with missing information
54		Motivation
	54.1	General motivational activities

PRESCRIPTION CODE ADDENDUM

Reading

21		Comprehension
	21.15	Specific Factual Information
22		Word Attack
	22.4	Structural Analysis
		G. Stressed Syllables

Written Language

43		Abstraction - Ideation
	43.5	Advanced Factual Writing (Summaries, Book Reports)

Arithmetic

51		Computation
	51.4	Division
		F. '2 Digit Divisors