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## Individualization Through Remedial Teaching Techniques

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FRONT

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INDIVIDUALIZING THROUGH  
REMEDIAL TEACHING  
TECHNIQUES

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problems and select or develop remedial methods for

by  
Marilyn Sue Hensley

Faculty Sponsor: Corinne Hagan Kelly

Faculty Administrator: Dr. Richard Rickert

The problem of solving individual needs while teaching in the  
classroom has been long standing. This past year has given us

Submitted in partial fulfillment of  
the requirements for the degree of  
Master of Arts, Lindenwood Colleges



PREFACE

Using the information acquired during my study in the Lindenwood 4 program, my practicum, and classroom teaching experience, this paper should have a very significant and practical impact in the future for myself and other teachers.

This paper is unique because other research has been compiled into one paper that can help classroom teachers learn to pinpoint problems and select or develop appropriate instructional methods for its remediation. Most good teachers have not been able to individualize for all children but they have the desire.

The problem of solving individual needs while teaching in the classroom has been too time consuming. This past year has given me the time and provided the resources necessary to really do something of sufficient value. By solving this problem for myself, it enables me to feel justified in serving as a resource for other teachers.

Thesis  
H 398i  
1977

INTELLIGENT TEACHERS: SPECIAL TEACHING TECHNIQUES

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## INDIVIDUALIZING THROUGH REMEDIAL TEACHING TECHNIQUES

"Accountability," along with "Mainstreaming," "Learning Disabilities," and "Labeling" seem to be the slogans of the '70's. In almost all educational journals are articles on these topics. Everyone, including educators, seems to be searching for ways to provide better education. This doesn't mean that those searching are necessarily on the right track.

An excellent article by Arlene Silberman on learning disabilities said "many affluent suburban schools that are considered "better" are latching onto the LD fad with unfortunate haste, out of the mistaken belief that what is newest is necessarily best and that what may be desirable for some children should be desirable for more children."<sup>1</sup>

Silberman also states that the number of LD children in the country varies from 500,000 to an astronomic ten million. The notion that there are at least five million LD children in our schools is particularly popular. Is this possible, when fifteen years ago no one had ever heard of LD? Only if normal variations in children's development are viewed as abnormal. Only if LD is a dumping ground instead of a highly specialized area. This is one of the problems my paper is focusing upon.

Very few children have learning problems so severe that they can justifiably be separated from the regular classroom in order to re-

ceive instruction. Indeed, many children have variations in their development. These are the learning disabled children I am concentrating on in this paper. However; if classroom teachers can have ample help in the form of additional teachers or teacher aids and learn how to apply the remedial teaching techniques described in this paper, I believe all children labeled LD can achieve within their own classroom..

All children are different. No matter how many children are taken from a classroom and labeled "emotionally disturbed," "socially maladjusted," or "borderline mentally retarded," there would still be differences found in the children remaining. As we consider children who differ in terms of social adjustment and rate and efficiency of learning, the distinction between these children and those called "exceptional" is difficult to define.

We do not need to label children LD except for the financial aid available to schools that have children with this label attached. If all classroom teachers had been trained in individualizing instruction and knew how to apply remedial teaching skills there would be no need for LD teachers. The children who now qualify for special services would be able to reach their learning potential within their own classroom.

Silberman quotes Barbara Bateman, a nationally recognized authority on LD, as saying "Learning Disability has become an incredibly successful excuse for the failure of the public schools to adequately teach those children who truly need good teaching."

Silberman says

the LD label may seem harmless. But don't be deceived. Sloughing off children for part of the day can really mean sloughing them off for the entire day if the classroom teacher views LD students as someone else's responsibility.<sup>2</sup>

According to Hammill and Bartel "research has accumulated that indicates that children placed in special classes achieve in school work no better than and often not as well as similar children left in the regular classroom."<sup>3</sup> If this is true, teachers have no basis for pushing children out of the classroom into some special service such as LD. One reason for the popularity of the category "Learning Disabilities" may very well be that teachers do not know how to cope with children of various ability levels. Parents who have children that are not meeting success in the classroom are anxious for their children to take advantage of the help an additional service might offer.

In this paper I am also expressing concern for the amazing number of "average" children in the classroom that are performing at least a grade level below in one or more academic areas. These children often need remedial instruction inherent in children with more profound learning problems. Most of these "average" achievers are overlooked by educators since they cause no real concern to the school. These children are not recognized as having a learning problem since they can struggle along fairly well with the expectations of the school.

I took the SRA Achievement Series from the last class I taught to see how many children were functioning below grade level. I realize this may not be an accurate method for selecting under-achievers and there are many variables to take into consideration in dealing with achievement scores and intelligence tests. With this in mind I would like to present the following results:

- 1) Thirty-six percent of the children were over a grade level below in some area of reading, language arts, or mathematics.
- 2) The average amount these children were below grade level was one year and seven months.
- 3) Nine percent of the children in the class were eligible for special services.
- 4) Combining the results from number one and three, forty-five percent of the class had a learning problem in some area of the curriculum.

These were "normal" classroom children with average or higher intelligence according to their test scores. This was also a much better class academically than I had taught in the past few years. The children who scored below, at, or above grade level may have been capable of achieving more had their skills been pinpointed and had they been taught only those skills they had not mastered. The approach to solving this process of pinpointing skills is involved in clinical teaching.

As I will explain in detail later, the first step of the clinical teaching cycle is evaluation of the child. Teachers must answer



questions about individual children such as: "Which arithmetical concepts does he know, which does he need to learn?" Tests that provide ready answers to these and similar questions are referred to as criterion-level tests. These provide teachers with information that has relevance to instructional objectives. If forty-five percent of a typical, middle-class of children score one year and seven months below grade level, teachers must be proficient in diagnosing which skills have not been learned.

I also took achievement scores from another class of children I taught and found seventy-four percent of this class to score an average of two years and two months below grade level. The principal had not divided the fifth grade classes according to achievement levels but had tried to assign each teacher about the same number of so called "low, average, and above average achievers." If teachers recognize diversity of the learners' abilities as well as the need for diversity in instruction, surely there will be fewer students underachieving as in the examples presented above.

This paper will deal with the following problem. LD is a term used to identify or label children who show a discrepancy between intelligence and level of achievement using current testing measures. This apparently covers a large percentage of our school population. We cannot and should not take all these children out of the regular classroom for instruction. Therefore, the regular classroom teacher must be taught how to apply remedial teaching techniques in order to meet the needs of all children. Hopefully this paper and handbook will enable the classroom teacher to help more children reach their learning potential.

Each year I've come across many children who seem to have learning potential but somehow manage to do everything possible to avoid learning. Why? I've asked myself this question so often and now it is much clearer why many children achieve so little. I realize there are hundreds of answers to this question but some are much more prevalent than others.

First of all, don't expect all children in the classroom to achieve at the same rate. We may say we do not but we surely teach and grade as if we do. For example, how many times do we see the teacher using the same textbook with the entire class? This is certainly a sign of faulty teaching. Every child, Learning Disabled or not, needs to progress according to his or her abilities and interests, and a classroom of students cannot possibly read the identical book at the identical pace.

Children as well as adults do not want to fail. When some children complete assignments they may receive their papers back with failing marks in bright red, sometimes accompanied by cruel remarks from the teacher and then the same from their parents with a comment something like, "You just aren't trying." Seldom do people understand the difficulty the child may be experiencing in the classroom.

The children I'm talking about not only have poor academic achievement but also their quality of achievement is poor. Accord-

ing to Stephens,

poor academic achievement and poor quality of achievement is noted among learning handicapped children. A child who has difficulty with reading may confuse letters of the alphabet, small words, or he may confuse the sounds of letters and words. Arithmetical processes may be uneven. Computation in one skill may be adequate with one type of process exceedingly poor. Basic prerequisites for formal schooling are often found to be defective in children with learning problems:

- failure to read consistently from left to right
- exceedingly short attention span
- poor recall of previously learned material
- erratic academic performance; knowledge of a process one day and failure to use the same skill subsequently
- failure to obey simple directions
- aberrant behavior
- over-reactions to stimuli
- difficulty in counting objects
- poor discrimination of likenesses and differences among objects and sounds
- unwillingness to attempt new tasks
- failure to participate appropriately in group activities.<sup>4</sup>

These deficiencies can be ameliorated with remedial type instruction. That is why classroom teachers must be familiar with remedial teaching which is really just "good teaching."

Stephens goes on to say,

children with learning problems may show resistance to conventional instruction. Some students simply do not profit from standard methods of teaching. While a majority of their classmates progress academically, they fail to demonstrate gains in spite of average or better intelligence.

Problems in retention of learning are at times noted. Learning may appear to have occurred but in subsequent observations few traces of learning remain. Consequently, the child, his teachers, and his parents soon become discouraged with his slow progress.

Children with learning problems may view school activities as unpleasant, for it is in this setting where many of their failure experiences occur. As the cycle of failure persists, they become less responsive and more fearful of academic tasks. This fear is often reflected in their dislike for school. Typically they become reluctant learners, unwilling to change. Because of obvious failures, their peers focus on them and are quick to notify each other and the teachers of their short-coming. Behavioral and academic expectations for them are low and they soon begin to view themselves as inadequate, living only by the low standards set for them by others.<sup>5</sup>

Accountability is another topic that parents, and consumer groups, as well as granting agencies, are increasing their demand for:

For children, a hopeful sign in accountability is a shift in responsibility. Perhaps we will be less prone to label the child--whether that label be "failure," "perceptually handicapped," or "disadvantaged" and be more inclined to discover why we have failed and what we can do about it.<sup>6</sup>

Ogden Lindsley might have the answer to accountability when he says:

Precision teaching is not an approach; it is an easy inexpensive system of monitoring daily improvement--not performance, but improvement. Improvement is acceleration; performance is frequency of occurrence.

The difference is an important one, especially in view of all the talk we're hearing about raising teachers' salaries on the basis of how well the children in their classes perform. For example, if a teacher uses standard achievement tests with a group of children who are good achievers, it's not difficult

to get their performance up to criterion. The teacher can then qualify for a raise based on teaching output, measured by children's achievement test scores. The problem, however, is that if a teacher is assigned children who have great difficulty learning, the teacher would have an awful time getting the children up to criterion before the end of the semester.

You would have a very different situation if the teacher were being evaluated on the children's improvement or acceleration, that is the change or improvement in the frequency with which a particular behavior is performed. Then the teacher who had the most underachieving children would have the greatest opportunity to show pupil improvement. This kind of evaluation would directly reward a teacher for improving the behavior of children, not for trying to get them to reach some standard level of performance. In short then, precision teaching entails recording the acceleration or change in frequency of wanted behaviors or the deceleration of unwanted behaviors, as opposed to simply recording level of performance.<sup>7</sup>

I doubt that most teachers are prepared to individualize instruction whenever they first begin to teach. Therefore; colleges must provide the necessary instruction for teachers to be adequately qualified. Workshops will also need to be provided for teachers already in the system that need this preparation.

The future for our children with or without learning problems could be much brighter. Even though many schools are not providing for individual differences, I have observed some that are beginning to pinpoint skills that the children must master if he or she meets success in school.

Having taught in the classroom for eleven years, I realize that teachers are very busy. Many demands are made of a teacher. With these thoughts in mind, I hope to provide techniques that will help classroom teachers provide adequate instruction for all.

## READING

In recent years increased emphasis has been placed on reading instruction. The federal government has made literacy a priority goal. Massive programs have been initiated to provide every citizen with the "right to read." Reading is the most crucial of the fundamental skills, for a learner's success or failure in both school and society depends upon his skill as a reader. If we are to eliminate reading failure, we must systematically teach reading skills to all learners.

Reading is a group of skills that extend in a hierarchy from the simple to the complex, and a learner must not be moved into a skill until he has mastered the prerequisite skills.

The teacher of children with reading problems should have an understanding of developmental reading programs and normal reading growth. The sequence of stages that the child normally goes through in acquiring reading skills is commonly divided as: (1) development of reading readiness; (2) the initial stage in learning to read; (3) rapid development of reading skills; (4) the stage of wide reading; and (5) refinement of reading skills.<sup>5</sup>

The remedial teacher is mainly concerned about helping the child achieve up through the third stage.

Controversies about the teaching of reading have revolved about the beginning stage of reading instruction. Learner states that:

Chall's widely reviewed and controversial investigation of differing approaches to beginning reading, reported in Learning to Read: The Great Debate, concluded that beginning reading is primarily a decoding process and that code-emphasis methods at this stage produce the

best results. Another comprehensive investigation of beginning reading, the Cooperative Research Program in First Grade Reading Instruction (Bond and Dykstra 1967), came to somewhat different conclusions. This large-scale cooperative research, using 20,000 pupils and twenty-seven individual first-grade projects, generated data on the following beginning-to-read methods: basal reading, basal plus phonics, initial teaching alphabet, linguistic, language-experience method, and phonic/linguistic approaches. A major conclusion of this extensive research study was that no one method was so outstanding that findings were: (1) that in almost every instance the experimental population made significantly greater gains than the control population (Stauffer 1966), and (2) that there was greater variation between the teachers within a method than there was between the methods.<sup>9</sup>

Regardless of the method used in the initial stage of reading, children typically begin to develop a sight vocabulary, start to associate sound with the visual symbol of the letter, and learn to follow a line of print from left to right across a page.

A complete listing of reading skills would include all those that a mature reader needs and would be extensive. Included are only those skills the reader must possess in order to attain a level of functional literacy - that is, the level at which he can independently handle reading materials.

The reading method I'll describe has been found to be successful for remedial teachers. I also had success with it during my practicum. Regardless of which skills are being taught, I'll be following the clinical teaching cycle in order to tailor learning experiences to the unique needs of a particular child. Learner says,

The phases of the clinical teaching process are

(1) diagnosis, (2) planning, (3) implementation, and (4) evaluation, leading to (5) a modification of the diagnosis, and then to new planning, new forms of implementation, and a continuing cycle of clinical teaching.<sup>10</sup>

### DIAGNOSIS

During my practicum I used parts of the Basic Educational Skills Inventory (BESI) for diagnosing reading skills. The BESI is an inventory of skills required for success in grades K-6. Since I was working with first grade children there was no need to administer the entire inventory. I knew they had not been exposed to the higher level reading skills. By analyzing the front page of the Inventory Scoring Booklet, I could plan instruction.

### PLANNING

Below is a copy of the scores of one particular individual I worked with.

#### Test Results

(Basic Educational Skills Inventory - Reading - Level A)

#### Summary of Scores

	Possible	Initial Score	Final Score	Gain
1. Memory For Sentences	12	8	9	+1
2. Direction in Space	10	4	6	+2
3. Same or Different	10	9	10	+1
4. Naming the Alphabet From Memory	26	24	25	+1
5. Manuscript Printing of Small (Lower Case) Letters Of The Alphabet (Dictated)	26	18	23	+5
6. Naming Manuscript Printed Letters	25	23	25	+2
7. Matching Manuscript Letters Of The Alphabet	11	9	11	+2
8. Sight Words*	112	0	37	+37

\*Paul actually learned 62 sight words. These 37 were only a sampling from the Dolch list. I took his sight words from the Scott Foresman Pre-primer I, II and III list.



From the summary of scores I came to these conclusions:

STRENGTHS NOTED: Auditory Memory  
 Initial Consonant Sounds  
 Naming Manuscript Printed Letters  
 Rhyming

WEAKNESSES NOTED: Visual Memory  
 Sight Words  
 Directions in Space (Concepts of top, bottom, left, right, etc)  
 Blending Sounds  
 Vowel Sounds  
 Other Conclusions:  
 Gross and Fine Motor Control  
 Easily Distracted

One interesting observation I made was how my practicum supervisor's evaluation and mine ran parallel to one another. My supervisor had administered a variety of tests. The test I used for evaluation was the BESI; our diagnosis was identical.

#### IMPLEMENTATION:

The third stage of the clinical teaching cycle included teaching of sight words using the Fernald method and blending sounds into words. Some time was spent printing lower case letters of the alphabet and teaching vowel sounds. Whenever time permitted we worked on directionality concepts. See Handbook for the sequence of reading skills I followed. (Reading Section - pages 5-7).

When the child knows the sounds of most consonants and the sound of the vowel a, and is able to blend three sounds into a word (even inadequately or slowly) he is ready to begin practicing in the Hegge, Kirk, and Kirk, Remedial Reading Drills.<sup>11</sup> Although the drills are essential in developing correct responses to written symbols, and in giving the child a start in reading, they in themselves nor any other isolated technique will teach a child to read. Sentence and story reading must be introduced to supplement the drill material.

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Sentence reading may be introduced after Drill 1. The teacher can use words containing only those sounds already learned plus the sight words that the child has been learning along with the drill work. Stories can soon be read from primers and first readers, providing the teacher uses the sight word list from the primer instead of starting with the Dolch list.

Primers and first readers are too elementary in content for older children who have a reading disability. For these and other reasons it is frequently advisable to eliminate the reading of stories from readers until the child is ready to read from a more advanced book. It is recommended that the reading of books be discontinued until the child has covered at least the first twenty-six drills and preferably until he has completed the whole of Part I. When the child has mastered this part of the drills he should be ready to begin reading from a second- or third-grade book.<sup>12</sup>

Language experience stories can also be written and read until the child can read books on his interest level. They provide motivation for older children and will sometimes help improve comprehension. The drills should not be dropped when story reading begins. The drills should be continued for the purpose of introducing new sound values and also for teaching the child to combine small units into larger visual units.

When Part III is reached the emphasis is placed on reading and word study, rather than on phonic material. A short period of drill work each day should be continued until the drills are completed. Care should be taken to move at the child's rate providing consistent success.

Heilman says, "the optimum amount of phonics instruction that a child should receive is the minimum amount he needs to become an independent reader."<sup>13</sup>

## EVALUATION

Precision teaching is a way of evaluating the method in use.

I shall briefly try to explain what I mean by precision teaching.

Precision teaching is not a new method of teaching. Instead, it is a set of procedures which can be used with any method of teaching. It is a tool that simply makes the teacher's job easier, regardless of the method being used.<sup>14</sup>

Precision teaching procedures are designed to enable the teacher to discover the abilities of each child and allow him to advance at his own individual rate. The value of precision teaching lies in the use of continuous measurement and charting of a child's progress. The teacher has an ongoing record of every child's behavior. He can tell immediately from that record whether he is performing at the level expected of him or whether he is having difficulty with material that may be too hard for him. Precision teaching can provide individualized instruction for every child.

On the following page you will find an IS Work Sheet for recording five variables that occur in any educational setting. To describe an is situation is simply to describe the current teaching plan. This technique is a tool for developing lessons or teaching plans. Following the IS Work Sheet is a Behavior Equation Chart.

The IS formula consists of:

1. Program - The over-all environmental setting
2. Programmed Event - Those events or components of the environment which the manager plans which occur prior to the pupil's movement
3. Movement Cycle - The precisely pinpointed behavior of the student which the manager is measuring.
4. Arrangement - Refers primarily to the numerical relationship or ratio between the movement cycle and arranged event.
5. Arranged Event - Those events which occur in the environment dependent upon the pupil's movement according to the stated arrangement.

PLAN SHEET # 1 FOR John Doe TARGET A X Pinpointed by: Pupil \_\_\_\_\_ DATE: 3/1/76  
 M \_\_\_\_\_ Manager X  
 Desired Rate 22 w.p.m. D \_\_\_\_\_ Advisor \_\_\_\_\_

LOCATION Instructional Materials Cen. MANAGERS Mrs. Hensley

PROGRAM	PROGRAMMED EVENT	MOVEMENT CYCLE	ARRANGEMENT	ARRANGED EVENT
9:45 - 10:15 Mon. - Fri. 1. Short A Sound	Teacher directs 30 minute periods.	Read sightwords from cards.	22:1	Prize given to behavior.
2. Sightwords	Changes activities every 5 minutes.	Cards read correctly, counted by student.	By teacher and student.	
3. Blending Hegge, Kirk, & Kirk, Remedial Reading Drills	1. Student says short a sound using hand words.	Timed by teacher.		
4. Sightwords Flashcards	2. Copies two sightwords. Use VAKT Approach.			
5. Blending	3. Blending			
6. Short A Sound	4. Sightwords			
	5. Blending by breaking down compounds & endings. Listens for sound at end of word.			
	6. Say short vowel sounds using hand words.			

15

The top portion of the IS Plan Sheet describes the general aspects of the plan.

In the upper left hand corner you will find "Plan Sheet #\_\_\_\_\_." If this is the initial plan sheet for this student in this subject, the plan sheet number would be 1. However, if this is the third attempt at programming a specific subject for this particular student, then, of course, you would write number 3.

Moving across the top of the heading you see the word "For" followed by a blank. That space is for the name of the student.

Next along the top of the heading you find the word, "Target" followed by three blanks in vertical order. Each blank is preceded by a letter: A for acceleration target; M for maintenance target; or D for deceleration target. You should check one of these three blanks whichever best describes your program.

The next blank is "Pinpointed by." Either the pupil, the manager (the person working directly with the pupil) or the advisor will have pinpointed the movement cycles to be changed. Check which one of the three boxes applies. In the right hand corner following the word "Date" write in the date the program initially began.

Just below "For" is a space preceded by "Desired Rate." In this space you should write in the approximate rate which is your goal for this particular student in this project.<sup>16</sup>

This Behavior Equation Chart may help in filling out the IS Work Sheet.

#### BEHAVIOR EQUATION CHART<sup>17</sup>

PROGRAM	PROGRAMMED EVENT	MOVEMENT	ARRANGEMENT	ARRANGED EVENT
P	PE	M	A	AE
When?	objects	PINPOINT	The rule	tokens
Where?	sounds	Behavior which	stating the	academic
How Often?	<b>pictures</b>	has been pin-	relationship	activities
How Long?	films	pointed for	between the	privileges
What Sequence?	spoken words	acceleration	movement and	play activities
What Size Step?	diagrams	or deceleration.	the consequence	money
	written words	The movement	it produces.	food and
	gestures	cycle should		beverage
	facial expres-	also include		trips
	sions	the length of		hobby objects
	voice inflec-	time the move-		knowledge of
	tion	ment cycle will		results(praise
		be recorded,		
		who will record		
		and how the		
		recording will		
		be done.		

Once the movement is pinpointed, and the IS Work Sheet is filled out you are ready to begin counting movements. The following sheet is usually stapled inside a sheet of 12 x 18 inch folded construction paper and given to the child to keep or put in a specific location.

Following you will find a Rate Record Sheet. This sheet can be filled in by the teacher or the child himself. In order to figure the rate, just follow the formula at the top of the sheet. Put an X in the No Chance Column when the movement cannot occur. For instance the student might be on a field trip or absent. Place an X in the Ignored Column when the movement can occur but you decide not to count it. Place an X in the Charted Column when you count a movement. The Rate Record Sheet is used in charting the Six Cycle Chart. If we pinpoint, record, and count precisely, and place that information on chart paper, it can become an invaluable tool helping us to do a better job of completing the educational tasks expected of us.

Following the Rate Record Sheet is a Six-Cycle Chart. This chart is produced by Behavior Research Company, Box 3351, Kansas City, Kansas 66103. Across the bottom are places to list the name of the person being charted (Behaver), the person working directly with the behavior (Manager), the individual supervising the manager (Advisor), and the advisor's instructor, if any (Trainer). The extreme right hand blank, "Movement," is to specify the movement cycle being charted.

NAME John Doe

PROJECT Sightwords

SHEET 1

$$\frac{\# \text{ mins.}}{\# \text{ movements}} = \text{RATE}$$

Mrs. Hensley 19

DAY		MINUTES OF COUNTING	MOVEMENTS COUNTED	RATE	NO CHANGE	IGNORED	CHARTED	COMMENT
MON	1	1	0	0 WPM			X	
TUES	2	1	2	2 WPM			X	
WED	3	1	3	3 WPM			X	
THUR	4	1	4	4 WPM			X	
FRI	5	1	5	5 WPM			X	
SAT								
SUN								
<u>3/1</u>								



MON	8	1	6	6 WPM			X	
TUES	9					X		Feeling bad
WED	10	1	9	9 WPM			X	
THUR	11	1	11	11 WPM			X	
FRI	12	1	13	13 WPM			X	
SAT								
SUN								
<u>3/8</u>								



MON	15	1	14	14 WPM			X	
TUES	16	1	15	15 WPM			X	
WED	17	1	19	19 WPM			X	Phase Change
THUR	18				X			Field Trip
FRI	19	1	21	21 WPM			X	
SAT								
SUN								
<u>3/15</u>								



MON	22	1	20	20 WPM			X	
TUES	23	1	23	23 WPM			X	Reached Goal
WED	24	1	23	23 WPM			X	
THUR	25	1	24	24 WPM			X	
FRI	26	1	25	25 WPM			X	
SAT								
SUN								
<u>3/22</u>								





CALENDAR WEEKS

DAILY BEHAVIOR CHART (DC-B)  
 6 CYCLE-140 DAYS (20 WKS.)  
 BEHAVIOR RESEARCH CO.  
 BOX 3351-KANSAS CITY, KANS. 66103

1 3.76  
 DAY MO YR

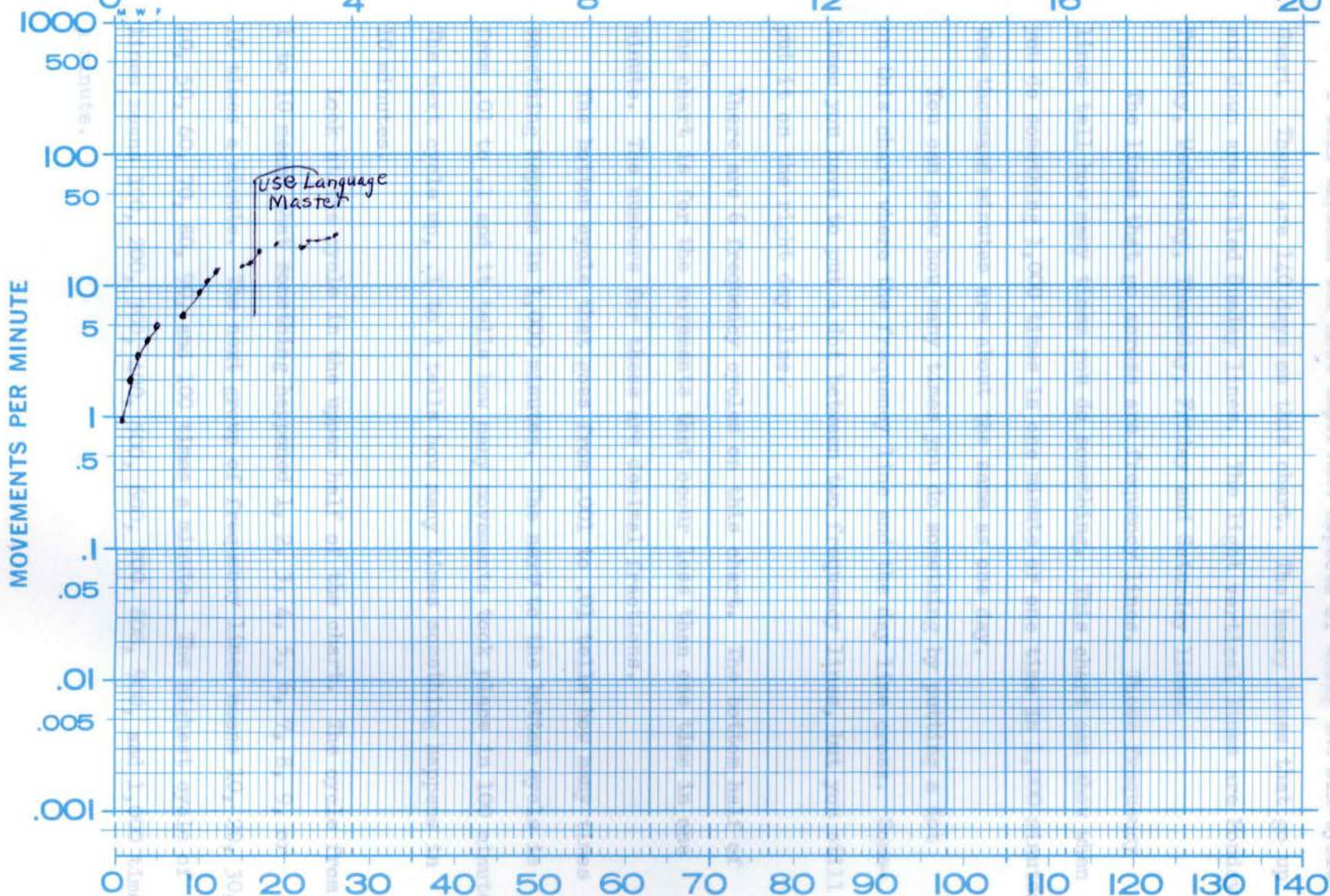
DAY MO YR

DAY MO YR

DAY MO YR

DAY MO YR

DAY MO YR



I will explain the most important aspects of using the Six-Cycle

Mrs. Kelly   Mrs. Hensley  
 SUPERVISOR   ADVISER   MANAGER  
 \_\_\_\_\_  
 DEPOSITOR   AGENCY

SUCCESSIVE CALENDAR DAYS

John Doe   6-8   1st. Gr.   Read  
 BEHAVIOR   AGE   LABEL   MOVEMENT  
Mrs. Hensley  
 CHARTER

I will explain the most important aspects of using the Six-Cycle Chart. There are 140 days on this chart. The heavy lines that go up and down are called Sunday lines. The light vertical lines are Monday, Tuesday, Wednesday, Thursday, Friday and Saturday lines.

The lines that go across are frequency lines. These frequency lines tell how many times you do something. This chart can show when you do something 1,000 times in one minute or one time in 1,000 minutes. One thousand minutes are about the same as one day.

You can show how many times you do something by putting a dot on this chart where the frequency line and the day line cross. Sometimes you have to put a dot between two frequency lines, but you still put it on the right day line.

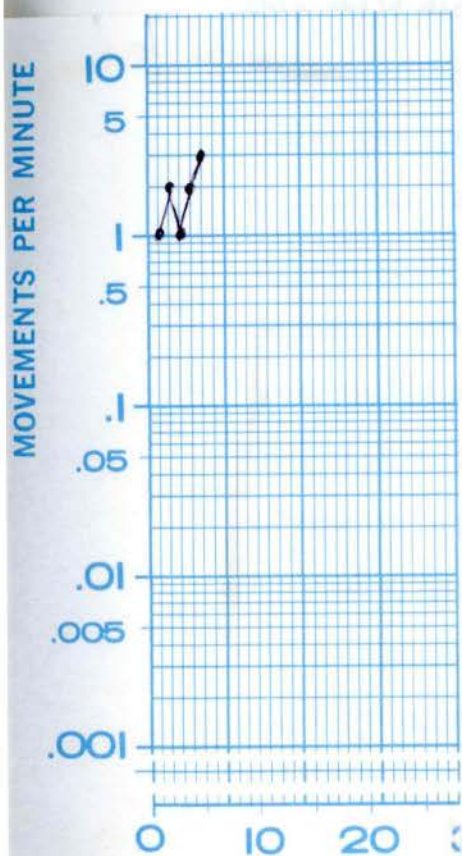
There are 6 frequency cycles on this chart. The bottom half of the chart is for the movements that occur less than one time in one minute. The numbers for these are decimal fractions.

The bottom cycle that goes from .001 to .01 tells how many times something happens in 1,000 minutes. The next to the bottom cycle is from .01 to .1 and it tells how many movements took place in 100 minutes. The next cycle up, .1 to 1 tells how many times something happens in 10 minutes.

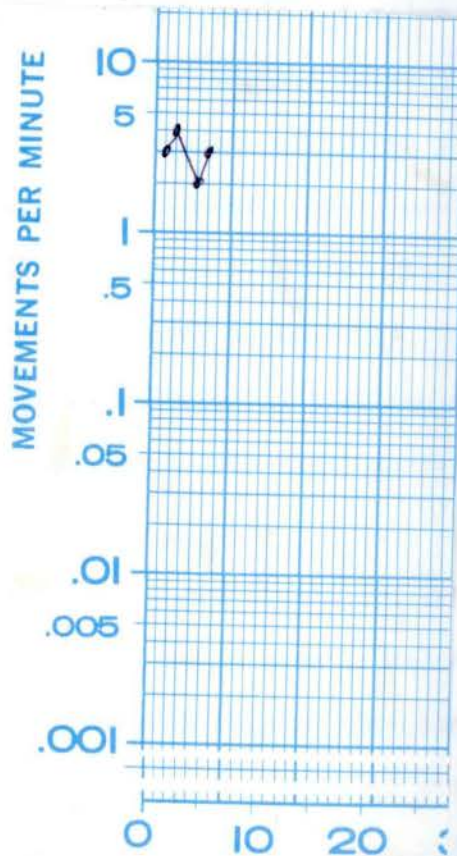
Look at the cycle in the upper half of the chart. The cycle from 1 to 10 means that something happened 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10 times a minute. The next group of frequency lines means 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100 times a minute. The highest cycle of lines means 100, 200, 300, 400, 500, 600, 700, 800, 900, and 1,000 times a minute.

You can show three different kinds of days on this chart: Charted Days, Ignored Days, and No Chance Days. You show a Charted Day by putting a dot on the chart in the right place. Just leave the chart blank for an Ignored Day also but connect the dots on each side of Ignored Days. The Six-Cycle Chart is usually stapled inside the construction paper folder across from the Daily Record Sheet.

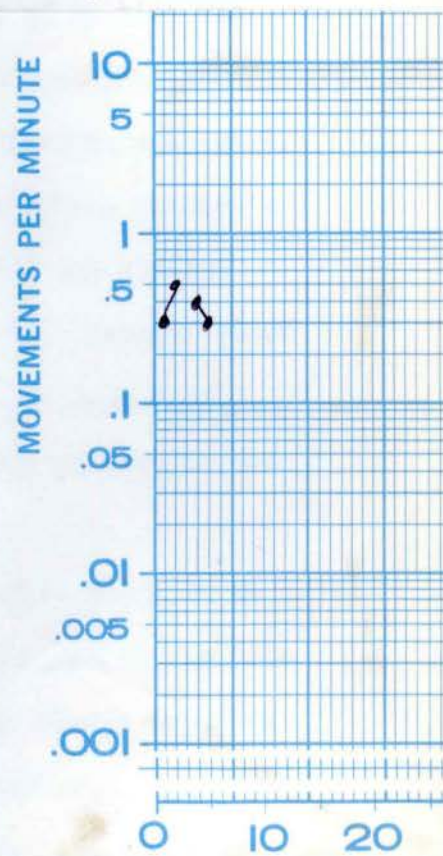
Example of Charted Day



Example of Ignored Day



Example of No Chance Day



The last of the charting that I'll explain is the Phase Change. Any time instructional change occurs a symbol should be used with a word or two describing the change. The symbol used looks like this: .

The vertical portion of the phase change line should fall between the last day of the previous phase and the first day of the new phase. The horizontal portion should continue only the length of the phase.

Now I'm going to give you some statistics from one of the students I used precision teaching with during my practicum and show how this information would appear on all three precision teaching charts. In the examples are four weeks data from March 1 to March 26. Initially, this child did not know any sight words. A major part of my time was spent teaching this child to read words. Therefore, I used this precision teaching project as an example of how to plan, record, and chart.

As you look at the IS Work Sheet, you'll see that thirty minutes a day was spent in individualized instruction. The period was divided into five minute segments in order to keep his attention. Several short sessions are more effective in remedial teaching than one long period. When this child could read twenty-two sight words in one minute, he was to receive a prize.

Next, look at the Daily Record Sheet. Notice that on March 9, we had an Ignored Day because the child wasn't feeling well and on the 18th all first graders were on a field trip so that was a No Chance Day. On the Six-Cycle Chart you can see how these days were charted.

Look at the Six-Cycle Chart again and you will see that a phase change was made between March 16 and 17. The change shows that the individual began using the Language Master Machine to help him learn his sight words.

At this point you may protest that the procedures are too detailed and too time consuming to be applied to thirty children in a regular classroom. However, children have been taught to do much of their own recording and charting. Although the expenditure of teacher effort involved in precision teaching may seem great, consider the effort involved in dealing with children who are not learning under the teacher's present system of management. In the initial phase of precision teaching I would suggest using it with a few children in some crucial academic areas. As the teacher feels more secure in using precision teaching for pinpointing skills and evaluating the learning process, then she can increase its use.

#### MODIFICATION OF THE DIAGNOSIS

The last phase in the clinical teaching process is a modification of the diagnosis, and then to new planning, new forms of implementation, and a continuation of the cycle. Modification of the diagnosis should be made on the results from the precision teaching charts. If a child fails to achieve a specified skill, then a task analysis should be done to find out whether the failure is due to the manner of presentation or to the mode of response expected. The teacher must probe for the factor that accounts for the failure.

Lerner says the task can be analyzed in a number of ways:

- (1) What perceptual channels are required in order to receive the presentation and perform the task? These channels could be auditory, visual, kinesthetic, or tactile in nature.
- (2) Is a single sensory-perceptual system needed, or is a cross-modal shifting from one sensory system to another required?
- (3) Is the task primarily verbal or nonverbal in nature?
- (4) Does the task require social or nonsocial judgments?
- (5) What skills and levels of involvement (perception, memory, symbolization, conceptualization) are required?<sup>18</sup>

As an example, two pictures in a workbook exercise represent a book and a cake. If the child fails, the instructor must analyze the task to discover why he failed. The presentation was verbal and auditory (from the teacher) and visual (from the page). Prerequisites to this task were understanding language, including the meaning of rhyme and circle, following directions, and having good visual perception of the graphic representation of objects on the worksheet. The mode of response was motor. Other prerequisites for performing the task included previous knowledge of and experience with the items represented by the pictures, an adequate auditory memory of the sounds of the words represented by the pictures and the words spoken by the teacher, the skill to compare words and identify rhymes, and the motor ability to draw a circle. Failure to complete the task could have been due to a lack of any of these requirements.

According to Lerner,

the use of task analysis in examining workbooks and test materials often reveals that the name of the exercise has little to do with the skills required to understand and perform the task. Clinical teaching requires the ability to understand the elements of the task and to compare these with the abilities of the child.<sup>19</sup>

With the application of precision teaching a low achiever should excel more than usual since instruction is directed to his level of functioning. It may take awhile for some children to realize that they really can learn. Some children may have developed behavior problems due to their learning disabilities. Whenever behavior interferes with a learning task, then plans should be made to manipulate the environment to shape a desired behavior. Some type of behavior modification can be

applied at this time.

The behavior-modification approach requires that the teacher determine a behavioral goal to be accomplished by the child. This goal must be specific rather than broad. Evidence of learning should be observable instead of only being inferred.

One of the children I taught during my practicum was achieving, but I felt that he was capable of achieving even more since I did not have his full attention. If I had been able to continue working with this individual, I would have used some type of behavior modification with him. The desired behavior was to have him remain in his seat. We changed academic skills every five minutes. This would have been a good time to reinforce him with a token if he had remained in his seat during the five minute period. He could have used the tokens at the end of the period for some activity he wished to engage in.

Lovitt 1967, Lovitt and others 1968, Haring and Hanck 1969, have reported using the behavior-modification approach to teach children with learning disabilities. They indicate that the technique was successful in modifying the behavior of children with learning disabilities and contributed to their academic learning.<sup>20</sup>

A goal of the behavior-modification approach is to gradually reduce the need for immediate extrinsic reinforcers so that the individual can eventually achieve such behavior without outside motivation.

Hewett developed a seven-level hierarchy of behavior that reflects the dependency upon outside reinforcers. As the individual moves from level to level, he moves from complete dependency on immediate extrinsic reinforcement to complete independence and self-motivation in learning situations.<sup>21</sup>

It is important to reevaluate and revise programs on a regular basis to ascertain that the modification procedures are operating on the same level as the student.

In order to meet individual needs for each child in a class the teacher must be highly organized and have as many teaching helps as possible. What I consider helps are adequate instructional materials, cross-age helpers, teacher aids, parent volunteers, the pairing of classmates, and possibly high school or college students to serve as tutors for individual students. The use of interest centers can also help in developing a unique educational program for each child. Seldom would a teacher have all the "helps" listed above. These are listed merely as suggestions and possibilities for consideration.

#### INTEREST CENTERS

A related article in Teaching Exceptional Children by Alan R. Frank describes one method of creating and integrating interest centers into the classroom.

A classroom interest center is an area which stores a variety of materials for individual or group use by the children without teacher supervision or instruction. A wide variety of materials are included so as to serve differing students needs and interests.

If the teacher is cognizant of student strengths and weaknesses in a given subject area, he can provide materials which are appropriate to the identified strengths and weaknesses of students.

When first beginning to use interest centers, it is probably best to focus on just one area of the curriculum. It will be easier to develop a wide variety of materials for just one area rather than for several. Remember to gather materials which appeal to a variety of levels and interests.



Having identified the area of the curriculum to be developed in the interest center, carefully outline the content of that curriculum area. It may be helpful to look at the major headings in the textbook used in this area of the curriculum. The school district's curriculum guides may also be a source of information.

It is important to consider the different formats available to present materials to students via the classroom interest center. Some materials to include in the center are teacher made educational games, and worksheet type activities, such as puzzles and problems. Machines like the Language Master may be used with any number of exercises put on language master cards. Activities which require more explanations may be put on cassette audiotapes. Record player activities, film-strip worksheets, and manipulative devices for children who prefer doing things with their hands can also be included.

Children's magazines and educational magazines usually contain activities that lend themselves to an interest center approach.

Look through educational magazines for materials or ideas for purchasing materials.

Ask other teachers for ideas or trade games, activities, and projects.

Assume you are setting up a hypothetical math interest center in an elementary classroom, containing a variety of ability levels.

The first step in planning the math interest center is to examine the content of the math program. Below is a list of topics which might be covered in math programs.

- |                        |                |
|------------------------|----------------|
| 1. Numeration and sets | 6. Money       |
| 2. Place value         | 7. Time        |
| 3. Subtraction         | 8. Measurement |
| 4. Addition            | 9. Geometry    |
| 5. Fractions           |                |

Let's assume that students have been working on the following math topics:

1. A review of basic addition and subtraction facts
2. Use of symbols and words
3. Fractions ( $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$ )
4. Money (recognizing coins and counting money to 10¢)

Upon evaluating each child's progress you note that:

1. Several students have a reasonable grasp of the above concepts and some review will maintain their understanding.
2. Four children are still having problems relating accounts of money to symbols.
3. Four children still need much review in the area of both addition and subtraction facts.

Below is a description of the materials which might be placed in the classroom interest centers.

1. A teacher made game on relating amounts of money to symbols
2. A series of cards for the Language Master which review addition and subtraction facts
3. A game entitled Mathfacts on basic addition and subtraction facts.
4. Templates for shapes, such as circles, squares, triangles, and rectangles, construction paper, pencils, rulers, scissors, glue. Students are to trace around templates and then cut shapes into halves, thirds and fourths and glue them on paper.
5. Records or cassette tapes on learning to add and subtract.

Integrating interest centers into the classroom involves informing the children about the center, showing the children the variety of activities available, and letting the children explore the materials right away so they will be familiar with them when the time comes for them to use these materials.

Both the teacher and the students should decide when the materials from the center may be used. If each student is working at an individual rate, then it is appropriate to allow each child to go to the interest center after he has finished his daily assignments.

If the students are working in groups, divide the class period into three segments: (a) group instruction, (b) individual work, and (c) interest centers.

Explain to the students where the materials from the classroom interest center may be used. Some materials will be taken to the appropriate piece of equipment which has been set up. Other materials such as games, puzzles, and projects may be taken to the students' desks, a free table somewhere in the room, or a quiet corner.

Periodically add new materials to the classroom interest centers. Also, remove those which do not seem to be used by the students.

Finally, try classroom interest centers in other areas of the curriculum. Explore the possibility of interest centers outside the general curriculum. For example, an interest center in photography or sewing might be of interest to some students. Ask the children. They have great ideas.<sup>22</sup>

### TEACHER PREPARED MATERIALS

Preparing your own materials can be very time consuming. This is an excellent place to use volunteers or teacher aides. If this isn't possible you might do as one group of teachers in the Hazelwood School District. They had a summer workshop for preparing materials in math for the entire school year. I was involved in preparing materials for a unit on fractions that contained materials for children with various ability levels. All four of the fifth grade teachers had one, thirty-minute planning period simultaneously. We distributed the duty of preparing activities equally. Once we had all the materials together, the teacher aides duplicated the materials for us so we would each have the same instructional materials for use at one time if necessary.

### UTILIZATION OF MATERIALS

You will want to get the greatest amount of utility out of the materials you have. To do this it is important to become very familiar with the contents of these materials. Decide, specifically, what objectives can be reached by using this page or this section or this filmstrip. It will be worth your while to keep some kind of index system on sources of practice materials for specific skills. An index card such as the one below gives the teacher a wealth of helpful resources right at your fingertips. This is a project that could easily be accomplished building wide. One teacher would only

have a small amount of work and when it was all put together there would be an enormous amount of materials available.

Example:

Reading Skill Index Card<sup>23</sup>

Reading Skill : Bl blend			
Publisher	Author	Title & Level	Pages
Lippincott	Hay & Wingo	Reading with Phonics	54, 55
Lyons & Carnahan	Halvorsen, et.al.	Phonics We Use "B"	71
Barnell- Loft	Boning	Working with Sounds "B"	Unit 16
Ideal	-----	Magic Cards: Consonants, Blends and Diagraphs	ex. 2

Enlisting the aid of volunteers is an effective way to individualize instruction. The use of instructional volunteers requires that a professional staff member within the school coordinate their efforts. An instructional consultant is in an ideal position to provide the needed coordination and instruction of volunteers. An informal meeting could be scheduled at the end of the year to honor the volunteers and to evaluate the program.

As Noar says,

teachers and administrators commonly agree that aides should not do initial instruction. That must remain the responsibility of the professional teacher. In the usual classroom, however, after the teacher has presented new instruction the aide can help individual children or small groups of children. The aide can be

utilized to discover and help correct mistakes children are making before they go too far in their assignments.

Teacher aides are invaluable in teaching reading to pupils of all ages. Remedial reading is most successful when it is done in a one-to-one relationship. Many schools have found it relatively easy to secure tutors for children who cannot learn to read in a classroom situation. In some districts community women have volunteered. In others they are secured and organized by the PTA. In some places social organizations like the Junior League or church groups become involved.<sup>24</sup>

Student aides can be selected from the classroom to help others whenever the teacher is busy with a group. The same people should not be chosen every day. The aides can also vary for different subject areas. These are sometimes referred to as "buffers."

Sometimes older pupils can tutor younger children. It is very important to get children who are compatible. The older pupil may be a child that needs the reinforcement of the skill he is helping the younger classmate with. Therefore, both students can profit from the tutorial experience.

In fact, Gartner, Kohler, and Russman reported that,

children learn from their peers, but a more significant observation is that children learn more from teaching other children. They say that every child must be given the opportunity to play the teaching role, because it is through playing this role that he may really learn how to learn.

An amazing report from the Mobilization for Youth, a New York City antipoverty program, states that over a five-month period in which older children tutored younger children with reading difficulties, those tutored gained 6.0 months while the tutors gained an extraordinary 3.4 years. A leap of this magnitude is the order of achievement that must be striven for in the schools of America.<sup>25</sup>

The use of the student aide as a teacher is one way to increase individualization. I can see how a combination of programmed instruction and tutors could be another way of achieving individualization. Precision teaching is an excellent way to keep track of progress. The tutors can be shown how to count and record responses. For more information regarding the use of children as tutors, refer to the bibliography.

#### PROGRAMMED MATERIALS

Programmed skill labs or any other programmed materials can be very helpful in individualizing instruction. I've had success with programmed instruction but it must be used with caution. The teacher should limit the amount of time children can work with individualized learning kits. Pupils have a tendency to work for long periods of time at first and then they soon become tired of the skill labs. Some children may even need some type of reward as a means of motivation for completing assignments. I've had success with this approach. Teachers need to keep track of the pupils' progress which is necessary for evaluation and also serves as a motivating factor for the child to continue with this type of instruction.

#### SIMULATION GAMES

The use of simulation games, in which children assume the role of others, is also excellent for use in social studies. They help children learn to analyze problems and see both sides of an issue. Social studies kits will usually contain materials for group interaction and chances to pair classmates for reading material.

#### GRADING

In order to really individualize we must not defeat our goal with a grading system. The December, 1970 issue of Today's Education-NEA Journal contained a report of a nationwide survey of what schools are doing about report cards. It indicates that "71 percent of elementary

teachers are using report cards with classified scales of letters. However, some 60 percent of the elementary teachers supplement the cards with parent-teacher conferences. Almost 25 percent of the elementary teachers reported that they provide parents with a written description of the pupil's performance. Report cards with pass or fail designations are used by 8 percent of elementary teachers." 26

The study noted that the report card is gradually being replaced by the name progress report and that schools are revising these to provide parents with more detailed information in terms of the development of pupil skills. Many pupil progress reports place their emphasis almost entirely on the subjects in the curriculum rather than on the learner. Many teachers and administrators reveal a greater concern about how to report than what to report.

From my past experiences with grading and observing the reaction of students to the grades they received, I am certainly advocating a change in our present system of reporting to parents and children. I had come to my own conclusion that children give up in academic areas when they receive low grades and try much harder to achieve in areas where they receive the higher grades. I realize there are some exceptions to the statement above.

I wholeheartedly agree with Noar in her chapter on Marks and Report Cards. She says that,

formalized and uniform marking systems defeat teachers' efforts to provide success experiences for slow learners and for children who are handicapped by having uneducated parents and who live in poverty-stricken environments. The attempt at regular intervals to summarize dozens of discrete evaluations into single symbols to put on report cards for parents constitutes the greatest barrier to development and use of methods of individualizing instruction.

It is time for all connected with education to face the absurdity of outmoded marking and reporting practices, the impossibility of combining and averaging dozens of items into letter and number symbols, and the conscious or unconscious values and attitudes that influence teachers' decisions when they make out report cards.<sup>27</sup>

What then is to be done about marks and reports? Progress in learning and skill development must be indicated to both parent and pupil. Why not use words instead of symbols to evaluate each task a child undertakes? If, when so doing, the emphasis is placed on what is right (a basic principle of learning), then, even though the number of words or exercises a pupil has right may not be the same as another's, anyone who has anything right experiences success.

By using precision teaching in monitoring daily work it is very easy to report to parents exactly what and how much the child has achieved in a specified amount of time. If the teacher pinpoints the child's academic level of achievement and teaches him skills he doesn't have, then it is going to be as easy for what is termed the slow learner to achieve as it is for the others. Success in school means getting something right. Success motivates; it frees energy for learning; it increases effort. Failure kills motivation and creates anxiety, feelings of inadequacy and hopelessness which inhibit learning.

Parents may need to be taught the difference and helped to understand why old forms of marking and reporting must be abandoned. It seems harder to convince parents whose children get excellent grades that we should abandon the current grading system. Many parents use their children's excellent grades as a status symbol.



Teachers could write a card about one or two pupils each day for them to take home to parents. The best time to report to parents is at the time the teacher observes a step forward or is especially pleased with a task well done. Some schools are using Parent-O-Grams to send home with pupils whenever a child does something extra well or displays some act of kindness. I prefer individual conferences with parents which includes a report of their child's achievements, instead of sending a progress report home.

## SUMMARY

This paper was written to help the regular classroom teacher apply remedial teaching techniques in order to meet the needs of all children. Since each child possesses his own unique learning style, we must teach accordingly.

The National Advisory Committee accepts this definition of the term LD. "This group indicates adequate intelligence when measured by currently available instruments, demonstrates no gross sensory impairment, appears to be culturally advantaged, and while perhaps exhibiting some signs of emotional problems is not seriously disturbed. They cannot truly be classified in any of the existing Special Education categories, and yet they do not learn at the pace and with the same efficiency as the "mainstream" demands. This limbo group is progressively achieving identification as the Learning Disabilities population." As I stated before, this definition covers a tremendous number of school children. It isn't feasible to take all children that fit into this definition out of the regular classroom. We must educate the teaching profession to individualize instruction according to the needs of the child. The major reason for a label and definition is for securing financial aid for children who aren't achieving in the regular classroom and have teachers who cannot or will not help the child meet his needs.

I've dealt with remedial teaching techniques following the Clinical Teaching Cycle which includes:

1. Diagnosis of the Problem (Using formal and informal methods)
2. Planning for Instruction
3. Implementation of Instruction
4. Evaluation (Precision Teaching was covered thoroughly in this paper)
5. Modification of the Diagnosis

To meet individual needs with remedial teaching techniques, the more teaching helps a teacher has, the easier it is to provide individualization. The teaching helps that I covered were Interest Centers, Teacher Prepared Materials, Organization of Materials, Volunteers, Student Aides, Programmed Materials, and Simulation Games. It is also very important that we not defeat our goal with a grading system in trying to individualize instruction.

There should be no need to label a child ID, place him in a special classroom, and then try to mainstream him back into the regular classroom. Learning disabled children can be taught in the regular classroom if remedial teaching can be implemented. This is the purpose of the Handbook for Teachers following this section of my paper.

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## INTRODUCTION

In remedial instruction, which is really just good teaching, the classroom teacher does not need a list of all the innumerable skills for children that have severe learning problems. The teacher's main goal is to assist the child in achieving the very basic skills. Once the child achieves the most basic skills, he or she will usually be able to progress with less individual help.

Remedial instruction is the most direct route to improving defective skills when the teacher recognizes those prerequisite skills needed to learn what is to be taught. For instance, during my practicum I was trying to teach a child to blend three sounds into a word. Using the Six-Cycle Chart for daily assessment I could see that some instructional change had to be made. As I analyzed the BESI again, I discovered that this child had not been given the sub-test covering final consonant sounds. I had to use several subskills in order to help this person learn to blend sounds. I had him repeat the last word of a compound word, listen for ing endings on words, and finally the ending sound only. These techniques did help him learn to blend three sounds into a word.

In the reading, arithmetic, and handwriting section of this handbook, I have tried to provide some of the most uncommon but effective techniques for teaching basic remedial skills. The three academic areas are organized according to the five steps involved in the Clinical Teaching Cycle. Following the academic skill areas are the sections of precision teaching materials, approvals, and a list of professional organizations pertaining to the topic of this paper.

## READING

In this section of the handbook are formal and informal reading tests that any classroom teacher can administer. If the formal tests aren't available you can always rely on informal testing. Also included on pages 5-7 is the Suggested Sequence for Teaching Work-Analysis Skills for Remedial Reading with appendices that give suggestions for methods of teaching the various skills in that part of the sequence.

Since the remedial sequence I used, concentrates only on the beginning stages of learning to read, I have included a full continuum of reading skill. **READING**. The learning comprehension skills which are emphasized in the later stages of reading are included in the complete reading continuum. This reading skills continuum is presently used at the Grassman Elementary School in the Hazelwood School District and is considered to be one of the best in the school district at the present time.

As I stated on the introductory page, the reading section as well as the other sections are organized into the five steps of the Clinical Teaching Cycle. These include diagnosis, planning, implementation, evaluation, and verification of the diagnosis.

## READING

In this section of the handbook are formal and informal reading tests that any classroom teacher can administer. If the formal tests aren't available you can always rely on informal testing. Also included on pages 5-7 is the Suggested Sequence for Teaching Work-Analysis Skills for Remedial Reading with appendices that give suggestions for methods of teaching the various skills in that part of the sequence.

Since the remedial sequence I used, concentrates only on the beginning stages of learning to read, I have included a full continuum of reading skills as Appendix O. The learning comprehension skills which are emphasized in the later stages of reading are included in the complete reading continuum. This reading skills continuum is presently used at the Grannemann Elementary School in the Hazelwood School District and is considered to be one of the best in the school district at the present time.

As I stated on the introductory page, the reading section as well as the other sections are organized into the five steps of the Clinical Teaching Cycle. These include diagnosis, planning, implementation, evaluation, and modification of the diagnosis.

## DIAGNOSIS:

Included under diagnosis are two sections. These sections are Formal and Informal Testing. The formal tests are listed for the teacher who needs to determine a child's reading level for quantifying a learning disability or in making decisions concerning school programs. The informal testing is really more meaningful to the teacher. This type of testing specifies where the child's problem lies without spending a lot of time.

### Formal Testing:

Basic Educational Skills Inventory (BESI) Form A and Form B (depending on age and/or skills of child); Summary of Scores for the BESI, which includes the subskills tested are found in Appendix A. The BESI is a diagnostic test. It analyzes the processes by which the child attempts to read-it gives information on how the child reads rather than only indicating his reading level.

### Tests that Accompany Basal Reading Series

Other diagnostic tests include the Gates-McKillop, Durrell Analysis of Reading Difficulty, and the Spache Diagnostic Reading Scales. The Durrell is most effective for those reading at or above third-grade level.

Those who do diagnostic testing learn to derive more insights from a test battery as they become increasingly familiar with it. It is more practical to become thoroughly familiar with one diagnostic battery and to use it repeatedly than to attempt to master them all.<sup>1</sup>

### San Diego Quick Assessment

This device is a graded word list formed by selecting words from basal reader glossaries and from the Thorndike Word List. The graded word list has two uses: (1) to determine a reading level and (2) to detect errors in word analysis. The information can be used to group students for corrective purposes or to select appropriate reading materials for those students. To administer this device, the teacher should:

1. Type out each list of ten words on an index card in primary type.

2. Begin with the card that is at least two years below the student's grade level assignment.
3. Ask the student to read the words aloud; if he misreads any on the initial list, drop to easier lists until he makes no errors.
4. Encourage the student to attempt to read aloud the words he does not know so the techniques the child uses for word identification can be determined.
5. Have the student read from increasingly difficult lists until he misses at least three words.

The level at which a student misses no more than one out of ten words is his independent reading level. Two errors on a list indicate his instructional level. Three or more errors identify the level at which reading material will be too difficult for him.

These lists are available up to the eleventh grade, but for practical purposes, only the lists for the first six grades are presented here: <sup>2</sup>

<u>Preprimer</u>	<u>Primer</u>	<u>Grade 1</u>	<u>Grade 2</u>
see	you	road	our
play	come	live	please
me	not	thank	myself
at	with	when	town
run	jump	bigger	early
go	help	how	send
and	is	always	wide
look	work	night	believe
can	are	spring	quietly
here	this	today	carefully
<u>Grade 3</u>	<u>Grade 4</u>	<u>Grade 5</u>	<u>Grade 6</u>
city	decided	scanty	bridge
middle	served	certainly	commercial
moment	amazed	develop	abolish
frightened	silent	considered	trucker
exclaimed	wrecked	discussed	apparatus
several	improved	behaved	elementary
lonely	certainly	splendid	comment
drew	entered	acquainted	necessity
since	realized	escaped	gallery
straight	interrupted	grim	relatively

Wepman Auditory Discrimination Test - Form I (See Appendix B)

Sampling List of Dolch's 220 Words (See Appendix C)

Informal:

## Criteria for Various Reading Levels:

A complete, informal reading inventory is usually regarded as a clinical instrument used by reading specialists, although on occasion, a teacher may want to use it.

Initially a child is given a word recognition test beginning at the preprimer level. He is given tests until he misses 50 percent of the words on the flash presentation on two successive levels. Starting with the last level at which the child received 100 percent on the flash presentation in the word-recognition test, the child reads two selections (one oral and one silent) at each level and answers questions concerning each selection. When he fails below 90 percent in word recognition, below 50 percent in comprehension (average of oral and silent selection), or is qualitatively frustrated, the child stops reading. Then the examiner reads aloud one selection at each level until the child is unable to answer 50 percent of the questions asked about the material. Levels for word recognition in context and comprehension are computed for each level using the generally accepted criteria as shown by the following table.

Level	Word Recognition in Context	Compre- hension	Observable Behavior
Independent	99%	90%	No signs of frustration or tension
Instructional	95%	75%	No signs of frustration or tension
Frustration	below 90%	below 50%	Signs of frustration and/or tension
Hearing capacity		75%	

The independent level in the table is the reading at which a child can function on his own. Library books, independent reading, and research work can be carried out at this level. The instructional level is the highest level at which the child can profit from instruction. At this level, he can pronounce 95 percent of the running words and can recall about 75 percent of the information. Building on his previous knowledge, the child can profit from instruction in specific word analysis and comprehension skills at this level. The frustration level is the level at which the child has great difficulty in pronouncing words or does not understand the concepts or both. Hearing capacity is the reading level at which the child can understand materials that are read to him.<sup>3</sup>

## Learning to Give Oral Diagnostic Tests

Recording the child's performance as he reads orally requires speed in the use of a variety of symbols used to represent different kinds of errors. Beginners usually cannot record as fast as the child reads, and their records are usually both incomplete and only partially accurate. For the inexperienced tester it is therefore highly advisable that the child's oral reading be taken down on a tape recorder and scored later at leisure, when parts of the record can be played as many times as necessary to resolve questions. Even for an experienced examiner, use of a tape recorder may allow him to pay more attention to the observation of the child's behavior during reading without distracting the child, who may try to watch what the examiner is writing. It also allows the child to listen to his own performance and, by later comparing with a recording after remedial help, to note his own progress.<sup>4</sup>

Code for Recording and Interpreting Oral Miscues (See Appendix D)

### PLANNING:

Use results from the various tests listed under diagnosis in order to implement instruction. For a non-reader or a beginning reader the (BESI) is especially useful. If no tests are available, begin with the basic scope and sequence chart and supplement it with Hegge, Kirk, and Kirk, Remedial Reading Drills, listed in the next step of instruction. You may also refer to the first part of this paper for instructions in teaching beginning reading.

### IMPLEMENTATION:

For remedial reading instruction all the numerous skills aren't necessary. The list of remedial skills seems appropriate for the child with learning problems. Once these skills are mastered the child can then be taught any other skills necessary to attain his reading potential.

## WORD-ANALYSIS SKILLS FOR REMEDIAL READING<sup>5</sup>

(in Suggested Sequence for Teaching)

### 1. Sight Words

- (a) The 95 most common nouns  
(Dolch) Picture-Word Cards (See Appendix E)
- (b) The basic sight vocabulary of 220 words (Dolch) (See Appendix F)

### 2. Initial Consonants

s, d, m, t, k, p, f, c, r, b, l, n, g, w, j, k, v, y, z.  
(4 or 5 initial consonant sounds may be taught at a time, along with one vowel sound).

Letters similar in appearance and sound are not to be presented at the same time (b and d).

For the letters g and c, the hard sounds are introduced first (g as in good, c as in cup.) The soft sounds (g as in gem, c as in circle) are best delayed until later as they occur less frequently.

Letters q and x have not been listed because they do not have single sounds (q in words is always followed by u, sounding kw; x usually sounds like ks).

Best to teach these only when they meet them in reading.

The next step is to teach Auditory Discrimination.

When they have learned several consonants and one short vowel sound, they are shown how to blend them together into words.

Consonant combinations are taught in the same way as single consonants.

There is no need to dwell on teaching a large number of blends because many of them tend to fall into similar patterns such as tr, gr, br.

However, the consonant combinations which represent a single sound do have to be taught as entirely new sounds as sh, ch, wh, th (as in thimble), th (as in those), and ph.

If the child can grasp a visual image and has some knowledge of sounds, he can be taught at this time by the rudimentary phonic or (word-family method).

(See Appendix G)



### 3. Short Vowel Sounds:

a, i, o, u, e

Vowel sounds are taught in the same way as consonants, but they are much more difficult to distinguish and usually take longer to master.

Only the short and long sounds are taught at the outset (with disability cases).

The short sound of the vowel should be taught first because of one syllable words (tag, mat, etc.) are readily sounded out and written.

Short sounds of a and e are difficult to distinguish. Teach the short e after others are learned.

Y is taught as a vowel and as a consonant but its use as a vowel is given little emphasis.

Each word in the English language has at least one vowel in it.

Students are taught the Beginning, Medial and Endings. (See Appendix H)

### 4. Consonant Combinations:

sh, ch, wh, th, st, tr, gr, br, fr, dr, cl, pl, fl, sm, sw, sp. (See Appendix I).

### 5. Long Vowel Sounds: are taught in conjunction with the two vowel rules:

(a) the silent e: When e is added at the end of a one-syllable word, it usually is silent and makes the first vowel long (at, ate, bit, bite).

(b) The double vowel: When two vowels come together, the first is usually long and the second silent (paid, seat).  
(See Appendix J)

### 6. Syllabication: Two major rules:

(a) in case of two adjacent consonants, the syllables are divided between them.

(b) when two consonants are not found together, the word is divided after the first vowel. (See Appendix K)

## 7. Diphthongs:

The diphthongs may not be needed, in the reading disability, but should the student experience difficulty in vowel combinations. There is no need to teach rare combinations. The most common diphthongs are:

oo as in moon	ay as in say
oo as in good	y as in my
oi as in spoil	ow as in how
ow as in slow	au as in fault (See Appendix L)

## 8. Additional Word-Analysis Skills: (See Appendix M)

- (a) structural analysis
- (b) endings (common: s, ed, ing, er, est, y, ly).
- (c) compound words
- (d) root words, prefixes, and suffixes
  - (1) prefixes (most frequent)  
com, dis, ex, pre, re, sub
  - (2) suffixes (same criteria)  
tion, ment, ful, less
- (e) dictionary skills
- (f) context

Many of the games are adaptable for use in reinforcement of other skills with slight alterations. It is best to keep rules to games simple and not have too many games available at one time. The child can easily become confused with too many choices.

There are many books available that contain reading games.

Some of the best I've found are those listed in the bibliography.

#### EVALUATION:

Use precision teaching for daily evaluation. For example: If the child is trying to increase his sight word list someone can give him a one-minute timed test to see how many words he can read in that length of time. This should be done each day before any instruction in new sight words begins. The child, child and teacher, teacher, or another child can then record the number or words read correctly in one minute on the Daily Rate Record and the Six-Cycle Chart.

#### MODIFICATION OF DIAGNOSIS:

This is done on a daily basis or as often as the teacher can work with the child. This is based on the results of the goals set for the child and daily evaluation.

A couple of extra inserts useful to the teacher are: Reported and recommended mean time allotments for reading in elementary schools and Median rates of reading for different grades as determined by several standardized reading tests. (See Appendix N)

APPENDIX A

BASIC EDUCATIONAL SKILLS INVENTORY SCORING BOOKLET

READING - LEVEL A

SUMMARY OF SCORES

	Possible	Initial Score	Final Score	Gain $\pm$
1. Memory For Sentences	12			
2. Direction in Space	10			
3. Same or Different	10			
4. Naming the Alphabet From Memory	26			
5. Printing Capital Letters of the Alphabet From Memory	52			
6. Manuscript Printing Of Small Letters of Alphabet (Dictated)	26			
7. Naming Manuscript Printed Letters	26			
8. Matching Manuscript Letters Of The Alphabet	11			
9. Writing & Naming Capital Cursive Letters of the Alphabet	52			
10. Naming the Cursive Written Letters	112			

BASIC EDUCATIONAL SKILLS INVENTORY SCORING BOOKLET

READING - LEVEL B

SUMMARY OF SCORES

	Possible	Initial Score	Final Score	Gain $\pm$
1. Rhyming Sounds	10			
2. Initial Consonants and Vowel Sounds	23			
3. Final Consonant Sounds	10			
4. Initial Consonant Blends and Digraph Sounds	19			
5. Final Consonant Blends and Digraphs	7			
6. Auditory Blending of Words	8			
7. Initial Consonant Sounds	30			
8. Final Consonant Sounds	22			
9. Initial Consonant Blends and Digraph Sounds	46			
10. Initial Vowel Sounds	20			
11. Medial Vowel Sounds	20			
12. Sounds of Printed Letters	30			
13. Sounds of Printed Letter Blends and Digraphs	32			
14. Beginning and Ending Word Patterns	36			
15. Blending Printed Words	22			
16. Blending Phonetic Elements	22			
17. Double Vowels and Diphthongs	13			
18. Hard and Soft Sounds	6			
19. Prefixes	18			
20. Suffixes	16			
21. Prefixes - Suffixes	6			
22. Syllabication	11			

APPENDIX B

WEPMAN AUDITORY DISCRIMINATION TEST - FORM I

	X	Y		X	Y
1. tub      tug			21. cat      cap		
2. lack     lack			22. din      bin		
3. web      wed			23. lath     lash		
4. leg      led			24. bum      bomb		
5. chap     chap			25. clothe   clove		
6. gum      dumb			26. moon     noon		
7. bale     gale			27. shack    sack		
8. sought   fought			28. sheaf    sheath		
9. vow      thou			29. king      king		
10. shake    shape			30. badge    badge		
11. zest     zest			31. pork      cork		
12. wretch   wretch			32. fie       thigh		
13. thread   shred			33. shoal    shawl		
14. jam      jam			34. tail      tall		
15. bass     bath			35. par       par		
16. tin      pin			36. pat       pet		
17. pat      pack			37. muff      muss		
18. dim      din			38. pose      pose		
19. coast    toast			39. lease     leash		
20. thimble   symbol			40. pan       pin		
ERROR SCORE					

X = Different

Y = Same

Results invalid if X error greater than 15 or Y error greater than 3.

Age 5 failure if X errors over 6

Age 6 failure if X errors over 5

Age 7 failure if X errors over 4

Age 8 failure if X errors over 3

Order record forms from Joseph M. Wepman, 950 E. 59th Street, Chicago, Illinois. Fifty for \$5.00 with manual and directions.

APPENDIX C

SAMPLING LIST OF DOLCH'S 220 WORDS

Name \_\_\_\_\_ Date \_\_\_\_\_

Sight vocabulary level (approximate) \_\_\_\_\_

C = correct

X = did not know word

Write in Substitutions

- |                 |                 |                    |
|-----------------|-----------------|--------------------|
| 1. does _____   | 18. warm _____  | 35. carry _____    |
| 2. around _____ | 19. into _____  | 36. look _____     |
| 3. old _____    | 20. know _____  | 37. when _____     |
| 4. but _____    | 21. with _____  | 38. find _____     |
| 5. big _____    | 22. had _____   | 39. jump _____     |
| 6. yellow _____ | 23. again _____ | 40. use _____      |
| 7. good _____   | 24. may _____   | 41. hurt _____     |
| 8. said _____   | 25. well _____  | 42. play _____     |
| 9. like _____   | 26. seven _____ | 43. draw _____     |
| 10. under _____ | 27. by _____    | 44. those _____    |
| 11. bring _____ | 28. out _____   | 45. their _____    |
| 12. who _____   | 29. an _____    | 46. give _____     |
| 13. every _____ | 30. these _____ | 47. start _____    |
| 14. only _____  | 31. his _____   | 48. my _____       |
| 15. ate _____   | 32. been _____  | 49. together _____ |
| 16. ten _____   | 33. sing _____  | 50. ride _____     |
| 17. for _____   | 34. full _____  |                    |

Basis for establishing sight vocabulary level

Grade one ----- 25%

Middle of grade two ----- 50%

Middle of grade three ----- 100%

Number correct \_\_\_\_\_ Percent correct \_\_\_\_\_

## APPENDIX D

### RECORDING AND INTERPRETING ORAL MISCUES

The teacher will need some system for recording oral reading miscues during individual informal reading inventories. The following notational system is relatively easy to use and will be of value in recording miscues for interpretation.

ORAL MISCUE	NOTATION
1. Pronunciation	Underline the word and write a pronunciation above the word that shows the child's miscue as closely as possible. <div style="text-align: center;"> <p><u>pretend</u></p> <p><i>per ten</i></p> </div> <p>EX: <u>pretend</u></p>
2. Substitution	Draw a line through the word and write substitution above word. <div style="text-align: center;"> <p><del>sleep</del></p> <p><i>sleeping</i></p> </div> <p>Ex. Soon he was <del>sleep</del>.</p>
3. Insertion	Place a caret at the point of insertion and write the word or words above the line. <div style="text-align: center;"> <p>is.</p> <p>Miguel <sup>is.</sup> my son, let me look at you.</p> </div> <p>Ex: Miguel <sup>is.</sup> my son, let me look at you.</p>
4. Omission	Circle the word or punctuation omitted. <div style="text-align: center;"> <p>placed the box under the chair.</p> </div> <p>Ex: He <u>placed</u> the box <u>under</u> the chair.</p>
5. Correction of miscue	Circle the word and the recorded miscue. Place a C above the circle. <div style="text-align: center;"> <p><u>threw</u></p> </div> <p>Ex: He <u>kicked</u> the ball with his new hard toed shoe.</p>
6. Repetition	Underline the word or words repeated using a reverse arrow <div style="text-align: center;"> <p>← He is still breathing hard.</p> </div> <p>Ex: ← <u>He is still</u> breathing hard.</p>

## APPENDIX D

## ORAL MISCUE

## NOTATION

7. Word-by-word reading      Place a diagonal mark between the words.  
 Ex: She/~~threw~~/the purse into/~~the~~ open/window.
8. Hesitations of more than two seconds      Place a check where the hesitation occurs.  
 Ex: He<sup>✓</sup> scrambled over the fence.
9. Word supplied by teacher after five-second pause      Ex: She <sup>↑</sup> jumped into the cold water.

For diagnostic purposes there is some value in not providing pronunciations for the child in order to note the decoding and interpretation strategies he may use. For example, context clues may enable him to identify a word he initially mispronounced or for which he used a substitution. But when the child becomes discouraged and is unable to pronounce several words in close proximity the teacher may elect to provide the pronunciation.

The following passage illustrates the use of the miscue notational system. (The original passage was presented in primer-sized type for easy reading.)

Bill and Jimmy <sup>was</sup> ~~were~~ <sup>they</sup> ~~their~~ way to the store.

Jimmy said, "That dog (is) looking out the window."

"Yes," said Bill. "He is the <sup>more worse</sup> ~~worst~~ one in town. I am glad

he (is) <sup>the house</sup> inside <sup>today</sup>."

The boys went to the (new) <sup>C</sup> ~~IN~~ door.

Swoosh!

The door <sup>open</sup> ~~opened~~ all by itself!

"Wow," said Jimmy. "Look at that! A magic <sup>dow</sup> ~~door~~!"

"You (are) silly!" said Bill.



## APPENDIX D

"The new doors work by <sup>electric</sup> electricity."

"What's <sup>electric</sup> electricity?" asked Jimmy.

"I'll tell you later," said Bill.

"Come on, let's get the bread."

The boys' mother needed bread for <sup>sandwiches</sup> sandwiches.

Bill looked for a long time. The bread had been moved to a new place in the store.

Then he spotted it.

But where <sup>were</sup> ~~was~~ Jimmy?

The miscue notations suggest that this child has a severe reading problem, as revealed by pronunciation, substitution, insertion, and omission miscues. But if you look closer you will see that the miscues are mostly dialect related; that is, they are highly consistent with the child's dialect, which may indicate that the content was meaningful to him. The two repetitions and hesitations indicate minor difficulty in decoding the words ELECTRICITY and SANDWICHES, but the miscue responses for these words closely approximate the text. The insertion of the words THE HOUSE in the sequence INSIDE THE HOUSE TODAY offers evidence of the child's inference about the location of the dog. The child used context clues effectively to correct the miscue substitution of NEW for IN in THE IN DOOR. On the basis of these responses the child's oral reading performance appears to be of good quality. It should be clear from this example that the teacher's understanding of variant dialects is vital to understanding oral reading miscues.<sup>5</sup>


APPENDIX E


THE COMMONEST NOUNS

squirrel	children	fire	monkey	men	kitten
store	puppy	pig	school	chicken	flower
tail	bear	snow	back	floor	feet
milk	hill	nest	girl	stick	book
party	cap	garden	toys	tree	mother
watch	cat	shoe	dog	rain	boy
head	horse	house	window	bird	bell
letter	money	ring	nose	wood	sun
table	farmer	corn	chair	boat	hen
bus	duck	apple	door	leg	man
car	grass	paper	farm	box	bed
sheep	picture	eggs	street	bread	cow
birthday	pony	coat	airplane	basket	eye
cake	baby	water	elephant	road	doll
hand	wagon	train	barn	rabbit	ball
father	fish	grandmother		grandfather	top
room	flower	seed	tree	people	dress
yard	brother	hand	corn	meat	mouse

## Appendix E

Suggested Remedial Activities for Sight Words:

Front	Back
 House	House

Front	Back
 Run	Rat Rub Run

Picture cards and tracing. On one side of the card a picture is placed with word underneath it; on the other side the word is printed. The teacher presents the card with the word and picture side up and pronounces the word. Then the child pronounces and traces the word until he can recognize the word without seeing the picture. The words can be reviewed from time to time and used as an independent drill. Most useful with nouns. See examples.

Labeling. Attach labels to the door, closet, window, pictures, bulletin board and other things in the room so that the child will begin to associate the written symbol with the object.<sup>6</sup>

Word Football<sup>7</sup>

**Purpose:** To provide practice on the recognition of basic sight words and/or other sight words

**Materials:** A large sheet of drawing paper  
A small replica of a football  
Word cards

**Procedure:**

The teacher should draw a football field on a large piece of paper. The game begins at the fifty yard line where the football is placed. The word cards are then placed face up on the table, and two children, or two teams, take turns reading them. If a child reads a word correctly he moves the ball ten yards toward the opponent's goal. If he reads the word incorrectly it is considered a fumble and the ball goes ten yards toward his own goal. Each time the ball crosses into the end zone six points are scored. The scoring side then gets to read one more word to try for the extra point.

## APPENDIX F

## Alphabetical Dolch Words

A	E	J	P	to
a	eat	jump	pick	today
about	eight	just	play	together
after	every		please	too
again		K	pretty	try
all	F	keep	pull	two
always	fall	kind	put	under
am	far	know		up
an	fast		R	upon
and	find	L	ran	us
any	first	laugh	read	use
are	five	let	red	
around	fly	light	ride	VWY
as	for	like	right	very
ask	found	little	round	walk
at	four	live	run	want
ate	from	long		warm
away	full	look	S	was
	funny		said	wash
B		M	saw	we
be	G	made	say	well
because	gave	make	see	went
been	get	many	seven	were
before	give	may	shall	what
best	go	me	she	when
better	goes	much	show	where
big	going	must	sing	which
black	good	my	sit	white
blue	got	myself	six	who
both	green		sleep	why
bring	grow	N	small	will
brown		never	so	wish
but	H	new	some	with
buy	had	no	soon	work
by	has	not	start	would
	have	now	stop	write
C	he			yellow
call	help	O	TU	yes
came	her	of	take	you
can	here	off	tell	your
carry	him	old	ten	
clean	his	on	thank	
cold	hold	once	that	
come	hot	one	the	
could	how	only	their	
cut	hurt	open	them	
		or	then	
D	I	our	there	
did	I	out	these	
do	if	over	they	
does	in	own	think	
done	into		this	
don't	is		those	
down	it		three	
draw	its			
drink				

## APPENDIX G

### Consonant Sounds:

1. Write a particular letter on a card, give its sound, have child trace it and repeat the sound. Have the child keep his stack of cards for reviewing and daily evaluation.

2. Choose a partner. Keep a score sheet which gives one point for each correct answer. You say a word. If your partner can write the beginning letter or letters, he gets a point. Then you take a turn and he will give you a word. You may need a third person to judge. (Source Unknown)

3. Tell the child that you are going to read a list of words. Most of them will begin alike (e.g., boat). Every time they hear a word that does not begin like boat, they should clap their hands.
4. Tell the child to shut his eyes. Pairs of words are read and he must tell if they sound exactly alike or are different.<sup>8</sup>
5. Use real objects or pictures of objects. Say the name of the object and ask the child to tell which pictures or objects begin with the same sound. For example, the initial consonant "m" may be presented with "milk, money, missile, moon, man, monkey."
6. Say three words, two of which have the same initial consonant. Ask the child to identify the word that begins with a different sound. For example: car - dog - cat.
7. Make bingo cards with consonant blends and consonant digraphs in the squares. Read words and ask the child to cover the blend that begins each word.<sup>9</sup>
8. Names Start With Sounds: On a mimeographed sheet or on the board, write the first name of each child in the class.  
Directions to Group: Look at all these names. Soon we all will be able to read each one. Today find all the names that begin with mmmmmmm. Yes, Mary and Mark.<sup>10</sup> Who can find names that start with ttttt?

APPENDIX H

Short Vowel Sounds:

1. Seeing and Sounding Drill.<sup>11</sup> After all short vowel letter-sounds have been introduced, exercise material can help children "fix" the visual-auditory relationship involved in the "single vowel in medial position" generalization. To use the following material children should be told that the words in each line are exactly the same except for the vowel letter-sound.
  1. "Listen for the difference (vowel sound) in each word."
  2. "If the word is in italics, it is a nonsense word or a word you probably haven't met - but you can pronounce it."
  3. "Read across each line of words."

a	e	i	o	u
bag	beg	big	bog	bug
lad	led	lid	<u>lod</u>	<u>lud</u>
pat	pet	pit	pot	put
<u>dask</u>	desk	disk	<u>dosk</u>	dusk
jag	<u>jeg</u>	jig	jog	jug
ham	hem	him	<u>hom</u>	hum
fan	<u>fen</u>	fin	<u>fon</u>	fun
nat	net	nit	not	nut
lack	<u>leck</u>	lick	lock	luck
sap	<u>sep</u>	sip	sop	sup

2. Have the child associate each finger with a word containing a short vowel sound. The words at, ed, it, on, and up are usually used. Usually the child can think of a person he knows by the name of Ed for the ed sound.
3. Write the words on the child's finger if necessary.
4. Trace child's hand and write the words on the fingertips if necessary.
5. Each day have the child say the short vowel words to you.

I used this technique in my practicum with the suggestion of my advisor, Corinne Kelly, and it seemed to be very effective.

## APPENDIX I

### CONSONANT COMBINATIONS:

1. Hegge, Kirk, and Kirk, Remedial Reading Drills.<sup>12</sup>

2. Initial consonants. Have the child tell which word begins like milk. Say three words like "astronaut, mountain, bicycle." Ask the child to think of words that begin like Tom. Find pictures of words that begin like Tom, or find pictures of words in magazines that begin with the letter T. Find the word that is different at the beginning: "paper, pear, table, past."
3. Consonant blends, digraphs, endings, vowels. Similar activities can be devised to help the child learn to auditorily perceive and discriminate other phonic elements.<sup>13</sup>
4. "Change a Blend"  
Use word endings that will make different words when different blends are added.

Directions: In each blank space write the blend shown on the left. Then pronounce each word.

(br) _____ own	(sp) _____ ill	(sk) _____ ate
(cr) _____ own	(st) _____ ill	(pl) _____ ate
(dr) _____ own	(sk) _____ ill	(st) _____ ate
(fr) _____ own	(dr) _____ ill	(cr) _____ ate
(gr) _____ own	(gr) _____ ill	(sl) _____ ate

5. "Find the Blends"

- a. Prepare sentences that contain a number of initial blend words.
- b. Children read sentences and underline each initial blend.
  1. A small snake swam in the stream.
  2. Jane bought a story book at the store.
  3. Please, may I play when I clean off my plate?
  4. Smart boys drink fresh milk from the farm.
  5. Smitty traded his drum for a book full of stamps.
  6. Grace and Cleo wore pretty blue dresses to school.<sup>14</sup>

## APPENDIX J

### Long Vowel Sounds

1. Choose a partner. Keep a score sheet which gives one point for each correct answer. You say a word. If your partner can write the correct long vowel, he gets a point. Then you take a turn and he will give you a word. You may need a third person to judge. Source: Unknown
2. Put the vowel letters on cards (3" x 3"). Use the breve (^) or the macron (-) to indicate the short and long sounds. Divide these cards into groups of ten each. Lay out separate groups of letters so that the pupil can see ten at once. As you call the sounds of the vowel letters, or as they are played from a tape recording, have the pupil pick up the correct card to match the sound of the letter.
3. Use the same system as in (D) above. Instead of having the children match letters they hear, have them write the letter matching the letter sound they hear in the words.<sup>15</sup>
4. Lay a card with one of the vowel letters written on it, in front of a child. Ask the child to read the letter. When the child reads the letter say, "How did you know that long vowel sound?"
5. Studies revealed the percentage of instances in which the two-vowel rule applies:
 

ee	oa	ai	ea	all two-vowel
				situations combined
98%	97%	64%	66%	48%

In the illustrations that follow, teaching does not start with a statement of generalizations but with material that emphasizes the visual patterns (oa-ee-ai-ea). The patterns are linked to the sound heard in words and permit the children to discover the relationship and to make the generalization.

1. Place a column of oa words on the board.

oa
boat
coat
load
road
soak



## APPENDIX J

2. Pronounce each word, emphasizing the long  $\bar{o}$  sound.
3. Have children note the visual pattern of the two vowels.
4. Point out that in each word, "you hear the long sound of the first vowel and the second vowel is not sounded" (this may be illustrated as in the second column below).

boat	$\bar{b}o\cancel{a}t$
coat	$\bar{c}o\cancel{a}t$
load	$\bar{l}o\cancel{a}d$
road	$\bar{r}o\cancel{a}d$
soak	$\bar{s}o\cancel{a}k$

A similar procedure can be followed in introducing the patterns ai, ea, and ee.<sup>16</sup>

6. Two Vowels One of Which Is Final e. The generalization for this CVCV pattern is: In two-vowel words ending with e, the final e is not sounded and the first vowel USUALLY represents its long sound. Material can be presented so that children see the pattern, hear the long vowel sound, and arrive at the generalization.
  1. Place a column of words on the board where each word has a single vowel in medial position. (Choose words to which a final e may be added to form a new word.)
  2. In an adjacent column print these "final e" words.
  3. Have children pronounce these pairs of words, listening to the difference in the vowel sounds.
 Stress the visual pattern (vowel + e) and guide children in verbalizing the generalization--the final e is not sounded and the first vowel usually has its long sound. If desired, diacritical marks may be used as illustrated in Column C.<sup>16</sup>

<u>A</u>	<u>B</u>	<u>C</u>
hat	hate	$\bar{h}a\cancel{t}e$
hid	hide	$\bar{h}i\cancel{d}e$
past	paste	$\bar{p}a\cancel{s}t\bar{e}$
pal	pale	$\bar{p}a\cancel{l}e$
cut	cute	$\bar{c}u\cancel{t}e$
plan	plane	$\bar{p}l\bar{a}\cancel{n}e$
rat	rate	$\bar{r}a\cancel{t}e$
pin	pine	$\bar{p}i\cancel{n}e$
strip	stripe	$\bar{s}t\bar{r}i\cancel{p}e$
ride	ride	$\bar{r}i\cancel{d}e$

## APPENDIX K

### SYLLABICATION:

1. **Hearing syllables.** Have the child listen to the pronunciation of multi-syllabic words and determine the number of syllables in each word. Clapping or identifying the vowel sounds heard helps the children determine the number of syllables.<sup>17</sup>
2. In order to teach the child to count syllables in a word, have him place his hand under his chin and count the number of times his chin touches his hand.
3. Count words in sentences.
4. Use the overhead projector with sheets of words that follow certain syllabication principles. Use color to code the vowels and consonants.
5. Learning package entitles "You're a Block/head Char/lie Brown! You Can't di/vide words in/to sy/la/bles!" could be prepared for any skill.
6. **Syllabication:** When there is a single consonant between two vowels, the vowel goes with the first syllable (pu/pil). Write a radio commercial. Use three words following this rule. Turn your work in. Ask your teacher if you can tape record the commercial.
7. **Supersonic Syllabication:** -to help in skill in locating words quickly in dictionary and in dividing words into syllables.  
  
Directions - Copy these words. Use your dictionary to find them. Then divide them into syllables. Each word correctly divided scores one point. The team with most points wins.  
  

1. telephone	4. caterpillars
2. woodpecker	5. yellow
3. comfortable	6. peculiar

## APPENDIX L

### Diphthongs:

1. Hegge, Kirk, and Kirk, Remedial Reading Drills.<sup>18</sup>
2. The oo Sounds--The beginning reader may not consciously note that the sounds are different because he never substitutes one for the other. Practice in hearing differences can be provided by having the child tell which of the following pairs of words rhyme.

cool-pool	food-good	soon-moon
boot-foot	book-look	look-hook
hoot-foot	wood-good	boot-hoot

3. Teaching Diphthong Sounds--
  1. Place several words on the board, all of which illustrate the diphthong sound oy Column A.
  2. Under B change the spelling to oi, and under C add a final consonant to form a known word.

A	B	C
boy	boi	boil
toy	toi	toil
joy	joi	join
coy	coi	coin

3.
  3. Pronounce across each line emphasizing that the oy-oi spellings represent the same sounds.
  4. Point out that each vowel letter contributes to the sound heard.
  5. Have children note that these vowel patterns do not follow the "Two-vowel rule"; i.e., the first vowel long, the second not sounded.<sup>19</sup>
4. Phonics Posters--Purpose: To develop an awareness of related sounds  
Materials: Tag board, old magazines, old textbooks, etc.  
Procedure: At the top of a piece of tag board place a letter or combination of letters. Have the children find pictures of objects that start with the sound or sounds displayed in the heading. These object pictures should be cut out and mounted on the tag board to provide practice for the individuals who need special help.<sup>20</sup>

## APPENDIX M

### Additional Word-Analysis:

(a) Structural analysis

1. Go Fish

Purpose: To provide practice in structural analysis

Materials: A deck of cards, approximately the same size as regular playing cards. Each card should have a particular form of a verb printed on it: e.g., jump, jumps, jumped, jumping. There should be four cards in each book and as many books as desired. A book consists of the four forms of a verb.

Procedure: Each player is dealt four cards. The remainder of the pack is placed face down in the center of the table. Each player in turn asks another player for a card to complete his book. If he receives the card, he may ask again. He may continue to ask as long as he receives the card he is asking for. If the person does not have the asked for card he tells the player to "Go Fish" and the player must draw from the pile in the center. The winner is the player with the most books when all books have been assembled.<sup>21</sup>

(b) Endings (common: s, ed, ing, er, est, y, ly)

1. Place three columns of words on cards (or the chalkboard), ask the child to pick out the one that has a different ending from the other two.<sup>22</sup>

(c) Compound words

1. Give the child a list of compound words and have him separate them.
2. Give the child two lists of words and have him draw lines from the right column to the left to make compound words.<sup>23</sup>

(d) Root words, Prefixes, and Suffixes (most frequent)

1. Present a list of words with variant endings and have the child circle the root word.<sup>24</sup>
2. Write sentences on the chalkboard. Below each one write the same sentence but leave space for a prefix on one word. Ask the child what prefix can be added to make the sentence mean the opposite.

Example: Jim locked the door.

Jim \_\_\_locked the door.<sup>25</sup>

## APPENDIX M

Additional Word-Analysis:

3. Write a sentence on the chalkboard with a derived form of a word in it. Have the child find the root word and then explain how it alters the meaning of the whole word or what the meaning of the suffix is.
  - a. Start with words that do not change their spelling when a suffix is added.
  - b. Introduce spelling variations one at a time and provide practice before moving to another one.<sup>26</sup>
4. Dig Up The Root  
Purpose: To develop recognition of word roots and attached affixes.

Materials: Pocket chart and word cards

Procedure: Divide the pocket chart into two columns. On the left-hand side list a number of root words. In an adjacent column randomly list words composed of the root words plus an affix. Have the children match the root word in column one with its corresponding affix in column two. For example:

1. finish	undecided-
2. reach	finishing-
3. determine	replace-
4. decided	nationality-
5. place	reached-
6. nation	predetermine- <sup>27</sup>

5. Work Families  
Preparation and materials: Often remedial students have difficulty both seeing and hearing the differences in words of the same family. (kind, kinds, kindly, kinder, kindest, kindness)  
Prepare flash cards or a board lesson in the following manner. Color each suffix a different color. The children need colored crayons and a paper.

Directions to Group:

1. Point to the first word. Repeat it after me; KIND; KIND. I want to hear ALL of the word. Let me hear the D sound on the end; kinD. Say it with me; kinD. Good.
2. Shut your eyes and say KIND; KIND. Say it again; keep your eyes shut; KIND.

## APPENDIX M

## Additional Word-Analysis Skills:

3. Do not say the word out loud, but keep your EYES SHUT and pretend to say the word. Think about how your lips and tongue are moving as you pantomime the word silently. I will say it out loud. Now, eyes shut and voice silent; pantomime the word; KIND; KIND; KIND. Good! Now you know how the word sounds and how it feels to say it.
4. After we have said all the words in this group this way, I want you to copy the words in the SAME COLORS as you see them. Say the words to yourself as you copy them. Use crayons.
5. After you have copied the words you may use any of them you like in sentences or phrases. We will read these together later.<sup>28</sup>

## (e) Dictionary skills

1. Make sure the child knows the sequence of the alphabet.
2. Give the child practice in determining which letter comes before and after a specified letter.
3. Practice alphabetizing by first letter, then second letter, etc.<sup>29</sup>
4. Today's Words:
 

Purpose: To provide practice in the use of the dictionary and to increase vocabulary.

Materials: A dictionary for each child

Procedure: Each morning place three or four new words on the chalkboard. Use words that the children have not previously studied. Later in the day ask questions of the class which use the new words. For example, "Karen, does pollution affect our city?"<sup>30</sup>
5. Telephone Directory
 

Have all the children make up a room telephone directory. They must make a list in alphabetical order of the children in the room. Every name must be spelled correctly and have the correct telephone numbers.

It would be best to get written permission to have a child's telephone number included in the class directory.<sup>31</sup>

## APPENDIX M

## Additional Word-Analysis Skills:

## (f) Context

1. Write a sentence on the chalkboard with only one word that the child does not know the meaning of but can infer through the context. Ask the child to read the sentence silently. When he has read it, ask him if he knows what the last word is. If he is having difficulty, structure further questions until he can infer the right word.

Example: We ride to school on a \_\_\_\_\_(bus). At night I go to \_\_\_\_\_(bed).<sup>32</sup>

2. Make a series of sentences using words which are spelled alike but may have different pronunciations or meanings: read, lead. Have the pupil read sentences using these in proper context, for example:

He read the book.

He will read the story.

It was made out of lead.

He had the lead in the play.

3. Give a series of sentences in which only part of a word missing from context is spelled. See the following examples:

The \_\_\_ f \_ ce of the water was smooth.

All of the boy\_ \_ \_ \_ ts were cold when they arrived home.<sup>33</sup>

APPENDIX N

TABLE 4. Reported and recommended mean time allotments for reading in elementary schools

Minutes per day

Grade	Basal reading		Other reading	
	Reported	Recommended	Reported	Recommended
1	90	85	45	55
2	85	80	50	60
3	75	65	60	65
4	55	60	70	80
5	50	60	75	85
6	50	55	75	90
7	40	40	75	100
8	40	40	75	100

TABLE 12. Median rates of reading for different grades as determined by several standardized reading tests<sup>34</sup>

	Grade									
	II	III	IV	V	VI	VII	VIII	IX	XI	XII
Highest test	118	138	170	195	230	246	267	260	295	
Median test	86	116	155	177	206	215	237	252	251	
Lowest test	35	75	120	145	171	176	188	199	216	

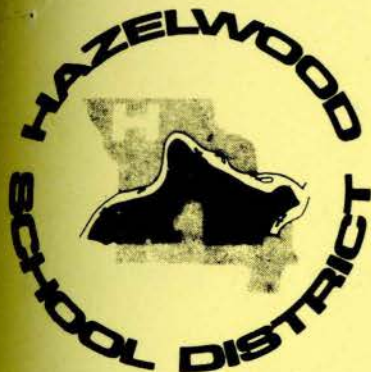
1976 Revisior  
by

Nancy Boyle  
Janet Maschoff  
Kathleen Menke  
Virginia Pace  
Clyde Rodary  
Arlene Saffel  
Diana Stite  
Kathy White

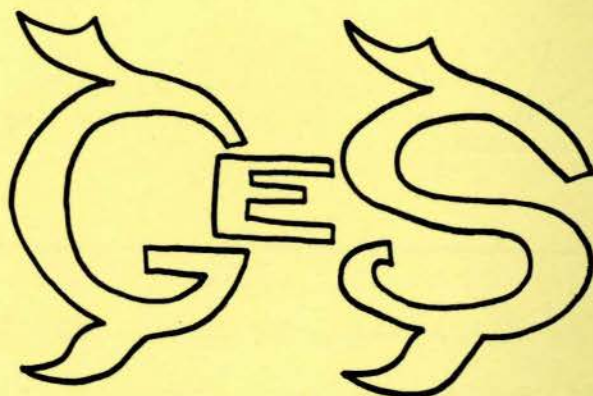


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STUDENT



GRANNEMANN ELEMENTARY SCHOOL  
ANTHONY F. LOFARO, PRINCIPAL  
2324 REDMAN ROAD  
ST. LOUIS, MISSOURI 63136



READING SKILLS CONTINUUM

1976 Revision  
by

Nancy Boyle  
Janet Maschoff  
Elaine Menke  
Virginia Pace  
Oleene Rodery  
Arlene Safron  
Diana Stitz  
Karen White

HAZELWOOD SCHOOL DISTRICT  
 GRANNEMANN ELEMENTARY SCHOOL  
 2324 REDMAN ROAD  
 ST. LOUIS, MISSOURI 63136  
 READING SKILLS CONTINUUM

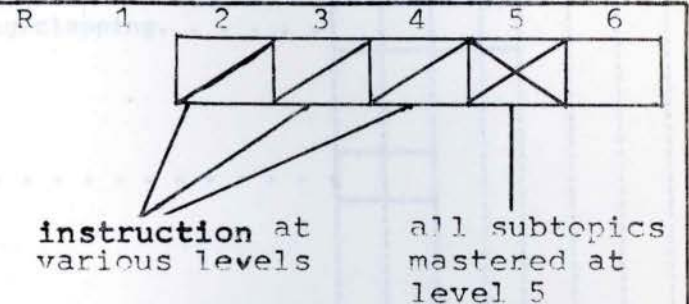
Instructions for recording progress:



1. Record in pencil only.
2. R-1-2-3-4-5-6 at top of page indicates instructional level in reading.
3. Mastery of skill is at least 80% accuracy.
4. When sub-topic is mastered, record current instructional level (R-6) on line to left of skill.

Example:

13. Can recognize "o vowel" teams

<u>2</u> ou	<u>4</u> oi	} subtopic mastered at various level
<u>3</u> ow	<u>4</u> oy	
<u>3=oi</u>	<u>5</u> oo	



5. The first box indicates level at which skill is introduced.
6. The additional boxes indicate levels at which skills are reinforced.
7.  Slash indicates skill has been introduced or additional teaching at that level (without mastery)
8.  X indicates at least 80% mastery (of all subtopics) at instructional level.
9. Always record progress in box of instructional level at which skill is introduced or mastered.

I. Perception

A. Auditory

1. Sounds

- a. Can identify environmental sounds. . . . .
- b. Can identify differences in words
  - 1) Beginning consonant sounds. . . . .
  - 2) Ending consonant sounds. . . . .
  - 3) Medial consonant sounds. . . . .
- c. Can identify rhyming words. . . . .
- d. Can discriminate volume, pitch and rate in sounds. . . . .

2. Memory

- a. Can reproduce pronounced 2 and 3 syllable words. . . . .
- b. Can listen and follow 2 and 3 step directions. . . . .
- c. Can reproduce sound patterns by tapping/clapping. . . . .

B. Visual

1. Color

- a. Can identify 8 basic colors. . . . .
  - \_\_\_yellow \_\_\_purple \_\_\_orange
  - \_\_\_green \_\_\_blue \_\_\_brown
  - \_\_\_red \_\_\_black
- b. Can match color words to colors. . . . .

2. Sizes

- Can distinguish the following. . . . .
  - \_\_\_large, small \_\_\_near, far
  - \_\_\_little, big \_\_\_fat, thin
  - \_\_\_long, short \_\_\_short, tall

3. Shapes

- a. Can identify. . . . .
  - \_\_\_square \_\_\_rectangle \_\_\_circle
  - \_\_\_cross \_\_\_triangle \_\_\_oval
  - \_\_\_heart \_\_\_diamond \_\_\_star
  - \_\_\_crescent or moon
- b. Can copy. . . . .
  - \_\_\_square \_\_\_rectangle \_\_\_circle
  - \_\_\_triangle \_\_\_cross

4. Differences

- Can identify differences in. . . . .
  - \_\_\_pictures \_\_\_objects \_\_\_words
  - \_\_\_letters

	R	1	2	3	4	5	6
a. Can identify environmental sounds. . . . .							
b. Can identify differences in words							
1) Beginning consonant sounds. . . . .							
2) Ending consonant sounds. . . . .							
3) Medial consonant sounds. . . . .							
c. Can identify rhyming words. . . . .							
d. Can discriminate volume, pitch and rate in sounds. . . . .							
a. Can reproduce pronounced 2 and 3 syllable words. . . . .							
b. Can listen and follow 2 and 3 step directions. . . . .							
c. Can reproduce sound patterns by tapping/clapping. . . . .							
a. Can identify 8 basic colors. . . . .							
b. Can match color words to colors. . . . .							
Can distinguish the following. . . . .							
a. Can identify. . . . .							
b. Can copy. . . . .							
Can identify differences in. . . . .							



R 1 2 3 4 5 6

\_\_\_ may  
 \_\_\_ me  
 \_\_\_ mitten  
 \_\_\_ mother  
 \_\_\_ morning  
 \_\_\_ my  
 \_\_\_ near  
 \_\_\_ no  
 \_\_\_ not  
 \_\_\_ oh  
 \_\_\_ on  
 \_\_\_ one  
 \_\_\_ party  
 \_\_\_ pie  
 \_\_\_ play  
 \_\_\_ pretty  
 \_\_\_ puppy

\_\_\_ ran  
 \_\_\_ red  
 \_\_\_ ride  
 \_\_\_ run  
 \_\_\_ said  
 \_\_\_ see  
 \_\_\_ she  
 \_\_\_ show  
 \_\_\_ sleep  
 \_\_\_ something  
 \_\_\_ splash  
 \_\_\_ stop  
 \_\_\_ surprise  
 \_\_\_ table  
 \_\_\_ thank  
 \_\_\_ that

\_\_\_ the  
 \_\_\_ tree  
 \_\_\_ to  
 \_\_\_ toy  
 \_\_\_ two  
 \_\_\_ up  
 \_\_\_ want  
 \_\_\_ we  
 \_\_\_ what  
 \_\_\_ where  
 \_\_\_ will  
 \_\_\_ with  
 \_\_\_ work  
 \_\_\_ yellow  
 \_\_\_ you  
 \_\_\_ your

Additional words. . . . .

\_\_\_ about  
 \_\_\_ again  
 \_\_\_ all  
 \_\_\_ am  
 \_\_\_ as  
 \_\_\_ back  
 \_\_\_ black  
 \_\_\_ boy  
 \_\_\_ but  
 \_\_\_ came  
 \_\_\_ come  
 \_\_\_ fun  
 \_\_\_ had  
 \_\_\_ happy  
 \_\_\_ him

\_\_\_ his  
 \_\_\_ how  
 \_\_\_ just  
 \_\_\_ know  
 \_\_\_ laugh  
 \_\_\_ lot  
 \_\_\_ long  
 \_\_\_ night  
 \_\_\_ new  
 \_\_\_ now  
 \_\_\_ of  
 \_\_\_ put  
 \_\_\_ rabbit  
 \_\_\_ sat  
 \_\_\_ saw

\_\_\_ so  
 \_\_\_ some  
 \_\_\_ soon  
 \_\_\_ they  
 \_\_\_ this  
 \_\_\_ too  
 \_\_\_ us  
 \_\_\_ walk  
 \_\_\_ was  
 \_\_\_ water  
 \_\_\_ way  
 \_\_\_ went  
 \_\_\_ when  
 \_\_\_ were

2. Has mastery Dolch Words for Level Two. . . . .

\_\_\_ after  
 \_\_\_ always  
 \_\_\_ around  
 \_\_\_ ask  
 \_\_\_ ate  
 \_\_\_ because  
 \_\_\_ been  
 \_\_\_ before  
 \_\_\_ best  
 \_\_\_ brown  
 \_\_\_ buy  
 \_\_\_ by  
 \_\_\_ cold  
 \_\_\_ cut  
 \_\_\_ does  
 \_\_\_ eat  
 \_\_\_ fall  
 \_\_\_ find  
 \_\_\_ first  
 \_\_\_ five  
 \_\_\_ fly  
 \_\_\_ found  
 \_\_\_ four  
 \_\_\_ full  
 \_\_\_ gave

\_\_\_ get  
 \_\_\_ goes  
 \_\_\_ going  
 \_\_\_ grow  
 \_\_\_ hold  
 \_\_\_ hot  
 \_\_\_ if  
 \_\_\_ into  
 \_\_\_ its  
 \_\_\_ keep  
 \_\_\_ kind  
 \_\_\_ let  
 \_\_\_ live  
 \_\_\_ made  
 \_\_\_ many  
 \_\_\_ much  
 \_\_\_ must  
 \_\_\_ off  
 \_\_\_ old  
 \_\_\_ once  
 \_\_\_ only  
 \_\_\_ open  
 \_\_\_ or  
 \_\_\_ our  
 \_\_\_ out

\_\_\_ please  
 \_\_\_ pull  
 \_\_\_ read  
 \_\_\_ round  
 \_\_\_ say  
 \_\_\_ sing  
 \_\_\_ six  
 \_\_\_ small  
 \_\_\_ step  
 \_\_\_ take  
 \_\_\_ tell  
 \_\_\_ ten  
 \_\_\_ three  
 \_\_\_ today  
 \_\_\_ try  
 \_\_\_ under  
 \_\_\_ upon  
 \_\_\_ us  
 \_\_\_ well  
 \_\_\_ white  
 \_\_\_ who  
 \_\_\_ why  
 \_\_\_ wish  
 \_\_\_ yes  
 \_\_\_ your

3. Has mastery of Dolch Words for Level Three. . . . .

\_\_\_ any  
 \_\_\_ better  
 \_\_\_ both  
 \_\_\_ bring  
 \_\_\_ carry  
 \_\_\_ clean  
 \_\_\_ could  
 \_\_\_ done  
 \_\_\_ don't  
 \_\_\_ draw  
 \_\_\_ drink

\_\_\_ eight  
 \_\_\_ every  
 \_\_\_ hurt  
 \_\_\_ know  
 \_\_\_ light  
 \_\_\_ myself  
 \_\_\_ never  
 \_\_\_ own  
 \_\_\_ pick  
 \_\_\_ right  
 \_\_\_ seven

\_\_\_ shall  
 \_\_\_ show  
 \_\_\_ their  
 \_\_\_ them  
 \_\_\_ then  
 \_\_\_ there  
 \_\_\_ these  
 \_\_\_ think  
 \_\_\_ those  
 \_\_\_ together  
 \_\_\_ use

--	--	--	--

--	--	--

--	--

- |                  |                  |                   |
|------------------|------------------|-------------------|
| <u>    </u> very | <u>    </u> went | <u>    </u> where |
| <u>    </u> want | <u>    </u> what | <u>    </u> which |
| <u>    </u> warm | <u>    </u> when | <u>    </u> write |
| <u>    </u> wash |                  |                   |

4. Knows vocabulary of current reading material. . . . .
5. Can identify new words by picture clues. . . . .
6. Can write the letters of the alphabet. . . . .  
 upper case:      in order      at random  
 lower case:      in order      at random
7. Can match pictures to words. . . . .
8. Can match pictures to sentences. . . . .
9. Can recognize configuration of words. . . . .


B. Word Meaning

1. Can give multiple meanings of words. . . . .
2. Can give similar meanings to various words (jolly-happy). . . . .
3. Can give opposite meanings of various words (up-down). . . . .
4. Can give simple words pronounced the same but spelled differently (rode-road). . . . .
5. Can select correct word meanings from context. . . . .
6. Can define and give examples of. . . . .  
     a. Homonyms  
     b. Synonyms  
     c. Antonyms  
     d. Homographs
7. Understands colloquial speech. . . . .
8. Knows the denotative and connotative use of words. . . . .
9. Can select the meaning of an unfamiliar word using as a clue to meaning a synonym or antonym which is used in apposition to the word in a passage. . . . .
10. Shows understanding of imagery of sound by matching appropriate sounds with actions, people, animals, and objects. . . . .
11. Recognizes that many English words are derived from foreign roots. . . . .



III. Word Attack Skills

A. Phonic Analysis

1. Single consonant sound in initial position
  - a. Can match pictures to sounds. . . . .

- |               |               |               |               |               |               |
|---------------|---------------|---------------|---------------|---------------|---------------|
| <u>    </u> b | <u>    </u> g | <u>    </u> l | <u>    </u> q | <u>    </u> u | <u>    </u> y |
| <u>    </u> c | <u>    </u> h | <u>    </u> m | <u>    </u> r | <u>    </u> v | <u>    </u> z |
| <u>    </u> d | <u>    </u> j | <u>    </u> n | <u>    </u> s | <u>    </u> w |               |
| <u>    </u> f | <u>    </u> k | <u>    </u> p | <u>    </u> t | <u>    </u> x |               |

--

2. Single consonant sound in final position

a. Can match pictures to sounds. . . . .

\_\_\_b \_\_\_f \_\_\_l \_\_\_p \_\_\_t  
 \_\_\_c \_\_\_g \_\_\_m \_\_\_r \_\_\_x  
 \_\_\_d \_\_\_k \_\_\_n \_\_\_s \_\_\_z

--

3. Single consonant sound in medial position

a. Can match pictures to sounds. . . . .

\_\_\_b \_\_\_k \_\_\_n \_\_\_r \_\_\_t  
 \_\_\_d \_\_\_l \_\_\_p \_\_\_s \_\_\_v  
 \_\_\_g \_\_\_m

--	--

4. Initial consonant blends

a. Can identify letters and sounds of initial consonant blends in words. . . . .

\_\_\_bl \_\_\_dr \_\_\_gn \_\_\_pr \_\_\_sm \_\_\_sw  
 \_\_\_br \_\_\_fl \_\_\_gr \_\_\_sc \_\_\_sn \_\_\_tr  
 \_\_\_ch \_\_\_fr \_\_\_kn \_\_\_sh \_\_\_sp \_\_\_tw  
 \_\_\_cl \_\_\_gh \_\_\_ph \_\_\_sk \_\_\_sq \_\_\_wr  
 \_\_\_cr \_\_\_gl \_\_\_pl \_\_\_sl \_\_\_st

--	--	--

b. Can identify letters and sounds of consonant digraphs in words. . . . .

\_\_\_sh \_\_\_wh \_\_\_ch \_\_\_th

--	--

c. Can identify letters and sounds of three letter blends in words. . . . .

\_\_\_chr \_\_\_spr \_\_\_sch \_\_\_str \_\_\_scr \_\_\_squ  
 \_\_\_spl \_\_\_thr

--	--

5. Final consonant blends

a. Can identify letters and sounds of final consonant blends in words. . . . .

\_\_\_ck \_\_\_lk \_\_\_nd \_\_\_ph  
 \_\_\_ft \_\_\_lt \_\_\_ng \_\_\_sk  
 \_\_\_gh \_\_\_ld \_\_\_nk \_\_\_sp  
 \_\_\_gn \_\_\_mp \_\_\_nt \_\_\_st

--	--

b. Final consonant digraphs. . . . .

\_\_\_sh \_\_\_ch \_\_\_th

--	--

6. Word families

a. Can apply consonant substitution in initial position to make new words with the following word families. . . . .

\_\_\_an \_\_\_all \_\_\_en \_\_\_it  
 \_\_\_ay \_\_\_at \_\_\_ill  
 \_\_\_ake \_\_\_ell \_\_\_in

--	--

b. Can distinguish rhyming and non-rhyming words. . . . .

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c. Can give a rhyming word for a given word. . . . .

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d. Can identify rhyming words in poetry. . . . .

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ZELWOOD SCHOOL DISTRICT - GRANNEMANN SCHOOL  
 READING SKILLS CONTINUUM

R 1 2 3 4 5 6

- Z. Can accurately judge an author's purpose by reading selected paragraphs and selecting the best purpose. . . . .
- AA. Can identify a statement as fact, fiction, or opinion. . . . .
- AB. Can identify a passage as. . . . .
  - \_\_\_ 1. Description
  - \_\_\_ 2. Narration
  - \_\_\_ 3. Exposition
- AC. Shows understanding of visual imagery by making illustrations after reading selected passages. . . . .
- AD. Critical reading
  - 1. Can distinguish between real and make-believe. . . . .
  - 2. Can determine the relevance of material to a specific topic. . . . .
  - 3. Can distinguish true statement from false statement. . . . .
  - 4. Can note and correct erroneous details. . . . .
  - 5. Can identify differing points of view. . . . .
  - 6. Can form or change attitudes on the basis of new information. . . . .
  - 7. Can classify pro and con arguments. . . . .
  - 8. Can recognize an illustrator's purpose in use of cut-away diagrams, color, size, and perspective. . . . .
  - 9. Can decide what he does and does not like in literature and develop openmindedness about those selections he doesn't like. . . . .
  - 10. Can evaluate the validity of various sources of information. . . . .
  - 11. Can recognize author bias. . . . .
  - 12. Can identify propaganda techniques. . . . .
  - 13. Can recognize stereotypes, caricatures, and symbolism in illustrations. . . . .
  - 14. Can differentiate between rumors and opinions based on fact. . . . .

V. Communication Skills

- A. Oral Expression
  - 1. Can speak in complete sentences. . . . .
  - 2. Can express self spontaneously. . . . .
  - 3. Can retell a story that has been told. . . . .
  - 4. Can make up an ending to a story. . . . .
  - 5. Can choose a title for a story or picture. . . . .
  - 6. Can tell a story from a single picture. . . . .
  - 7. Can order sequentially the events in a story. . . . .
  - 8. Can identify names of characters from stories read aloud. . . . .
  - 9. Can dictate a story for the experience chart. . . . .
  - 10. Will participate in experiences with nursery rhymes. . . . .
  - 11. Will respond to the emotional tones of stories and empathize with characters. . . . .

	1	2	3	4	5	6
Z.						
AA.						
AB.						
1.						
2.						
3.						
AC.						
AD.						
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
V.						
A.						
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						



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20. Ekwall, p. 55.

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25. Hammill and Bartel, p. 58.
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## ARITHMETIC

Most children move smoothly from one step to another in acquisition of mathematical skills. Those who do not, do workshew after workshew, making little marks along the side of the papers to assist them in solving the problem; or tap their feet; or use their fingers. They seem unable to make the transition, in a comfortable way, from the world of real objects, to reasoning numerically, to representing quantity with numerals on a sheet of paper.

Because many children do move smoothly it is difficult to understand just why other children, who are equally as bright, cannot recall a process or an addition fact—despite repeated exposures, demonstrations, and practice. Detailed information, however, can be obtained, for children in grades 1 through 6, by using the individual KeyMath Diagnostic Arithmetic Test, or the Basic Educational Skills Inventory, which yield information on a child's functional abilities in a wide range of quantitative areas.

### DIAGNOSIS:

Formal: I especially prefer the BESI and the KeyMath. They are both individually administered tests.

The BESI has been developed in an effort to better diagnose learning problems which are evident in educational settings. Rather than assess disabilities such as perceptual motor development and auditory closure, the BESI is constructed to contain items directly

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to the educational tasks themselves. The tasks are arranged as much as possible in sequences of developmental tasks. The scope of the BESI has been limited to tasks related to lower elementary grade levels for the following reason: If these basic skills are not mastered, then progress cannot proceed. (See Appendix A)

The KeyMath is very complete and fun to administer. It measures arithmetic skills for preschool through grade six, with no upper limits for remedial use. The test requires little reading or writing. It is scored as it is given on a diagnostic profile which provides a graphic picture of the student's strengths and weaknesses. The test can be administered in about thirty minutes. Total test scores reliabilities are reported for each grade from K-7. The obtained correlations are in the .94 to .97 range.

Informal: Causes for pupil failure in arithmetic computation are usually very specific, so the task of determining where remedial work is needed may be fairly uncomplicated. Teacher-made tests are likely to be extremely useful for they can be used to pinpoint a particular area of difficulty. The teacher can follow a scope and sequence chart of math skills or a Math Skills Continuum as included in this handbook in order to help construct a teacher-made test. (See Appendix B)

Diagnosis in the area of problem solving is much more difficult than in the area of computation. Specific questions to probe the causes of difficulty with story problems might be:

1. Can the pupil orally read the problem?
2. Can he restate what it is that is to be computed?
3. Can he determine if all necessary information is given?
4. Can he determine if irrelevant information is given?
5. Can he decide whether to add, subtract, etc.?
6. Can he decide whether some conversions are required before solving the problem, e.g., changing feet to inches?
7. Can he organize a procedure?
8. Can he estimate an answer, or decide if his obtained answer is reasonable?
9. Does he know how to check his answer?<sup>1</sup>

#### PLANNING:

Use the results from the formal and/or informal diagnosis to plan for remediation of instruction. Example: If a child worked this problem 
$$\begin{array}{r} 23 \\ -9 \\ \hline 26 \end{array}$$
 you, the teacher, would need to analyze the steps involved in subtraction with regrouping and proceed to teach the child. For a child to perform a simple operation on numbers, he must have the necessary prerequisites. In order to subtract 
$$\begin{array}{r} 23 \\ -9 \\ \hline \end{array}$$
, the child must know these prerequisites:

- that 23 means two tens and three ones;
- that 9 means nine ones;
- that two tens and three ones may be renamed as one ten and thirteen ones;
- that by renaming two tens and three ones as one ten and thirteen ones, we change only the name but not the number;
- that we obtain this new name by using place value; for every group of ten ones, we must rename them as one ten in order to record the number, since after nine ones, we have no single digit to record ten ones; so we exchange ten ones for one ten, thus moving over to the tens place. In subtraction, when more ones are needed, we merely undo this action, and change one of the tens back to ten ones. These ten ones are added to the ones already there;
- that since the number to be subtracted may not exceed nine ones (or it would have already been renamed as one ten and so many ones), it is sufficient to rename only one of the tens as ten ones, to be added to the number of ones already present;

- that 13 minus 9 are 4;
- that one ten minus zero tens is one ten;
- that " - " means "subtract";
- that the top numeral in a subtraction example stands for the whole;
- that the bottom one stands for the known part that is to be subtracted to find the unknown part:<sup>2</sup>

IMPLEMENTATION:

For instruction in the above example:

It would be wise to provide the child with experiences in place value first, then to diagnose if his weakness is here. He may be able to regroup ten tongue depressors as one bundle of ten at the concrete manipulative level, but he may not see a connection to recording numbers as:

- 1
- 2
- 3
- .
- .
- 7
- 8
- 9
- 10
- 11
- 12
- .
- .
- 19
- 20

A place value chart will help.

tens	ones
	1
	2
	.
	.
	8
	9
	<u>Renaming occurs here</u>
1	0
1	1
1	2
.	.
1	9
2	0

Thus you must determine if his gap is at the symbolic level or at the concrete level. Since the pictorial level lies between the concrete and symbolic levels of representing numbers, you might guide the child to portray the example 23 as follows:

23

Tens		Ones				
2		3				
xx		ooo				
<div style="border: 1px solid black; display: inline-block; padding: 2px;">xx</div> <span style="font-size: 2em; vertical-align: middle;">→</span> <div style="display: inline-block; vertical-align: middle;"> <table style="border: none; margin: 0 10px;"> <tr><td style="text-align: center;">oo</td><td style="text-align: center;">oo</td></tr> <tr><td style="text-align: center;">oo</td><td style="text-align: center;">oo</td></tr> </table> </div>	oo	oo	oo	oo		ooo
oo	oo					
oo	oo					
x		ooo				
x		ooo				
x		ooo				
x		ooooφ				
x		φφφφφ				
x		φφφ				
x		oooo				
1		4				

Another way to implement instruction is by following the skills listed in the Math Continuum. In some remedial cases the teacher may only need to follow the continuum up through grade three or four in order to provide the basic concepts necessary for some children.

Realizing that many children require more than a textbook or a pencil-and-paper approach to mathematics, the teacher can use inexpensive or noncommercial materials, which allow the child to discover and learn concepts in a practical and motivating way. I have included some of the many games and activities available.

### Materials and Games:

Playing Cards. Many mathematical skills can be gained from dealing, playing, and scoring in card games. An investment of a couple of decks of cards and a book on card games can provide hours of educational entertainment for any child. Games such as "Go Fishing" or "War" never lose their appeal for the young child; they can develop concepts of number identification or an understanding of terms such as "bigger than." A simple variation of "War" can give practice in needed combination skills. When two cards are placed on the playing table, the child who correctly calls out the addition or multiplication fact wins the "trick." Or three children can play, with the winner the one who calls out the sum of three digits. Another favorite card game is "Concentration." All cards are placed face down (in rows and columns), and each player in turn selects two cards, attempting to make a pair; if he makes a pair, he "wins" and is entitled to another turn. This builds memory skills and helps the young child with number identification; it can also be varied so a pair is made by any two cards adding up to thirteen, and so forth.

Cards can be used to introduce concepts of fractional parts of sets. In dealing cards, the child sees that 8 cards divided into 2 groups gives each person four cards, or  $\frac{1}{2}$  of 8 equals 4. If 4 people play a game and each are dealt 2 cards, altogether there are 8 cards used, thus demonstrating the idea of multiplication.

Graph Paper: Aside from developing skills in reading and making charts and graphs, graph paper can be used to develop other number skills. Coloring of the square units on a graph can add variety to counting drills. Simple addition can be introduced to the child by having him use his crayon to color first 2 blocks and then 3 blocks to discover he has colored 5 blocks altogether. He can also discover that if he has 5 colored blocks and he cuts off 3, he has only 2 left. The child with difficulty understanding "more than" or "less than," can visually see the difference by marking off squares on his graph paper. This is also an excellent medium for introducing the concept of area. The child conceives the meaning of square unit, and is allowed to explore areas of figures by counting squares. As he searches for a more efficient method he realizes he can use his multiplication skills. Games can be contrived to see if he can make a figure with 25 square units or 29 square units. Such exercises will increase his understanding of area as well as give practice with computation skills.



Masking Tape: Masking tape can make a most effective number line as it can be laid the entire length of the room. The children can jump the integers and use their body to do what ordinarily a finger or pencil would do.

Circles can be made to represent sets, and children allowed to be members of the sets. The equation and operational signs ( $=$ ,  $+$ , and  $-$ ) can be put on the floor and the children allowed to represent the numbers. This can aid them as they learn the meaning of an equation and the manipulation of integers in the performance of various operations.

Flash Cards: Flash cards are hardly anything new, but they are still a good medium for practicing combinations. Allow each child to make his own set that can be carried to and from school. The use of flash answer cards can aid the child in developing knowledge of families or combinations.<sup>4</sup>

Money Games: A teacher made game on relating amounts of money to symbols. This game might look something like the one described below.

#### Description of Game

**Purpose:** To maintain the skill, acquired by the child in counting money and matching amounts of money to their respective symbols using the  $\phi$  sign.

**Materials Needed:** game board, die, and flash cards

**Rules of the Game:**

1. Two to four people can play the game.
2. Flash cards are thoroughly shuffled. Then all 12 cards in the deck are placed, face down, on the game board, one to a space.
3. Players roll die, The player who rolls the highest number begins the game.
4. The first player draws any two cards from the game board in an attempt to form a "book." A book consists of one card showing a symbol and another card showing coins equivalent to that symbol. For example, a book may consist of a card showing " $\frac{1}{4}\phi$ " and a card showing four pennies.
5. If the first player draws two cards which form a book, he lays them face down on the table in front of him. Then the player draws again. If the two cards do not form a book they are replaced in the same position on the game board. (See Figure 1)

6. The player to the right of the first player takes a turn next. He proceeds in the same manner as the first player.
7. The game continues until all six books have been won.
8. The person with the most books wins the game.<sup>5</sup>

FIGURE I

penny	penny penny	1¢	2¢
penny penny penny	penny penny penny penny	3¢	4¢
nickel	nickel penny	5¢	6¢

Magic Squares: Testing to see if an array of numbers forms a magic square is good practice in addition. If an array is a magic square, the sums of each of the rows, columns, and major diagonals is the same. Students are asked to find the sum of each row and record the sums.

4	3	8
9	5	1
2	7	6

Then they are asked to find the sums of each column and record these. Then they find the sum of each of the diagonals. In each case the sum is 15. Now they know that the array is a magic square. Students should notice that the middle number is 5, which is one-third the sum of each row, column and major diagonal.

Next, ask the students to add some number such as 4 to each number in the preceding magic square to make a new array. Then they should test to see if this is still a magic square. They will discover it is and that the middle number is now 9, which is one-third the sum of each row, column, and major diagonal.

8	7	12
13	9	5
6	11	10

Using the magic square they have just tested, ask them to subtract a number such as 5 from each number in the array to make a new array. Again, have them test the new array to find out if it is still a magic square. They find that it is, and they see that the middle number

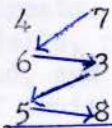
3	2	7
8	4	0
1	6	5

is now 4 with 12 being the sum of each of the rows, columns, and major diagonals.

As a variation a four-by-four array can be used and tested to see if it is a magic square. Pupils must again add each row, column, and diagonal to see if the sums are the same. When they find that they are, they can then try to make other magic squares from this one by adding or subtracting a given number.

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1

Box-car Addition: This can be used to practice column addition. In performing box-car addition, start with the top addend and follow the arrows. Students must think of place value as well as the digits. In the example shown, start with 47, add 60 (which is 107), then add 3 (which is 110), then add 50 (which is 160), and then add 8 (which is 168).



Students are forced to think of the 6 in 63 as 6 tens and the 5 in 58 as 5 tens. They are not only practicing addition but also reviewing place value as they add.

Activities in Physical Education and Science: Physical education can readily be adapted to increase the arithmetic skills of the child. A child can learn to measure how far he can jump with rulers, measuring tapes, and yardsticks. He thereby gains understanding and the ability to measure and convert measurements from one unit to another. As he progresses, he can measure differences in the lengths he jumped; later, he can calculate differences on the blackboard rather than measuring.

A stop watch intrigues most children: it can be used by teacher or child for relays, thus teaching the child another dimension in the practice of telling time. Comparison of a child's own timing on two occasions or timing of two teams develops skill in doing problems doing time.

Science in particular adapts itself well to the teaching of many math skills.

A unit on shadows can give a child practice in measuring lengths, while a study of temperature variation teaches the reading of a thermometer scale. An aquarium thermometer (less than \$1.00) allows a child to experiment with water temperatures from the hot and cold water faucet. A supply of liquid measuring containers and a sink will facilitate learning measurement terms and equivalences. Children can perform or help perform the measurement of various substances in many measuring units.

A simple, but intriguing, experiment is that in which various amounts of colored water are mixed to produce different colors. The child may either follow

directions of the teacher, or make up his own experiment, write it down, and have other children replicate it. Asking a child to double a recipe or halve it gives him additional work using fractions.

In addition to learning measurement through science, the small class can gain similar experiences by preparing afternoon or party treats. With the aid of a hot plate, simple recipes for jello, pudding, simple candies, egg salad, macaroni salad, and icing for cupcakes can be followed. Mixing of fruit drinks, eggnog, and other goodies require no cooking. Needless to say, such tasks are highly motivating for any child.

Other Activities for Establishing Skills Children Need to Develop Arithmetic Competencies:

1. Use many experiences in counting and grouping concrete objects. Have a box of buttons, discs, corks, etc. Ask the child to reach in and give you three, or seven (or whatever). Reverse the process. You get a handful. After you have laid them out, ask the child to tell you "how many."
2. Get heavy-duty cardboard to make "feely boards." Cement a varying number of buttons to each. Ask the child to close his eyes and run his hand over the board. How many does he feel? Can he picture what he is feeling?
3. Give the child daily activities with one-to-one correspondences. Can he clap and count together? Take a step and count-one count for each step. Can he tap his foot and count-one count for each beat?
4. Help the child estimate space. How many footsteps (tandem walking) to the classroom door? How many rolls to reach the wall on the other side of the room? How many paces to the teacher's desk? Have the child estimate the distance. Then have him prove his answer by doing the task.
5. Body awareness precedes body image. Body image makes it possible to handle spatial estimations. A child has to know how much space his body takes. Having equipment for crawling through (refrigerator boxes, tires, etc.) helps a child understand his own body space. It helps him understand "big" and "little," "front" and "back," "next to," "over" and "under"- and other terms that are critical to arithmetic competency.

6. Temporal awareness coincides with the development of math. Give constant reinforcement on time. "This afternoon we will ...," "Recess is in five minutes ...," "Tomorrow we will ...," "Before we go out ...," "In three minutes it will be 11 O'clock ..."
7. Every day write the day and date on the chalkboard. Some teachers even write, "Yesterday was Tuesday. Tomorrow will be Thursday."
8. Use classroom measurements. How much the plant grew, the temperature, how much food the parakeet ate, all involve recording realistic quantities. Have charts by each growing thing in the room. Let the children record the amount.
9. Play the "Alphabet Game." This is fun, and it also helps develop the recall and sequencing that builds spelling skills. Have a chart with a number written over each letter of the alphabet. Have the children take turns spelling words by giving their numerical value. That is, if a is 1, b is 2, c is 3, d is 4, and so on, the child who says "4-1-4" has spelled "dad." They can also reverse the process, by saying, "What is the total of 'dad?'"
10. Write on the chalkboard, "3 plus 2" (or "3 minus 2"). Ask who can make up a problem using those numbers (that equation).
11. Write an equation on the chalkboard, like "5 minus 3." Have the children draw a picture of the problem.
12. Get pieces of cardboard roughly  $8\frac{1}{2}$  x 11. Those from the laundry with shirts serve the purpose quite well. Tie a piece of yarn so that a child can "wear" the piece in front of him with the cord around his neck. Number the pieces so that each child has a different one. On the backside of each card, draw the number of objects represented by the numeral on the front side. That is, the card with "2" on one side has two circles on the other side. Then say, "Ricky is 5." (Ricky steps to the front of the room.) "What two numbers add up to 5?" This same activity can also be used for subtraction.
13. Create a classroom calendar. Every classroom should have a calendar, and hopefully, a large one made by some child in the room. In addition to temporal sequences ("Today is Tuesday; what day was it two days ago?") it's a nice way to learn addition by sevens because it's always in front of the children.

14. Use teacher-made board games. Games that require tossing of dice, and movement of pieces toward a goal, are always fun for children, and require an application of many skills that are basically mathematical.
15. Write numerals in different sizes. When children can count sequentially (because they have simply memorized the task) but really do not understand that 2 is one more than 1, or that 3 is one more than 2, each day (or as often as necessary) write the numerals from 1 through 9 on the chalkboard.
16. Highlight mathematical signs. When children get confused, and subtract instead of add or vice-versa, use a colored marking pen to highlight the plus or minus sign.
17. Introduce a tape recorder. Make a simple tape of the "one plus" and "one minus" combinations through ten. Let the children listen to it, over and over again, and vocalize along with the tape. Have them play games that require counting backwards from ten (as in rocket take-off). Have them walk forward with a clap and a count for each step up to ten. Then, let them walk backward and count backward in the same manner.
18. Implement counting backward. In These Kids Don't Count, F. A. Sharp has developed a system of teaching mathematical skills, right from the beginning, by developing a child's ability to count backward. Counting backward helps to develop a child's ability to visualize. Once you have determined his forward ability to visualize you can begin on the backward sequences, starting at various points. Counting forward is really the beginning of "adding by ones" while counting backward is the beginning of "subtracting by ones." Since many children already know the famous "10-9-8-7-6-5-4-3-2-1-Blast Off!" rocket expression, you will have a starting point.
19. Try out Cuisinaire Rods. These items are excellent devices that children should use (with guidance as outlined in the manual) to begin to infer and generalize quantitative relationships. The various processes involved (stacking them, separating them, organizing them), plus the process of verbalizing what they note, offer children invaluable mathematical experience.<sup>8</sup>

EVALUATION:

Use precision teaching for daily evaluation. In the example of <sup>23</sup>-9 you can give the child similar problems (32-8, 34-6, 73-9), to see if he has understood the concept of regrouping once.

MODIFICATION:

If the child was unable to work the problems above you need to re-evaluate whether you need to do more teaching here or whether you can go on to another skill. If more teaching is indicated, then you may need to do a task analysis of the skills involved and check to see which sub-skills are confusing the child.

BASED ON NATIONAL CURRICULUM INVENTORY SCORING SHEET

MATH - LEVEL 1

SUMMARY OF SCORES

Item	Raw Score	Percentile Rank	Final Score	Gain
1. Addition Facts				
2. Subtraction Facts				
3. Multiplication Facts				
4. Division Facts				
5. Two-Digit Addition Problems				
6. Two-Digit Subtraction Problems				
7. Fraction Problems				
8. Decimal Problems				
9. Percentage Problems (Addition of Percentages)				
10. Addition of Fractions				
11. Subtraction of Fractions				
12. Multiplication of Fractions				
13. Division of Fractions				
14. Addition of Decimals				
15. Subtraction of Decimals				
16. Multiplication of Decimals				
17. Division of Decimals				
18. Real-World Problems (Remaining)				
19. Time				
20. Area				



APPENDIX A

BASIC EDUCATIONAL SKILLS INVENTORY SCORING BOOKLET

MATH - LEVEL A

SUMMARY OF SCORES				
	POSSIBLE	INITIAL SCORE	FINAL SCORE	GAIN±
1. Quantity (Verbal Quantitative Meanings)	10			
2. Naming Printed Numbers	20			
3. Matching Numbers	6			
4. Counting Pictured Objects	24			
5. Dot to Dot (Sequence Numbers)	14			
6. Counting Orally	54			
7. Writing Numbers	30			
8. Number Sequencing (Before & After)	46			
9. Ordinal and Cardinal Concepts	4			
10. Number Words	13			

BASIC EDUCATIONAL SKILLS INVENTORY SCORING BOOKLET

MATH - LEVEL B

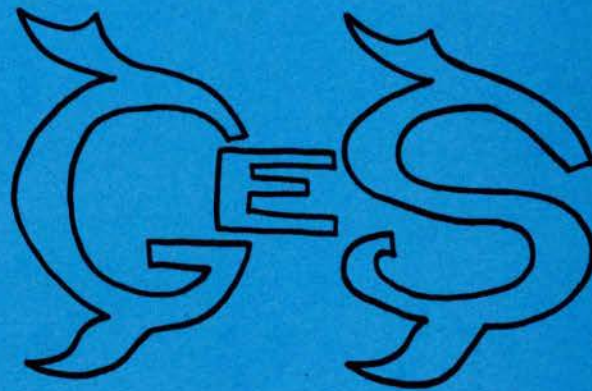
SUMMARY OF SCORES				
	POSSIBLE	INITIAL SCORE	FINAL SCORE	GAIN±
1. Addition Facts	52			
2. Subtraction Facts	100			
3. Multiplication Facts	24			
4. Addition Problems	26			
5. Subtraction Problems	25			
6. Multiplication Problems	18			
7. Division Problems	18			
8. Fractional Parts	9			
9. Renaming (Reduction) of Fractions	8			
10. Addition of Fractions	12			
11. Subtraction of Fractions	8			
12. Multiplication of Fractions	10			
13. Division of Fractions	10			
14. Addition of Decimals	5			
15. Subtraction of Decimals	5			
16. Multiplication of Decimals	9			
17. Division of Decimals	9			
18. Decimal-Fraction-Percent Transformation	25			
19. Time	15			
20. Money	20			

# Appendix B

HAZELWOOD SCHOOL DISTRICT



GRANNEMANN ELEMENTARY SCHOOL  
ANTHONY F. LOFARO, PRINCIPAL  
2324 REDMAN ROAD  
ST. LOUIS, MISSOURI 63136



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STUDENT

MATH SKILLS CONTINUUM

1975 Revision  
by

Janet Maschoff  
Nancy Molello  
Diana Stitz  
Jeanne Stuart  
Jean Szepanski  
Sue Theodorow  
Jan Wehmeyer

Hazelwood School District  
 Grannemann Elementary School  
 2324 Redman Road  
 St. Louis, Missouri 63136

### Math Skills Continuum

#### Instruction for recording progress

1. Record in pencil only.
2.
 

K	1	2	3	4	5	6	
A	B	C	D	E	F	G	

 at top of page indicates instructional level in math.
3. Mastery of skill is at least 80% accuracy.
4. When sub-topic is mastered, record the instructional level on which it was mastered on the line to the left of the skill.
5. The first box for any skill indicates the level at which the skill is introduced; additional boxes indicate levels at which skills are reinforced.
6.  Slash indicates skill has been introduced or additional teaching has been done at that level without mastery.
7.  X indicates at least 80% mastery (of all subtopics) at instructional level
8. Always record progress in box of instructional level at which skill is introduced or mastered.



HAZELWOOD SCHOOL DISTRICT - GRANNEMANN SCHOOL  
MATH SKILLS CONTINUUM

	K	1	2	3	4	5	6
	A	B	C	D	E	F	G
1. Can tell that a set is a group of concrete objects. . . . .							
2. Can do one to one correspondence. . . . .							
3. Can identify sets that are more, fewer, and equal. . . . .							
4. Can identify sets of 1 through 5 on sight. . . . .							
5. Can make two sets equivalent by adding or taking away members with objects. . . . .							
6. Can draw a set equivalent to a given set through ten. . . . .							
7. Can match numerals less than ten to appropriate sets. . . . .							
8. Can separate and combine sets through ten on paper. . . . .							
9. Can identify zero as the empty set. . . . .							
10. Can identify the term subset as a part of a set. . . . .							
11. Can complete a set pictorially to a given number (maximum of 18). . . . .							
12. Can separate a set pictorially to a given number (maximum of 18). . . . .							
13. Can state if two or more sets are equivalent. . . . .							
14. Can state if two or more sets are equal. . . . .							
15. Can name the members of a given set. . . . .							
16. Can list the members of a set with commas and braces. . . . .							
17. Can identify and illustrate given arrays. . . . .							
18. Can find the union of two or more sets. . . . .							
19. Can name the intersection of two sets. . . . .							
20. Can draw a Venn diagram if given a pair of sets. . . . .							
21. Can name the complement when given a set and its inverse. . . . .							
22. Can define and give an example of infinite sets. . . . .							
B. Numeration							
1. Counting orally							
a. Can count by ones to							
1) 30. . . . .							
2) 100. . . . .							
3) 1000. . . . .							
b. Can count by tens to							
1) 100. . . . .							
2) 1000. . . . .							
c. Can count by fives to							
1) 100. . . . .							
2) 1000. . . . .							
d. Can count by twos to							
1) 20. . . . .							
2) 50. . . . .							
3) 100. . . . .							
e. Can count by threes to							
1) 15. . . . .							
2) 36. . . . .							
f. Can count by fours to							
1) 20. . . . .							
2) 48. . . . .							
2. Can identify written numerals to ten. . . . .							

HAZELWOOD SCHOOL DISTRICT - GRANNEMANN SCHOOL  
 MATH SKILLS CONTINUUM

	K	1	2	3	4	5	6
	A	B	C	D	E	F	G
3. Can tell which of two numbers is more and which is less (below ten).							
4. Can use ordinal numbers first through tenth.							
5. Can match pictures and numerals to number words through ten.							
6. Can read any number from zero to one hundred.							
7. Writing numbers							
a. Can write by ones to							
1) 100.							
2) 1000.							
3) 1,000,000.							
b. Can write by tens to							
1) 100.							
2) 1000.							
c. Can write by fives to							
1) 100.							
2) 1000.							
d. Can write by twos to							
1) 20.							
2) 50.							
3) 100.							
8. Can write a cardinal number for a given set.							
9. Can write the ordinal number for any member of an ordered set							
a. First to tenth.							
b. To thirty-first with abbreviations.							
10. Can write the number that comes before or after any number or between any two numbers on the number line from 0 - 100.							
11. Can demonstrate a variety of names for the same number using dominoes, number words, addition, subtraction, or pictures.							
12. Roman numerals							
a. Can read and write Roman numerals to							
1) 20.							
2) 50, at random.							
3) 100, at random.							
b. Can recognize Roman numeral symbols to 1000.							
c. Can determine the value of a Roman numeral in the Arabic system.							
13. Can identify the odd and even numbers below 30.							
14. Place value							
a. Can express any numeral from 0-1000 as a collection of hundreds, tens, and ones.							
b. Can draw the hundreds, tens, and ones for any numeral from 0-1000.							
c. Can write the numeral that the collection of hundreds, tens, and ones represents.							
d. Can write the numerals that use zero as a place holder in 100's, 10's, and 1's.							
15. Can write any numeral between 1 and 1000 in expanded form.							
16. Rounding numbers							
a. Can round a two-digit number to the nearest ten.							
b. Can round a three-digit number to the nearest hundred.							
17. Can determine the pattern of a set of numbers and complete it.							
18. Positive and negative numbers							
a. Can recognize a negative number on a number line or thermometer.							



	K	1	2	3	4	5	6
	A	B	C	D	E	F	G
22.							
23.							
24.							
25.							
26.							
27.							
28.							
29.							
30.							
31.							
32.							
33.							
34.							
35.							
D. Fractions							
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.							
19.							
20.							

22. Can identify figures with symmetry by drawing the line of symmetry through them. . . . .
23. Can identify and illustrate these geometric terms: . . . . .  
 \_\_\_point \_\_\_line \_\_\_line segment \_\_\_curve \_\_\_ray
24. Can identify and illustrate. . . . .  
 \_\_\_parallel lines \_\_\_perpendicular lines  
 \_\_\_intersecting lines
25. Can differentiate between solid and plane figures. . . . .
26. Can identify the types of triangles. . . . .  
 \_\_\_isosceles \_\_\_right \_\_\_equilateral
27. Can identify prisms, cubes, pyramids, cones, and cylinders as polyhedrons. . . . .
28. Can identify quadrilaterals and parallelograms. . . . .
29. Can identify the following in a circle. . . . .  
 \_\_\_diameter \_\_\_radius \_\_\_arc \_\_\_chord
30. Can identify congruent figures by using a straight-edge, compass, and protractor. . . . .
31. Can measure, construct, and bisect an angle. . . . .
32. Can identify and construct the different kinds of triangles (equilateral, right, isosceles) using protractor and straight-edge. . . . .
33. Can construct a circle and label its parts using a compass and straight-edge. . . . .
34. Can construct a plane figure congruent to a given one. . . . .
35. Can construct a triangle congruent to a given triangle with a straight-edge. . . . .

D. Fractions

1. Can demonstrate whole and half by folding paper squares, circles, etc. . . . .
2. Can fold a piece of paper into quarters and eighths. . . . .
3. Can color half of a figure. . . . .
4. Can pick out half of a small set of concrete objects. . . . .
5. Can write numbers that divide the following sets into two equal subsets: 2, 4, 6, 8, and 10. . . . .
6. Can identify thirds, fourths, fifths, and sixths of shapes. . . . .
7. Can divide a set of objects to show thirds and fourths. . . . .
8. Can identify more than one fractional part of thirds, fourths, fifths, and sixths of shapes. . . . .
9. Can write the numerical fraction for any graphic model. . . . .
10. Can identify the numerator and denominator in a fraction. . . . .
11. Can rename one as a fraction. . . . .
12. Can arrange random fractions in order of least to most. . . . .
13. Can determine if two fractional numbers are equivalent. . . . .
14. Can write equivalent fractions for any simple fraction. . . . .
15. Can add and subtract like fractions. . . . .
16. Can reduce fractions to the lowest terms. . . . .
17. Can change improper fractions to mixed fractions and whole numbers. . . . .
18. Can rename mixed numbers as improper fractions. . . . .
19. Can add fractions with unlike denominators and express in lowest terms. . . . .
20. Can subtract unlike fractions and express in lowest terms. . . . .









	K	1	2	3	4	5	6
A	B	C	D	E	F	G	
q. Can identify terms related to time. . . . .							
__decade      __century      __score      __annual							
__generation      __perennial      __B. C.      __A. D.							
__centennial							
2. Money							
a. Can identify face and value of. . . . .							
__pennies      __nickels      __dimes      __quarters							
__half-dollars							
b. Can count coins up to \$1.00. . . . .							
__pennies      __nickels      __dimes      __quarters							
__half-dollars      __mixed coins							
c. Can match money values with coins							
1) Pennies to a nickel. . . . .							
2) Pennies to a dime. . . . .							
3) Pennies to a quarter. . . . .							
4) Nickels to a dime. . . . .							
5) Nickels to a quarter. . . . .							
d. Can make change							
1) From a nickel. . . . .							
2) From a dime. . . . .							
3) From a quarter. . . . .							
4) From a dollar. . . . .							
e. Can write							
1) Cent signs and dollar signs. . . . .							
2) Dollar signs and decimal points. . . . .							
f. Can read a price tag up to \$1.00. . . . .							
g. Can write the total number of cents when given more than one coin. . . . .							
h. Can add and subtract money values. . . . .							
3. Temperature							
a. Can tell that a thermometer measures temperature. . . . .							
b. Can compare thermometers and tell which shows warmest or coldest. . . . .							
c. Can read and write the degrees measured above 0°F. . . . .							
d. Can read and write the degrees measured below 0°F. . . . .							
e. Can find the difference in degrees by adding or subtracting temperatures							
1) Above 0°F. . . . .							
2) Below 0°F. . . . .							
4. Linear Measurement							
a. Can tell that rulers, yardsticks, and tape measures measure length. . . . .							
b. Can find segments of the same lengths as a given group of line segments. . . . .							
c. Can show an inch, half-inch, and foot on a ruler. . . . .							
d. Can measure any two objects of 12 inches to the nearest inch. . . . .							
e. Can draw a line of any length up to 12 inches to the nearest inch or half inch. . . . .							
f. Can write equivalencies in half inches, inches, feet, and yards. . . . .							
g. Can compare inches, feet, and yards with > , < , or = signs							



HAZELWOOD SCHOOL DISTRICT - GRANNEMANN SCHOOL  
MATH SKILLS CONTINUUM

G. Problem Solving

1. Can choose a number sentence to fit a picture problem. . . . .
2. Can choose the correct operation to solve simple addition and subtraction problems. . . . .
3. Can state that a story problem has facts and a question or direction about the facts. . . . .
4. Can follow written directions. . . . .
5. Can pick out key words to solve story problems. . . . .
6. Can choose or write an appropriate number sentence to solve a story problem. . . . .
7. Can solve story problems at instructional level. . . . .
8. Can solve story problems containing hidden facts. . . . .
9. Can determine unimportant facts in story problems. . . . .
10. Can determine if and what information is missing in a story problem. . . . .
11. Can solve story problems with multiple questions. . . . .
12. Can solve 2-step story problems. . . . .
13. Can estimate the answer to a story problem. . . . .
14. Can use charts and graphs to solve story problems. . . . .
15. Can write a story problem using a given number sentence. . . . .
16. Can read and interpret the relationships between words and numbers. . . . .

	K	1	2	3	4	5	6
A	B	C	D	E	F	G	
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							

## FOOTNOTES

1. Donald D. Hammill and Nettie R. Bartel, Teaching Children With Learning and Behavior Problems (Boston: Allyn and Bacon, Inc., 1975) pp. 71 & 74.
2. Fredricka K. Reisman, A Guide to the Diagnostic Teaching of Arithmetic (Ohio: Charles E. Merrill Publishing Co., 1972) pp. 23,24.
3. Reisman, pp. 24-26.
4. Hammill and Bartel, pp. 86, 87, 88.
5. Alan R. Frank, "Centering Interest on the Student Interest Center," Teaching Exceptional Children (Fall, 1974) p. 7.
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7. Hammill and Bartel, p. 88.
8. Tips on Teaching Arithmetic (San Rafael, California: Academic Therapy Publications, 1975) pp. 3-10.

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- Tips on Teaching Arithmetic. San Rafael, California: Academic Therapy Publications, 1975, pp. 3-10.



## HANDWRITING

Because each individual has his or her own style of writing, and variations within that style, handwriting tests, as such, have proved to be almost impossible to develop. The true test of handwriting is its consistency, readability, and its comparability to the individual's age and level of perceptual, intellectual, and motor development.

### DIAGNOSIS:

Formal Testings: Basic Educational Skills Inventory (BESI) - Sections 5-10 on Reading - Level 1.

### Informal Testings:

Legibility - Assuming that the child has already been taught some basics of letter formation, it will be possible to obtain some samples of his current handwriting skills.

## HANDWRITING

Other signs, which are equally important, but require direct observation while the child is actively writing, are:

- the hand being used for writing
- the placement of the "helping" hand
- position of the paper
- grasp of the pencil
- position of the head
- distance of the head from the paper
- curve of the back
- height of the writing surface
- proper production of the letters

It is wise to obtain and save (for comparative purposes) a sample of a child's handwriting at regular intervals during the school year. This should be done in the following ways:

1. Ability to copy, on lined paper, a short sample of two sentences. The master copy should be above the child's paper so that his looking distance is basically near-to-near point.
2. Ability to copy, on unlined paper, a similar short sample. Again, the master copy should be directly above the child's copying paper.

## HANDWRITING

Because each individual has his or her own style of writing, and variations within that style, handwriting tests, as such, have proved to be almost impossible to develop. The true test of handwriting is its consistency, readability, and its compatability to the individual's age and level of perceptual, intellectual, and motor development.

### DIAGNOSIS:

Formal Testing: Basic Educational Skills Inventory (BESI) - Sections 5-10 on Reading - Level A.

### Informal Testing:

Legibility - Assuming that the child has already been taught some basics of letter formation, it will be possible to obtain some samples of his current handwriting skills.

Other signs, which are equally important, but require direct observation while the child is actively writing, are:

- the hand being used for writing
- the placement of the "helping" hand
- position of the paper
- grasp of the pencil
- position of the head
- distance of the head from the paper
- curve of the back
- height of the writing surface
- proper production of the letters

It is wise to obtain and save (for comparative purposes) a sample of a child's handwriting at regular intervals during the school year. This should be done in the following ways:

1. Ability to copy, on lined paper, a short sample of two sentences. The master copy should be above the child's paper so that his looking distance is basically near-to-near point.
2. Ability to copy, on unlined paper, a similar short sample. Again, the master copy should be directly above the child's copying paper.

3. Ability to copy, from the lined chalkboard to his lined paper, a short sample of two or three sentences. This is basically far-to-near point copying.
4. Ability to copy, from the unlined chalkboard to unlined paper, a similar short sample which is again far-to-near point copying.

The form of writing the child most often uses, be it manuscript or cursive, is the form which should be used during this activity. For older children, an incomplete story may be given, which begins, "The most exciting thing that ever happened to me was when . . ." The child is asked to complete it.<sup>1</sup>

Speed - Have the child write the alphabet for one minute. If the child is deficient in visual memory then he could copy the letters of the alphabet.

#### PLANNING FROM DIAGNOSIS:

From the samples obtained in the legibility evaluation, I would evaluate the child's handwriting according to:

- letter formation
- spacing between letters
- spacing between words
- alignment (ability to stay on the line)
- slant of letters
- size of letters

I would compare the child's speed sample to the Freeman Handwriting Speed Table shown on the following page to decide if speed was a hindrance. Speed and accuracy can both be worked on simultaneously but emphasis should be placed on accuracy first.

Freeman's Handwriting Speed Table<sup>2</sup>

(Letters Per Minute)

Table I:

Grade:	2	3	4	5	6	7	8
Speed:	30	40	50	60	67	74	80

IMPLEMENTATION OF DIAGNOSIS:

Following are some remediation techniques I would use for improving letter formation, size, slant, spacing, and alignment.

Formation:

Finger painting; (Give the child a goodly amount of surface area, and let him practice circles, squares, etc. until you are ready to guide his hand over the surface to start producing letters. When things are cleaned up, transfer the activity to paper in order to reinforce the kinesthetic and visual memory of the letter.)

If it is possible to work with a child on a one-to-one basis, have him first sit, with his eyes closed. Take his writing hand and trace a letter by holding his hand and moving it, with his index and middle fingers extended. Then ask, "What letter was that?" (Do this with several letters, and repeat the activity daily until he gives immediate and correct responses.)

For rainbow writing, invest in a set of felt-tip, colored pens. Write a letter or a word in black. Ask the child to use two other colors to write the same letter or word directly against your writing, so that, when finished, it looks like a "rainbow."

When introducing letters to a young child, have him sit close to you. Take his writing hand in yours, with two fingers extended (index and middle fingers), and have him close his eyes. Trace the letter several times in bold, dramatic strokes, saying the name of the letter as you trace it. Then let the child make the same movements on the top of the

table. In this activity, always make sure he not only gets the feel within, but the feel of the surface as well. If his strokes are incorrect, do it again. Finally, have him write the letter on a large piece of newsprint or at the chalkboard.<sup>3</sup>

Stencils and templates

Tracing over letters on paper or projected images on chalkboard

Make letters by connecting dots

Tracing with reducing cues (See Appendix A)

Auditory reinforcement if child isn't distracted by verbal instruction

Lined paper that is color cued (See Appendix B)

Put a sheet of paper divided into one-inch squares, with letters to be learned written in the squares, inside a plastic sheet. Have the child trace over the letter and then copy the letter by himself.

Example:

A		O		
R		E		

### Spacing:

Place anagrams or cutout letters on desk. Arrange the letters in sentences without leaving spaces and ask child to separate the letters.

Have child separate sentences run together with a colored pencil.

Draw rectangles of varied sizes to correspond to length of words in sentences, leaving spaces between. Have child write the words in each space.

Have child place index finger between words for correct spacing.

### Alignment:

Color cued paper (See Appendix B)

Verbal instructions (See Appendix C)

Template lines

Tape placed at top and bottom of lines

Size:

Template lines

Colored cued paper

Card with letters formed corrected to compare own handwriting by.

Garden of letters—Make a study booklet or cards for the bulletin boards. These need to be large enough for tracing. Each card is color cued to help remedial children learn the relative size of the small letters. Use colored pencils to shade and a felt tipped pen to write the letters. You divide the writing space into thirds. The upper third is shaded blue to represent the sky, the middle third is shaded green to represent the grass, and the lower third is shaded brown to represent the ground that the roots grow in.

Slant:

Draw slant lines on paper for each letter with pastel flair pens. // // // (Might need to determine child's own individual slant first but stress keeping the slant consistent.

Show examples of inconsistent and consistent slant in words with slant lines. Example:

EVALUATION:

Use precision teaching to monitor the child's daily handwriting skills.

Example: If you are helping a child increase his speed, you could time him for one minute while he wrote the letters of the alphabet. At the end of one minute the child or child and teacher can count the number of letters written correctly according to form, alignment, or whatever skill the child is trying to improve.

#### MODIFICATION BASED ON EVALUATION:

Use the Six-Cycle Chart to determine if improvement is satisfactory. If not, then an instructional change will have to be made. Example: If the child is working to increase speed but isn't showing progress, you may need to find out which letters are slowing him down and practice forming those particular letters.

Children who appear to have severe learning disabilities might profit from the following:

1. If teaching manuscript writing, teach the child to print letters with a continuous stroke.<sup>4</sup> (See Appendix D)
2. Teach the child to produce oval rather than perfectly round manuscript letters and encourage a slight slant to the right.
3. When teaching cursive writing, start all lower case letters from the base line. This helps children who have difficulty with alignment and positioning in space. For example, the alphabet used by Gillingham and Stillman since 1936 is written thus: All loops are omitted from the capital letters for the sake of simplicity and legibility.
4. Experiment by associating a letter with something of interest to the child. (See Appendix E)
5. Introduce only one form of alphabet letters at a time to children who are experiencing difficulty and confusion in writing. Teach lower case letters first, teaching the capital letters later when needed in letters and composition.<sup>5</sup>

#### ADDITIONAL HANDWRITING SUGGESTIONS:

1. One factor that is the underlying base for all good handwriting is motivation. Pupils must see a need for producing legible handwriting before they are likely to do so.
2. What is taught and is advocated in handwriting practice is based upon little, if any, careful research. I would not be too reluctant to question and try new and original ideas.

3. Whether or not to teach the child manuscript or cursive handwriting could depend upon which was being taught in his classroom.

4. In teaching a more severe case; such as a child labeled as dysgraphia; then he would need a more intensive program in visual memory and motor skills. In some cases a typewriter may be a more effective means of communication for this type of child.

5. Many variations are seen in the way children hold a pencil. Properly, the pencil should be held by the index finger and thumb, but resting on the middle finger and the joining point of the index finger and thumb. This will "pull" the pencil back as if the writing hand is almost a straight extension of the forearm. School supply stores often carry expensive triangular grippers that easily fit all standard pencils and help develop proper grasp.

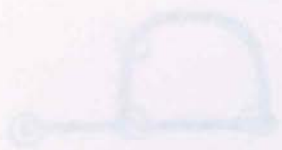
6. For proper paper placement, have the child sit with a straight back. Have him fold his hands directly in front of him so that the joined hands, resting on the table, form a triangle with his chest. The paper is then placed under the writing hand. If he is right-handed, turn his head gently to the left. (Do the opposite for left-handed youngsters.)

7. Left-handed children can pose a problem. If not recognized early, they will acquire any number of inefficiencies in the handwriting process. If they are guided, quite early, in the proper seating and pencil positions, handwriting will not be as demanding for them. (Every possible method should be used to make sure that they are indeed natural "lefties." A test of their natural preferences for sighting, kicking, and listening should help determine this.) Research shows that left-handers can learn to write just as fast as right-handers.

8. When specific letters prove difficult for some children (such as the cursive lower-case j and f), walking out the letter helps. Using chalk, a large replica of the letter can be drawn on the schoolyard pavement. The child should walk out the letter several times, go to a chalkboard and trace the letter already written there, write it himself, and then transfer this skill to lined paper.<sup>6</sup>



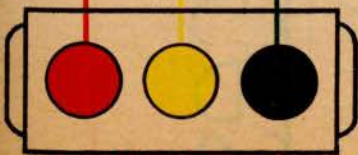
There are more handwriting materials included in this handbook than any teacher would use with one particular child. However, since all children have their own learning styles, one method may work for one individual whereas a different technique will be needed for another child.



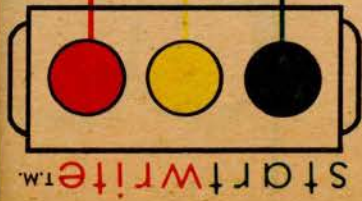


APPENDIX B

COLOR CUED PAPER



StartWrite™



startwrite™

startwrite™ Paper Prices.

Reg. 248 sheets 11" X 8½" \$2.55

Pad, 48 sheets 11" X 8½" .60

Reg. 128 sheets 15" X 12" 2.85

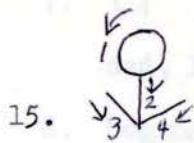
APPENDIX C

VERBAL INSTRUCTIONS

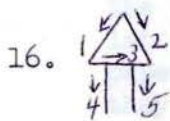
Sequence of readiness symbols:

- |     |  |   |
|-----|--|---|
| 1.  |  | Straight line, pull down.                         |
| 2.  |  | Straight line, push.                              |
| 3.  |  | Circle.   |
| 4.  |  | Slant to the left.                                |
| 5.  |  | Slant to the right.                               |
| 6.  |  | Pull, curve.                                      |
| 7.  |  | Hump.   |
| 8.  |  | Lollipop, circle-straight line<br>pull down.      |
| 9.  |  | Walking cane, curve-pull.                         |
| 10. |  | Umbrella handle, pull-curve.                      |
| 11. |  | Ladder, straight line-pull<br>straight line-push. |
| 12. |  | Fence, straight line-pull.                        |
| 13. |  | Box.  |
| 14. |  | Table.  |

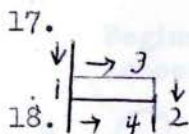
APPENDIX C



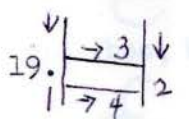
15.



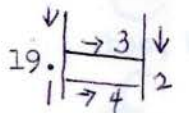
16.



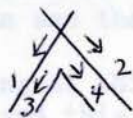
17.



18.



19.



- Flower.
- Tree.
- Tepee.
- Chair.
- Bed.

For children who encounter difficulty with the readiness instructions, repeat the procedures in this section. Substitute ruled writing paper for the newsprint.

Sequence of lower case letter forms. Teach a letter a day with words to accompany the letter practice. Each teacher should compile her own list of words as the following words are only suggestions. Remember: Each word should contain only those letters previously taught.

- 1. |
- 2. i

- Straight line, pull down.
- Short straight line, pull down.

- 3. it, till, t tilt

- Straight line, pull down.
- Straight line, push.

- 4. a at, all, tall

- Circle, short straight line.









- 5. b bat, ball, bill

- Circle, tall straight line.  
(on the left)

- 6. c call, cab, cat

- Circle but stop.

## APPENDIX C

7.  Circle, tall straight line  
(on the right)  
dad, lad, add, lid
8. Beginning at this point each daily lesson can be a review of the previous lessons by having the child write the alphabet letters previously learned. The first line of the child's paper would be the review. Children seem to enjoy this as they can see their own progress.
- Beginning at this point some children can begin writing sentences and this can be the last line of the paper.
9.  Straight line, push.  
Circle stop.  
bee, beet, bell
10.  Hump-straight line pull down-  
straight line push.  
fall, fill, fell, feet, if
11.  Circle, pull-curve.  
bag, get, dig, tag, gate
12.  Straight line, pull, back up  
and hump pull down.  
hall, hide, hat, heat
13.  Pull, curve, dot.  
jet, jab, jail
14.  Straight line, pull.  
Slant to the left.  
Slant to the right.  
bake, cake, kit, kite  
kick
15.  Short straight line, pull.  
Back up, hump over and down.  
Back up, hump over and down.  
make, made, milk  
jam, beam

## APPENDIX C

Directions for the remaining letters of the alphabet will follow the pattern as suggested in the above steps.

16. **n**  
 an, name, can, hand, man
17. **O**  
 noon, moon, no of, off, top, not
18. **P**  
 paint, pan, pop, apple, tape
19. **Q** and **U**  
 queen, quiet, quilt, quit, quack
20. **R**  
 run, read, art, race, four
21. **S**  
 sun, see, has, fast, ask, sail  
 This is the only letter which does not have previous instruction.
22. **V**  
 vase, van, vast, vent, vest, vote
23. **W**  
 wow, we, want, work, wind, water
24. **X**  
 box, fox, tax, exit



## APPENDIX C

26. Y  
yes, yellow, yarn, toy, boy

27. Z  
zoom, zoo, zero, zip, zone, zebra

28. Child's name. This lesson precedes the capital letter sequence although the child has not encountered the formal instruction to capitals.

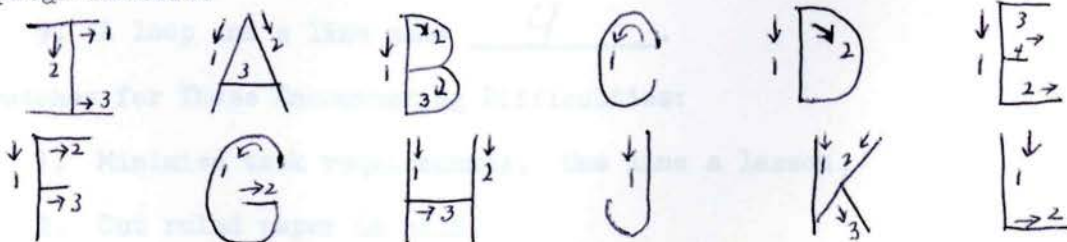
29. Child writes the alphabet from memory.

30. Teacher dictates the letters of the alphabet in a random selection.

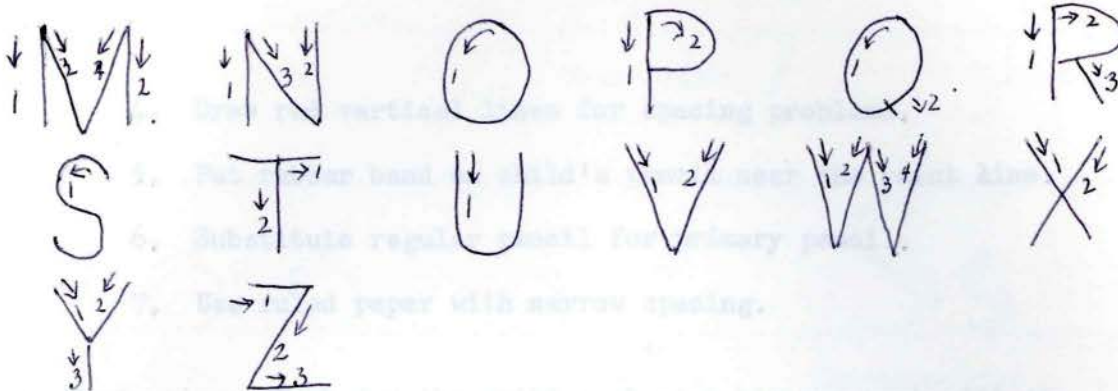
Sequence of capital letters:

1. A letter a day is suggested.
2. Daily lesson would consist of a single line of the capital letter of the day.
3. Simple sentences can be substituted for the single word practice. Compile sentences appropriate to the child.
4. Names of the children in the classroom and the days of the week can often be used in the sentences. Example: Ann is here. or Today is Tuesday.
5. Begin with the letter "I" and then follow the alphabetical sequence. Children lacking in self-confidence enjoy writing sentences beginning with "I".

Capital letters:



## APPENDIX C



**Numerals:** This instruction is often presented in the arithmetic texts. It is suggested that the children receive numeral writing instruction in addition to the text's program. Rhymes to assist the child are:

1. Down from the sun makes 1.
2. Around and back on a railroad track 2.
3. Around a tree and around a tree is 3.
4. Down and across and down some more is 4.
5. Fat old 5, down and around and put a hat on and see what you found 5.
6. Down to a loop and 6 rolls hoop.
7. Across the sky and down from heaven is 7.
8. Make an "s" and do not wait, go back up and make the 8.
9. A loop and a line make 9.

**Crutches for Those Encountering Difficulties:**

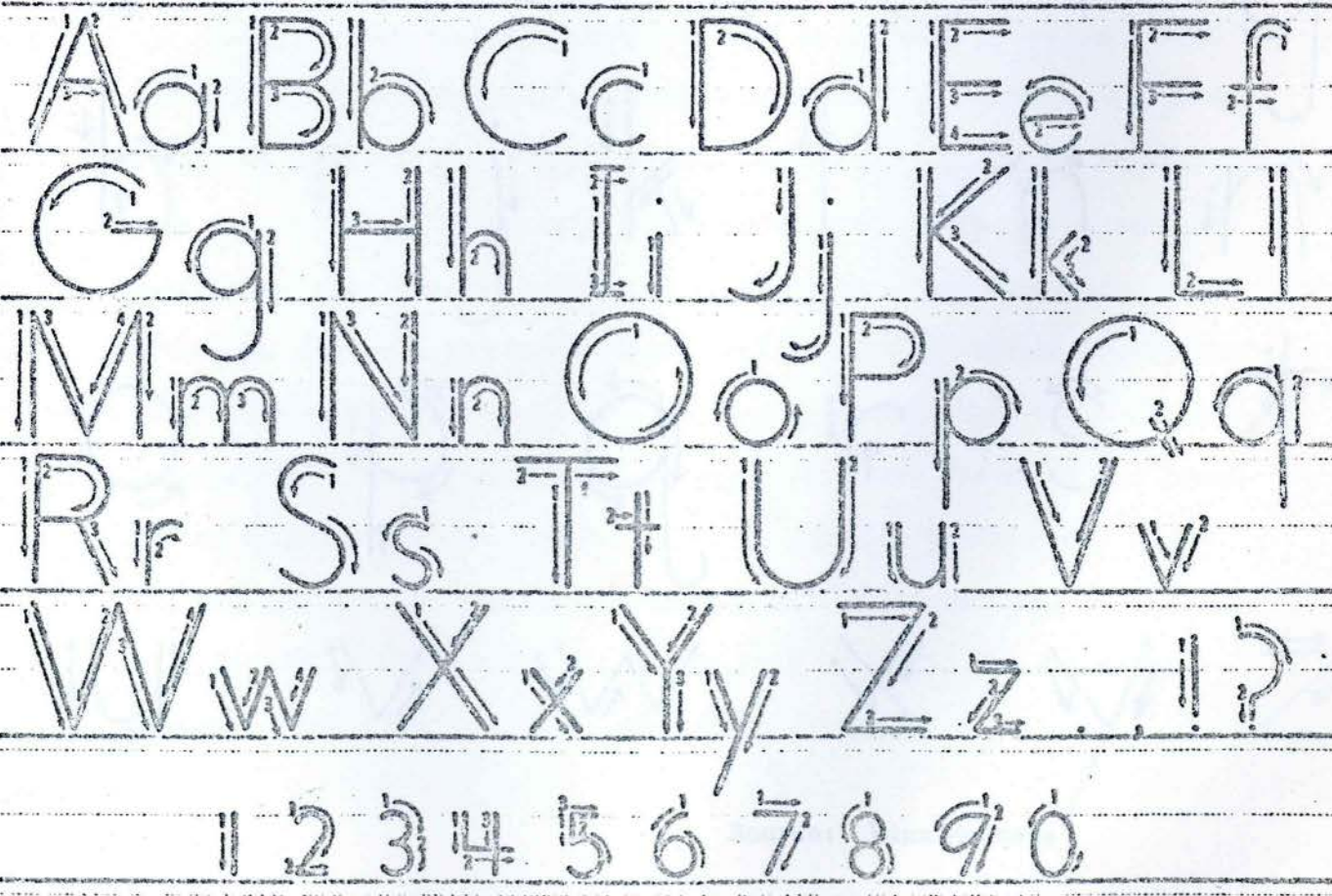
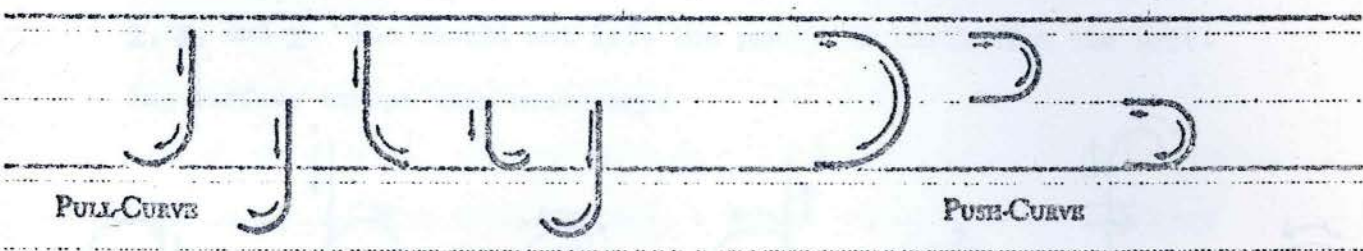
1. Minimize task requirements. One line a lesson.
2. Cut ruled paper in half.
3. Teacher writes one sample letter per line on child's daily paper.

APPENDIX C

4. Draw red vertical lines for spacing problems.
5. Put rubber band on child's pencil near the paint line.
6. Substitute regular pencil for primary pencil.
7. Use ruled paper with narrow spacing.

Evaluation: Each day the child evaluates his own work with the consultation of the teacher.



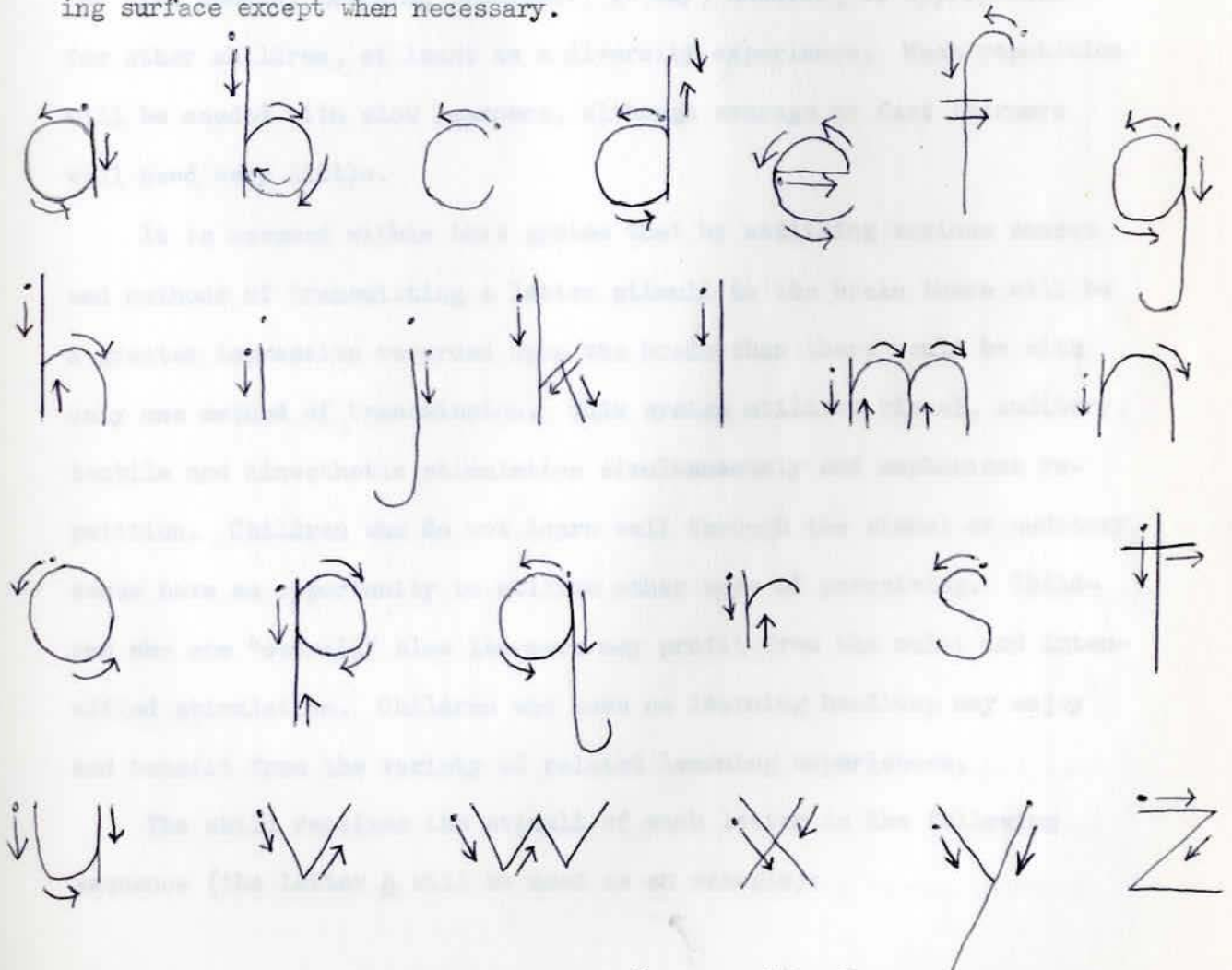


APPENDIX D

MODIFIED MANUSCRIPT

In order to preserve some of the advantages of the left-to-right characteristics of cursive script, we have adopted a modified manuscript that is midway between cursive and the type of manuscript ordinarily taught in the regular elementary schools.

When writing, the teacher should be careful to make all of the letters with one continuous movement with the exception of f, i, k, t, x, and y. She should not lift the pencil or chalk from the writing surface except when necessary.



Source: Edna Monsees

## APPENDIX E

### LEARNING ABOUT LETTERS (A Multi-Senses Approach)

There are a variety of viewpoints regarding when and how letters should be learned in beginning reading. It is evident however that somewhere along the way children need to learn the names, sounds and form of the units which build words. The following materials and procedures are designed to teach letter names, sounds, and forms in an inter-related manner.

This system was designed primarily for slow learners and children with special learning problems. It may, however, be appropriate for other children, at least as a diversity experience. Much repetition will be needed with slow learners, although average or fast learners will need very little.

It is assumed within this system that by utilizing various senses and methods of transmitting a letter stimuli to the brain there will be a greater impression recorded upon the brain than there would be with only one method of transmission. This system utilizes visual, auditory, tactile and kinesthetic stimulation simultaneously and emphasizes repetition. Children who do not learn well through the visual or auditory sense have an opportunity to utilize other ways of perceiving. Children who are "overall" slow learners may profit from the multi and intensified stimulation. Children who have no learning handicap may enjoy and benefit from the variety of related learning experiences.

The child receives the stimuli of each letter in the following sequence (the letter h will be used as an example):

## APPENDIX E

- A. PICTURE - Child looks at the picture and says, "this is a horse."  
 1. He hears himself produce the letter sound as he names a picture. (auditory)  
 2. He feels his muscles produce the sound. (kinesthetic)
- B. LETTER - Child looks at the h and says, "this is an h."  
 3. He sees the letter. (visual)  
 4. He hears himself say the name of the letter. (auditory)  
 5. He feels his muscles produce the letter name. (kinesthetic)
- C. TRACING - Child says, "h looks like this" as he traces letter with his finger.  
 6. He hears himself say the letter name. (auditory)  
 7. He feels his index finger rub a surface as he goes through the movements of tracing or imitating the letter form. (tactile)  
 8. He feels his muscles produce the arm and finger movements necessary to transcribe the letter. (kinesthetic)

This sequence takes approximately ten seconds and will usually be repeated three times without stopping; thereby providing twenty-four separate transmittals through four different avenues within approximately thirty seconds.

There is also the possibility of utilizing rhythm patterns to maintain interest and aid memory. For example, the rhythm pattern of the spoken sentences could be tapped out with the index finger on the desk or table. Clapping or various methods of expressing rhythm could be used.

The child gets the experience of expressing complete thoughts orally. He also has the opportunity to have a successful "reading like" experience as he memorizes the sentences which are printed.

MATERIALS

When only paper materials are available it is suggested that each two consecutive pages be put back to back and enclosed in a cellophane envelope or transparent cover of some type - possibly with a piece of

## APPENDIX E

card stock between the pages to add stiffness.

Paper copies are inexpensive and complete sets could be provided for children to keep. A protective cover would not be needed as they would probably learn all letters before the materials would wear out.

If the materials are printed on heavy card stock they may be printed front and back in sequence, thereby producing a learning unit of four letters.

If the materials are printed on light weight card stock the  $8\frac{1}{2}$ " by 11" could provide a learning unit of two words, or the page could be cut in the middle providing a separate  $4\frac{1}{2}$ " by  $5\frac{1}{2}$ " card for each letter.

INSTRUCTIONS

The materials can be used individually or in a small group. If used individually the child traces over the letter made with arrows. When working in small teacher lead groups the child uses the desk surface rather than the printed form for tactile facet of the exercise.

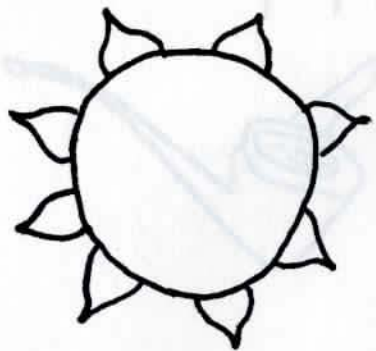
PROCEDURES

- A. The sequence is: (1) picture naming, (2) letter naming, (3) letter tracing.
- B. The child says ("reads") from memory the sentences above each of the three symbols within the exercise. He traces the letter form with his index finger as the last phase of the exercise.
- C. The sequence for each letter is repeated approximately three times before pausing or moving on to another letter.
- D. As a general rule no more than four new letters should be studied at one sitting, but previously learned letters should be reviewed nearly every sitting.
- E. No more than 10 to 15 minutes should be spent at one sitting.
- F. Children should be taught how to use the materials individually and the materials should be made available to them in a simple and attractive manner.

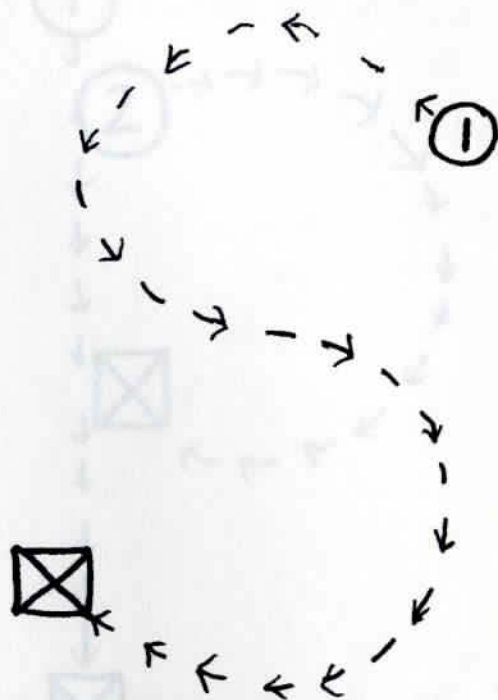
Author: C. N. Watson  
Madera, Calif.  
2/72



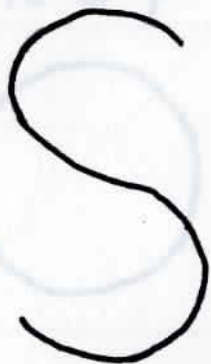
1. this is a sun



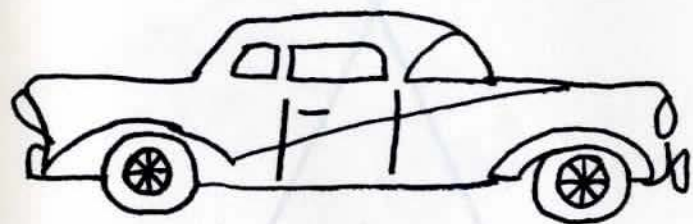
s looks like this 23



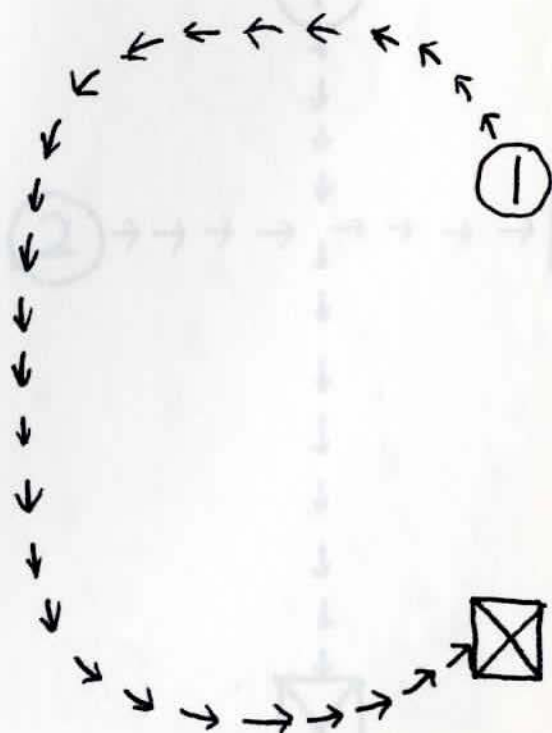
this is an s



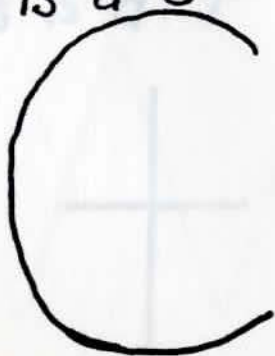
2. this is a car



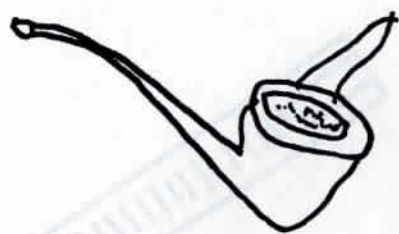
c looks like this



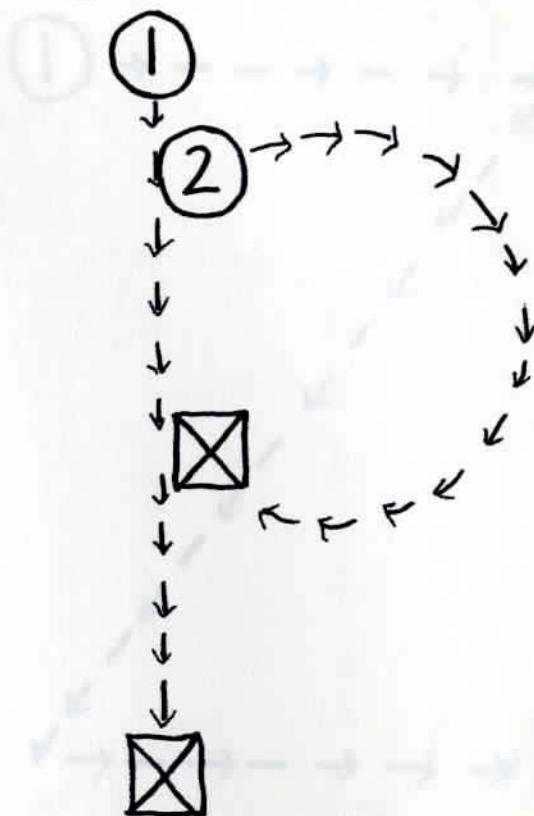
this is a c



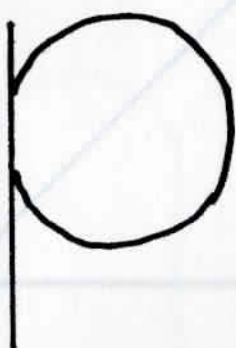
3. this is a pipe



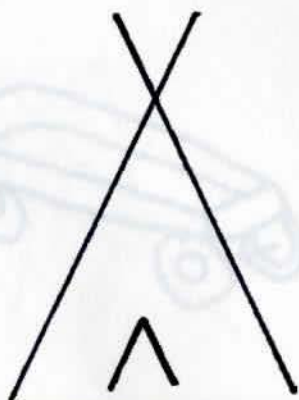
p looks like this <sup>24</sup>



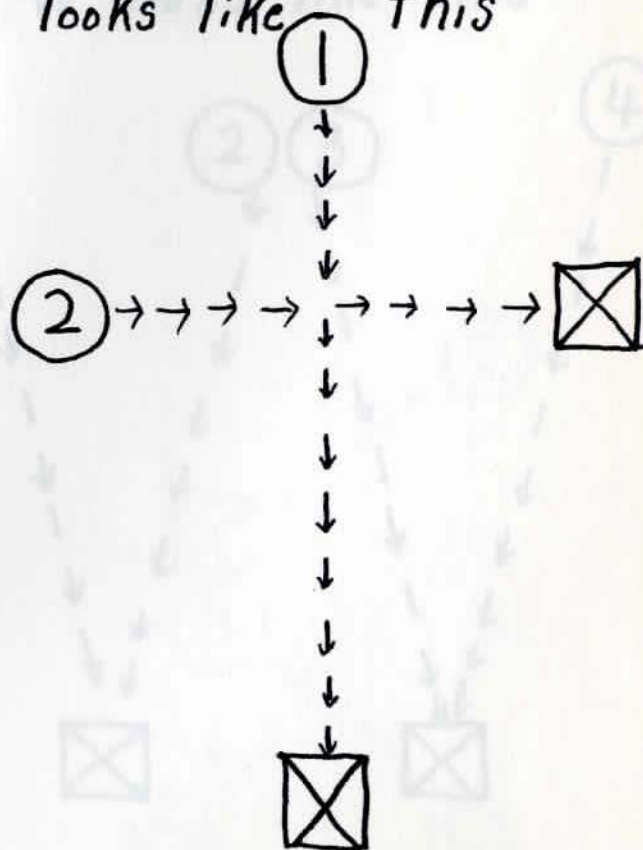
this is a p



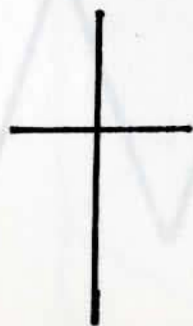
4. this is a tent



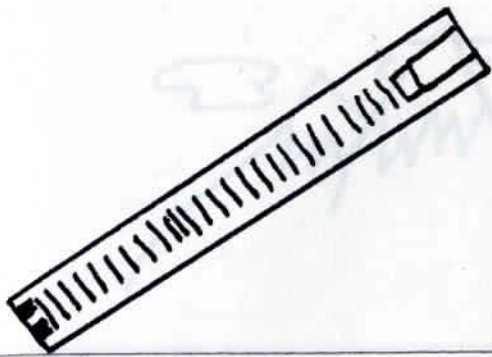
t looks like this



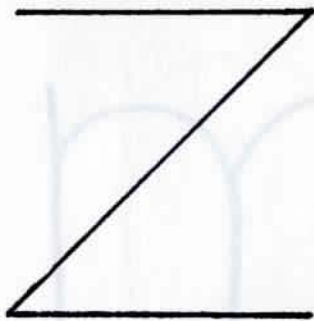
this is a t



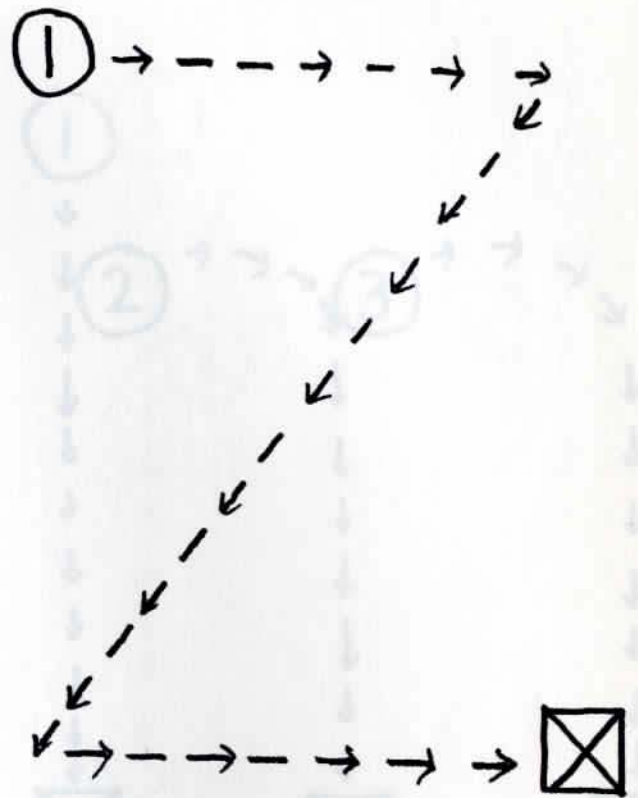
5. this is a zipper



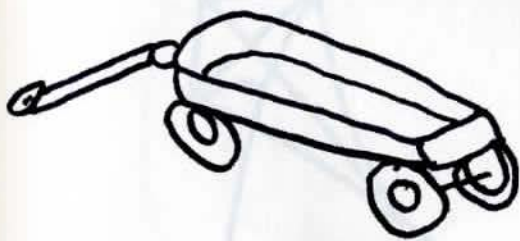
this is a z



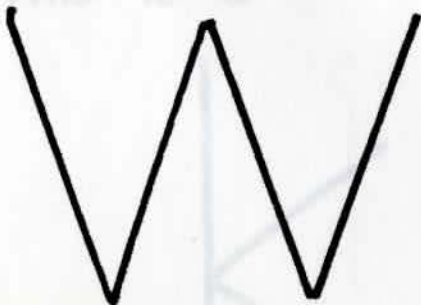
z looks like this 25



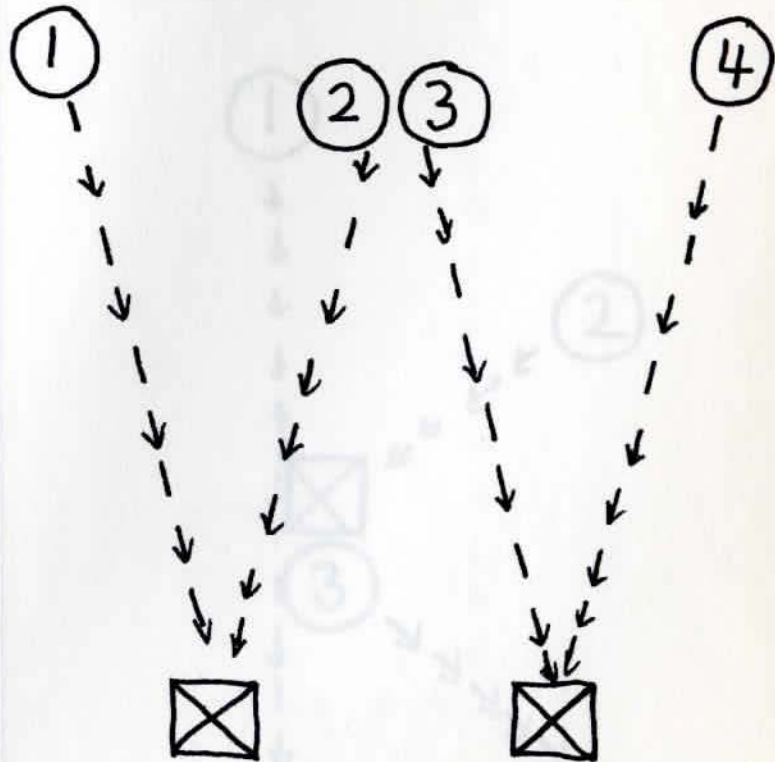
6. this is a wagon



this is a w



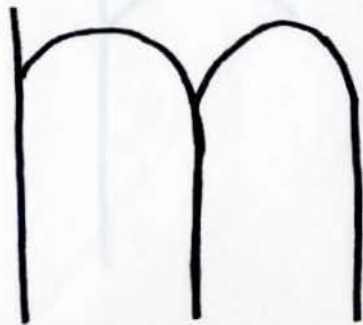
w looks like this



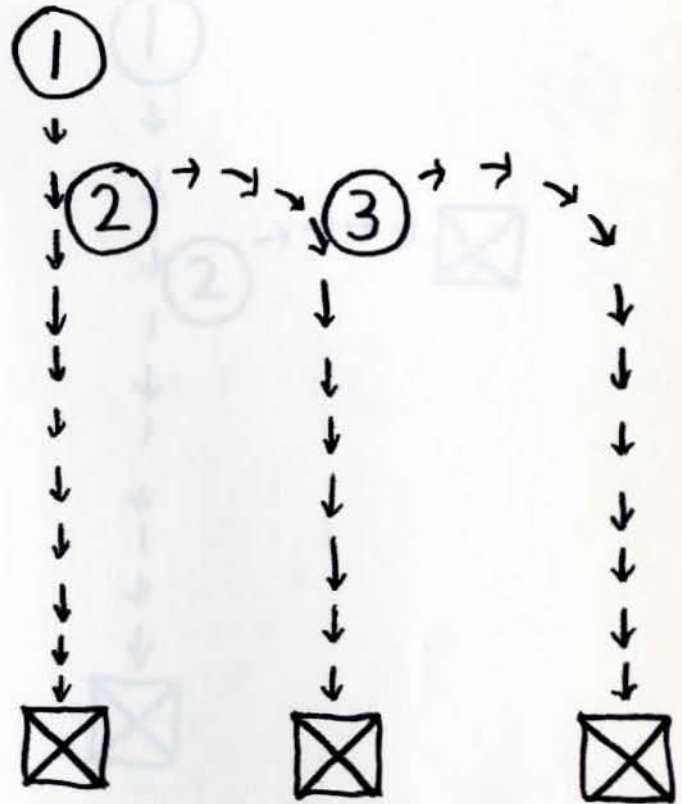
7. this is a mountain



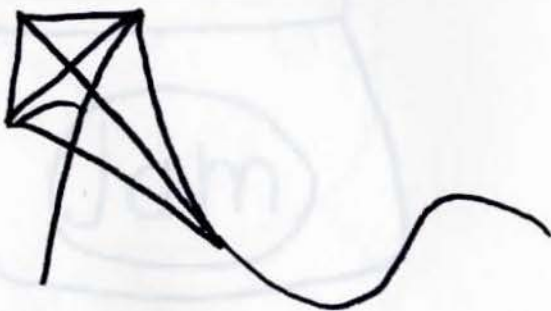
this is an m



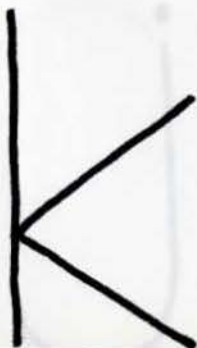
m looks like this 26



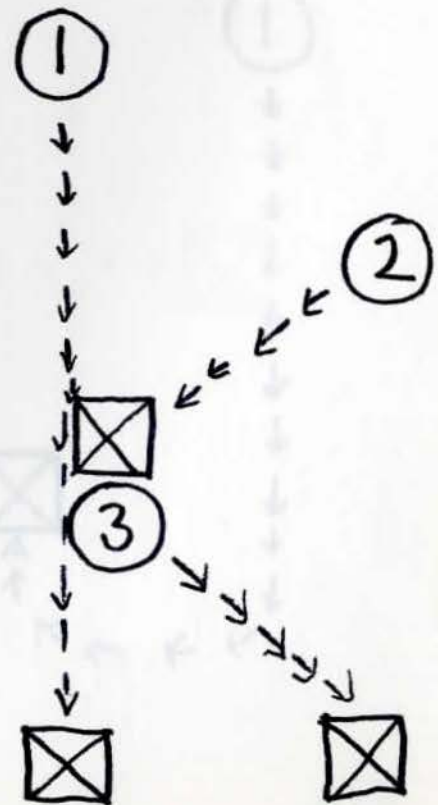
8. this is a kite



this is a k



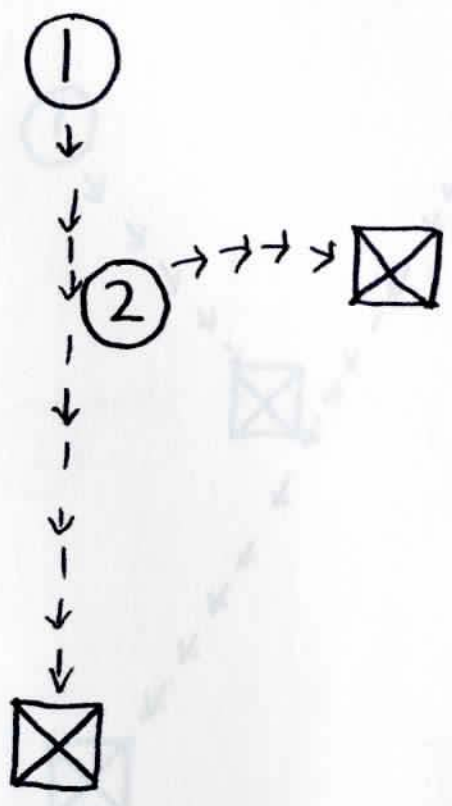
k looks like this



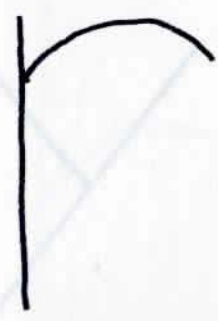
9. this is a rabbit



r looks like this <sup>27</sup>



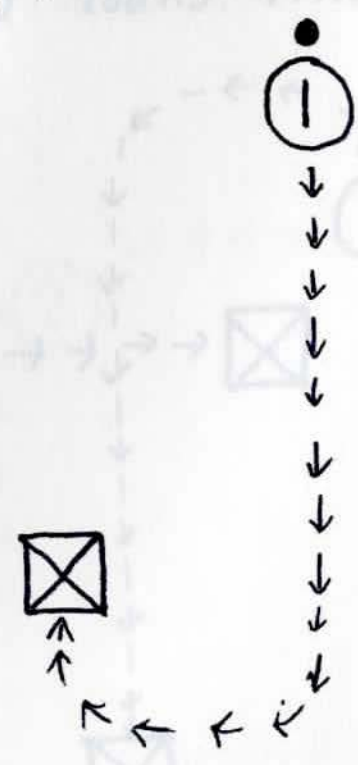
this is an r



10. this is a jar



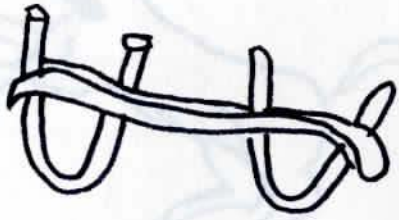
j looks like this



this is a j



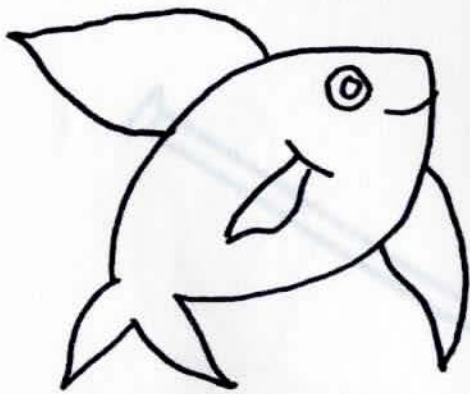
11. this is a yoke



this is a y



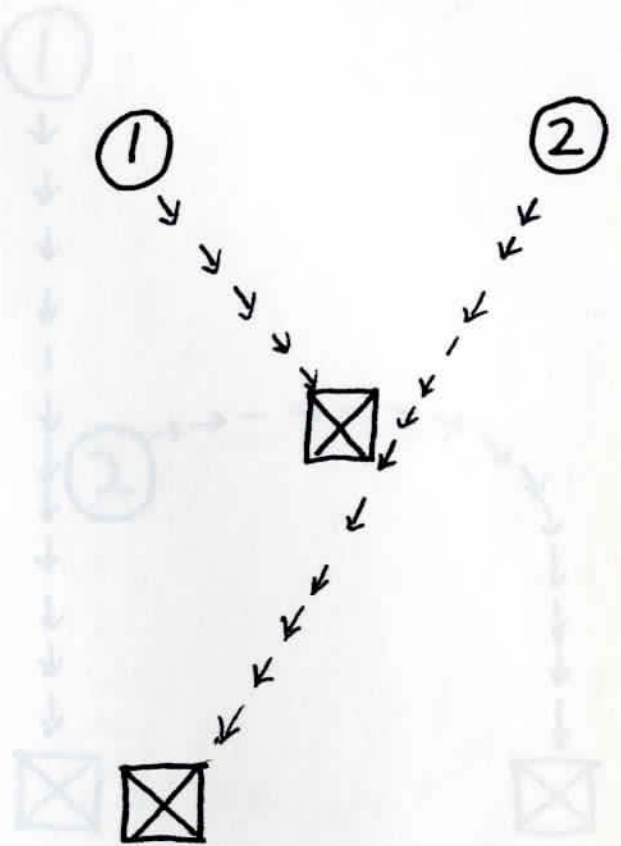
12. this is a fish



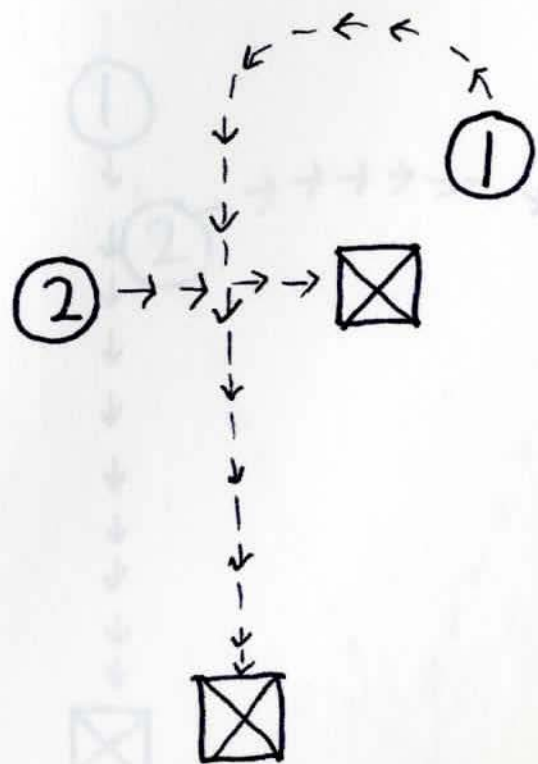
this is an n



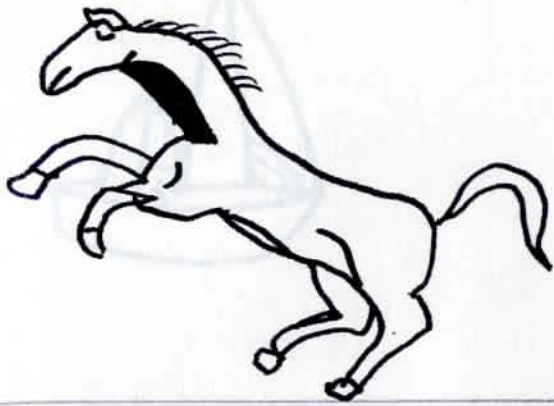
y looks like this <sup>28</sup>



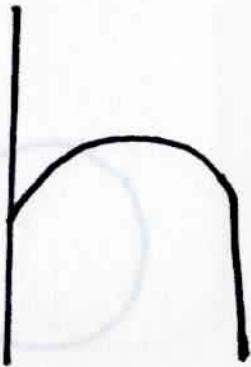
n f looks like this



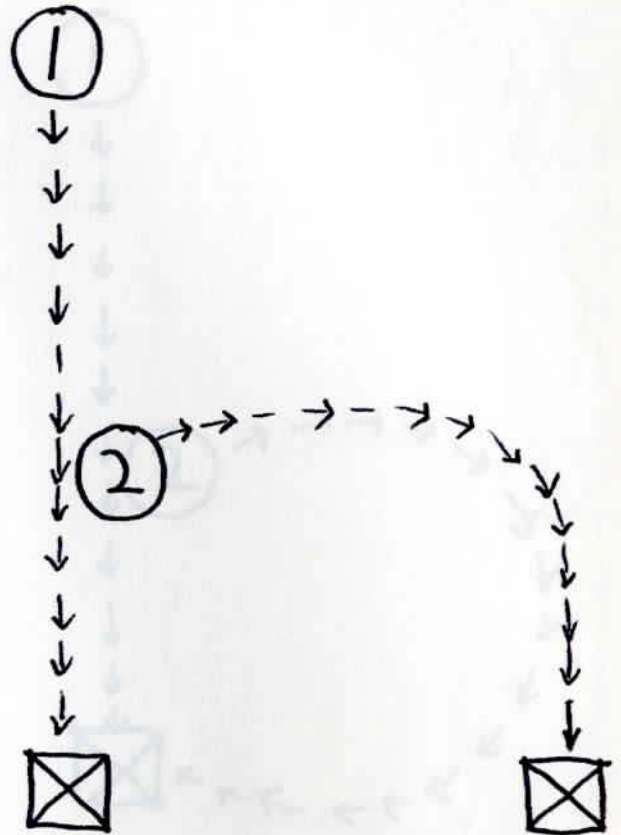
13. this is a horse



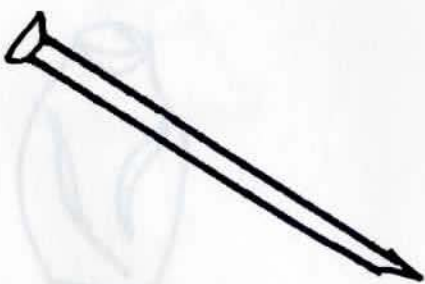
this is an h



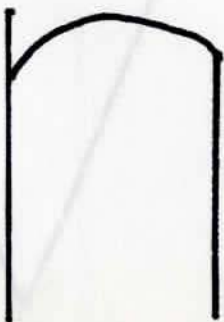
h looks like this <sup>29</sup>



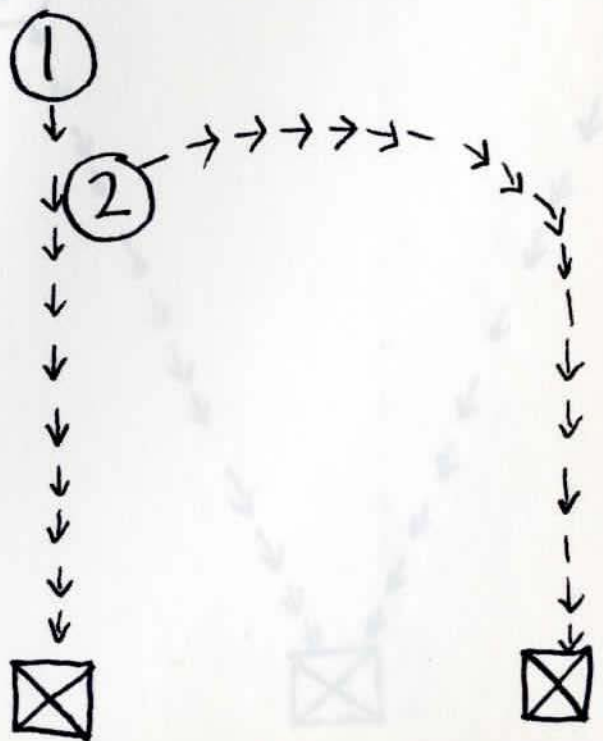
14. this is a nail



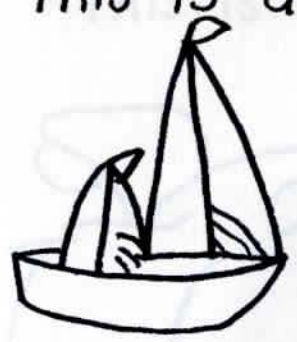
this is an n



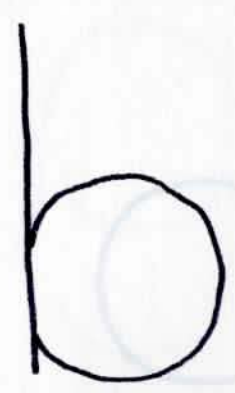
n looks like this



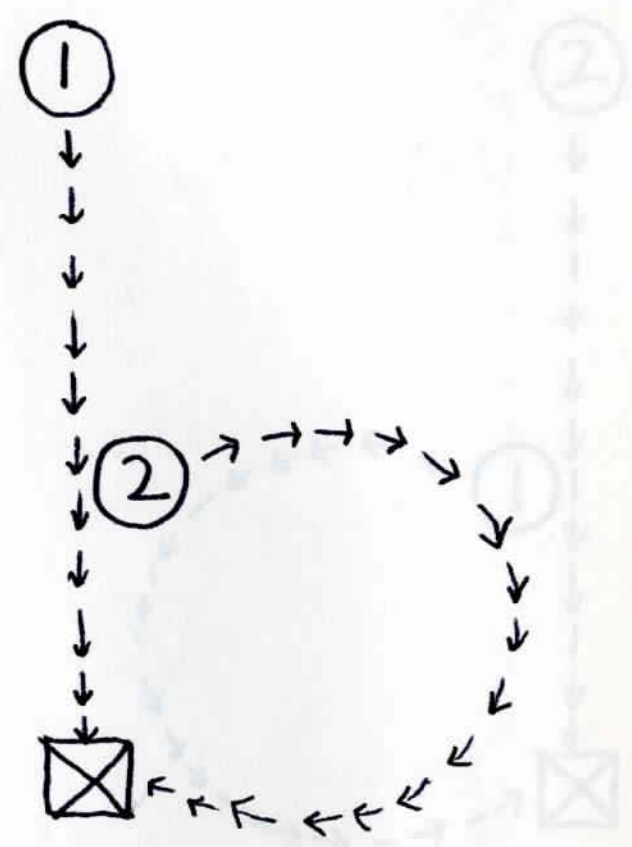
15. this is a boat



this is a b



b looks like this <sup>30</sup>



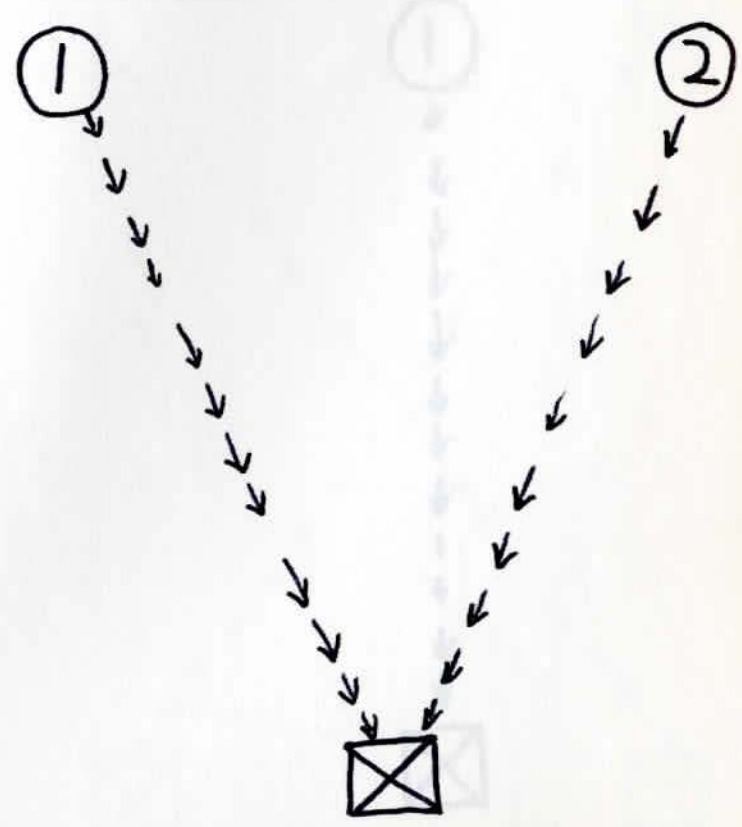
16. this is a vase



this is a v

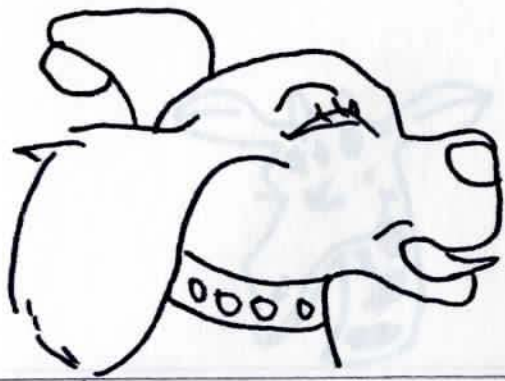


v looks like this

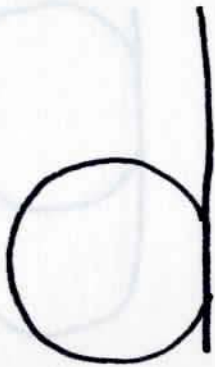




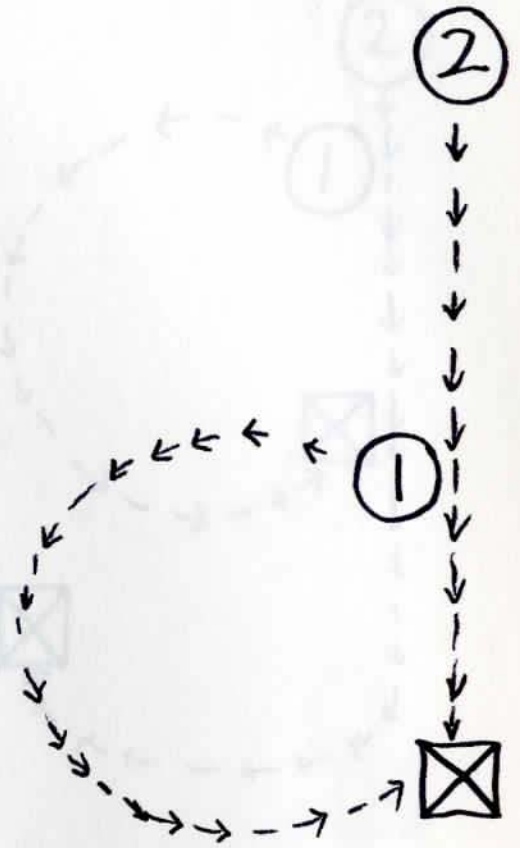
17. this is a dog



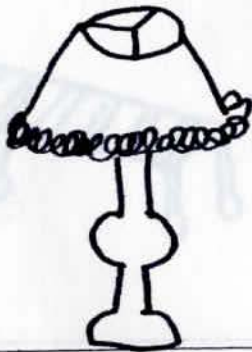
this is a d



d looks like this 31



18. this is a lamp



this is an l



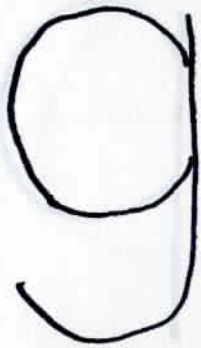
l looks like this



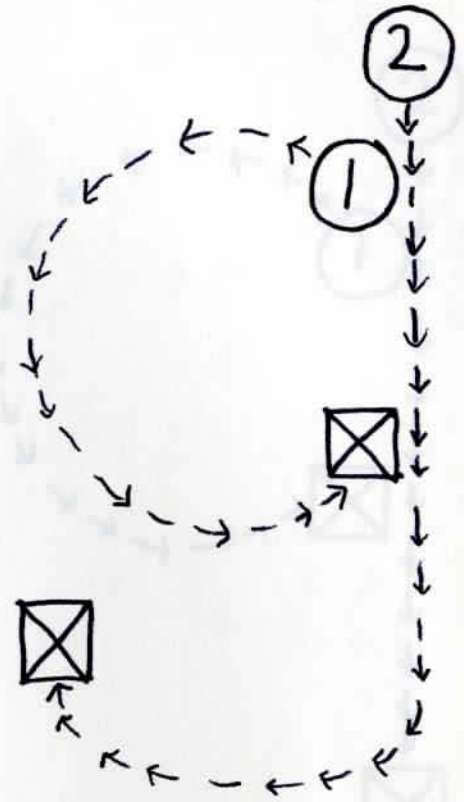
19. this is a giraffe



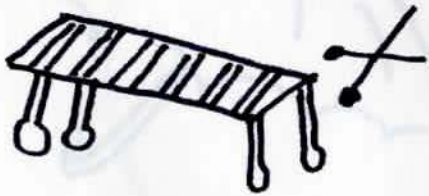
this is a g



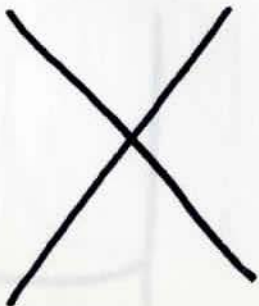
g looks like this <sup>32</sup>



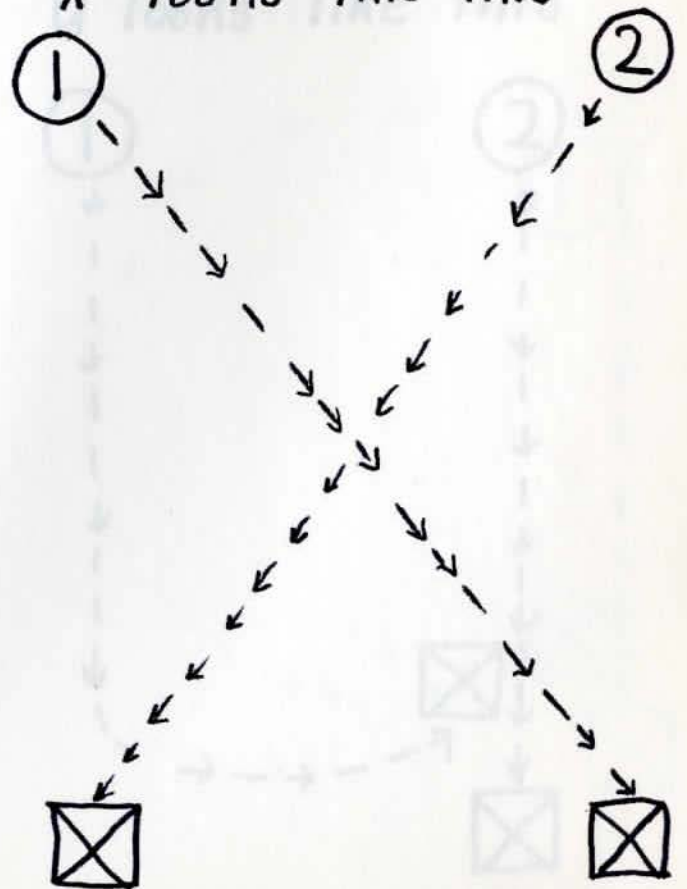
20. this is a xylophone



this is an x



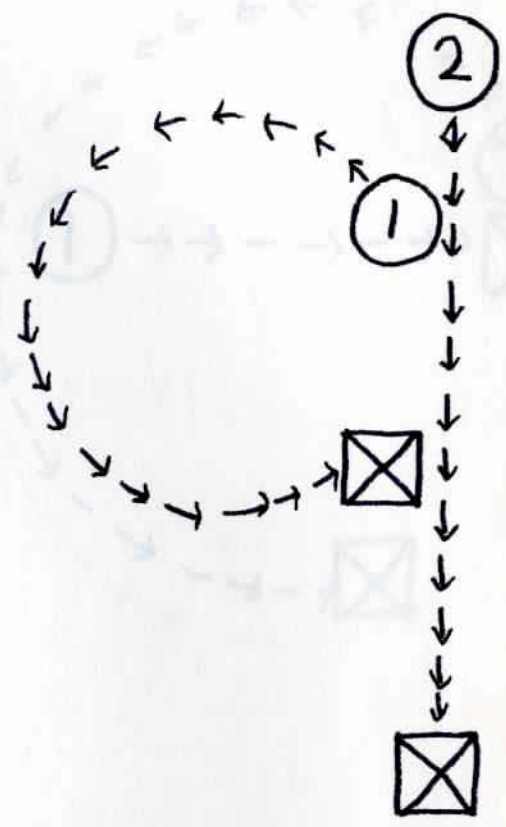
x looks like this



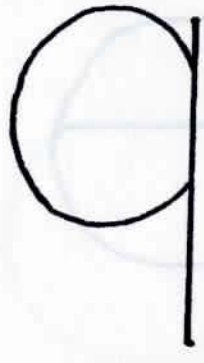
21. this is a quail



q looks like this <sup>33</sup>



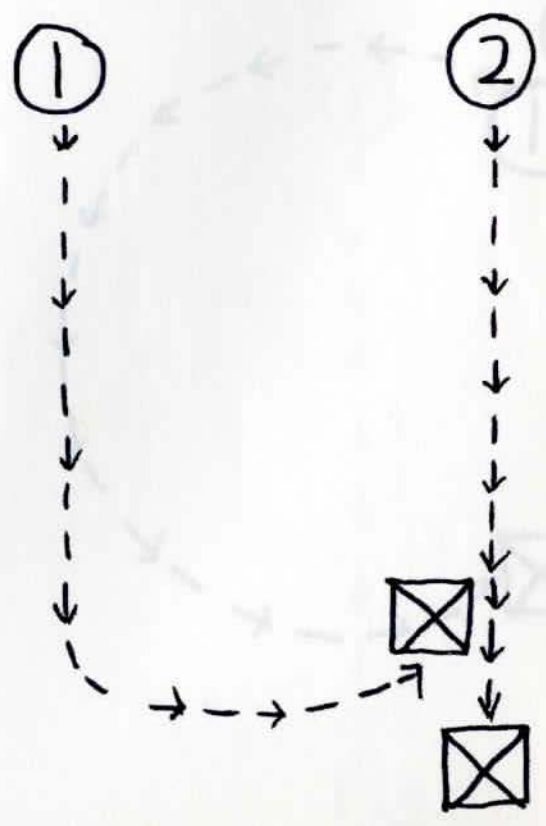
this is a q



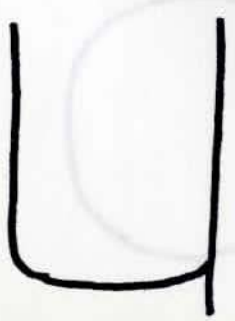
22. this is an umbrella



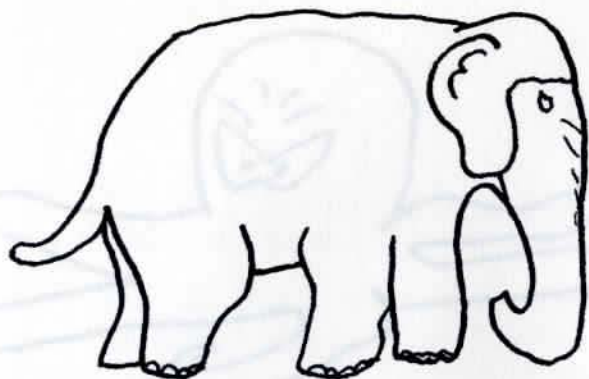
u looks like this



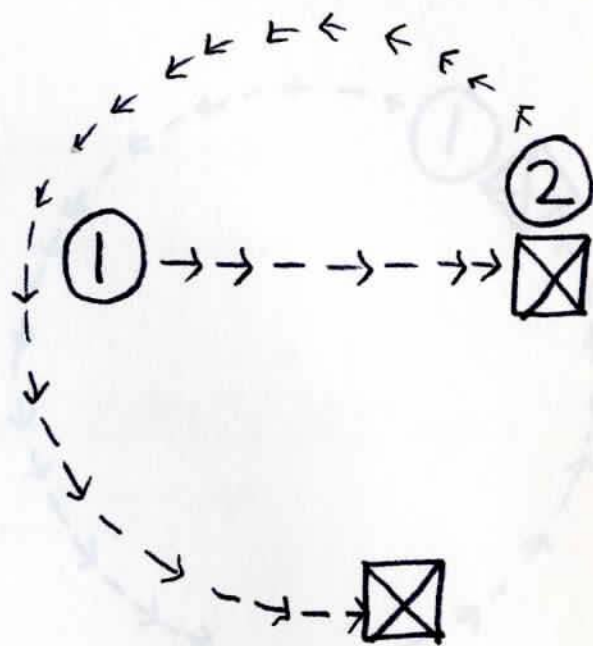
this is a u



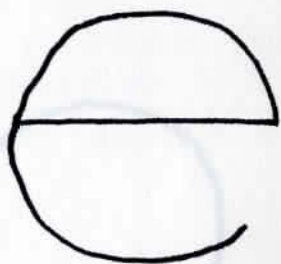
3. this is an elephant



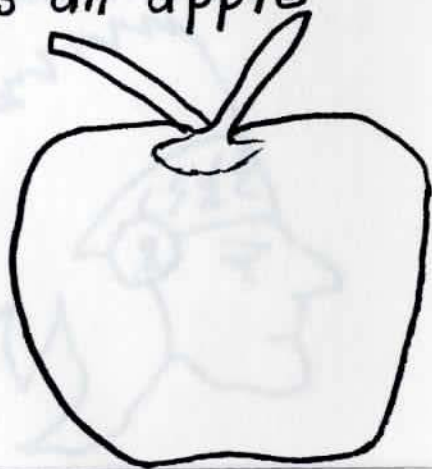
e looks like this 34



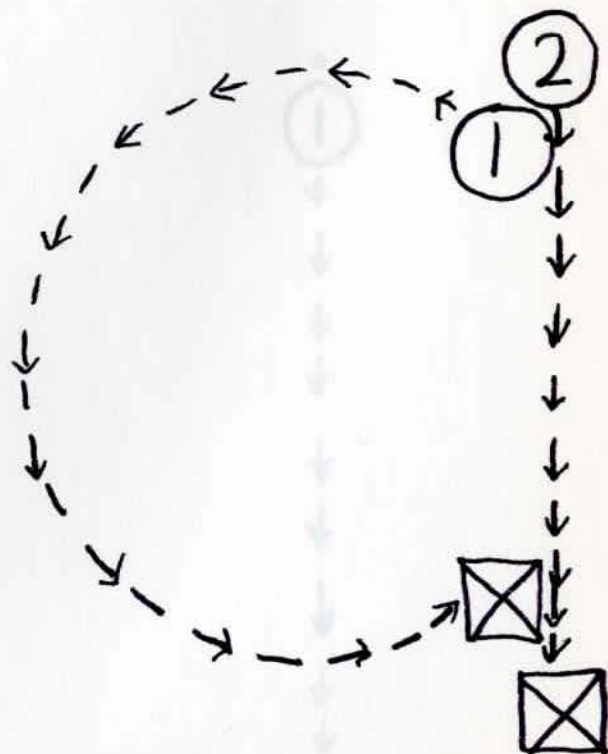
this is an e



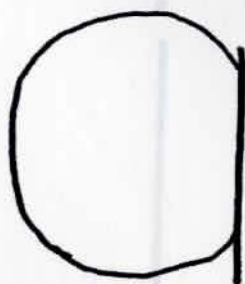
4. this is an apple



a looks like this



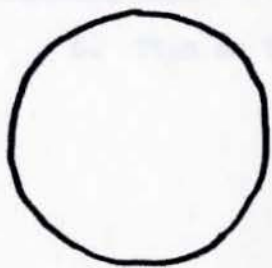
this is an a



5. this is an octopus



this is an o



6. this is an indian



this is an i



o looks like this



i looks like this



#### FOOTNOTES

1. Tips on Teaching Handwriting (San Rafael, California: Academic Therapy Publications, 1975) p.2.
2. F. N. Freeman, "A New Handwriting Scale," Elementary School Journal, 59: 218-221, (1959).
3. Tips on T. H., pp. 6, 8, and 10.
4. Edna Monsees, Structured Language For Children With Special Language Problems. (Washington D.C.: Children's Hearing and Speech Center, 1972) p.186.
5. Irene W. Hanson, "Teaching Remedial Handwriting," Language Arts, (April, 1976: Volume 53) pp. 428-431.
6. Tips on T. H., p. 7.

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- Academic Therapy Publications, Tips on Teaching Handwriting,  
San Rafael, California: 1975, p.2, 6, 8, and 10.
- Freeman, F. N.. "A New Handwriting Scale," Elementary School  
Journal, 59: 1959, pp. 218-221.
- Hanson, Irene W. "Teaching Remedial Handwriting," Language  
Arts, (April, 1976: Volume 53) pp. 428-431.
- Monsees, Edna K., Structured Language For Children With Special Language  
Problems. Washington D.C.: Children's Hearing and Speech Center,  
1972, p. 186.

## PRECISION TEACHING MATERIALS

Precision teaching is a new technique in special education. Ogden F. Mastaglio developed and presented the idea in response to the needs of exceptional children as reported to him by the teachers of these special children.

At the University of Kansas, Ogden Mastaglio and others decided to see if collecting daily frequency records of student's performance would be useful to classroom teachers. Teachers began recording

**PRECISION TEACHING MATERIALS:** PAGES 1-11

the number of correct responses to record 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

**APPROVALS:** PAGES 12-16

**PROFESSIONAL ORGANIZATIONS:** PAGES 17-18

in recording. They found that this was the answer to their long problem--having the students record their own behavior. Now kindergarten and first grade children are known to be recording and charting their daily classroom performance as described in the first chapter. The records of performance are useful in monitoring design, behavior change, and modifying individualized programs.

As I said earlier in my paper, I would like to attempt to present precision teaching in a small format at first. When I feel comfortable and secure with precision teaching I would like to increase the system of monitoring daily improvement. Using precision teaching in monitoring daily improvement by the student is a successful individualized instructional program.



## PRECISION TEACHING MATERIALS

Precision teaching is a new technique in special education. Ogden R. Lindsley shaped and developed the idea in response to the needs of exceptional children as reported to him by the teachers of these special children.

At the University of Kansas, Ogden Lindsley and others decided to see if collecting daily frequency records of student's performance would be useful to classroom teachers. Teachers began recording students' performances. Their first problem was that it was too much work for most teachers to record 2, 3, or 4 different daily frequencies on each child, especially if they had 12 to 30 students.

Some of the innovative teachers began to involve the students in recording. They found that this was the answer to their time problems--having the students record their own behavior. Now kindergarten and first grade children are known to be recording and charting their daily classroom performances on Standard Behavior Charts. The records of performance are useful in curriculum design, behavior change, and handling discipline problems.

As I said earlier in my paper, I would make an attempt at precision teaching in a small fashion at first. When I felt comfortable and became more proficient at using precision teaching then I would increase the system of monitoring daily improvement. Using precision teaching in monitoring daily improvement may be one answer to a successful individualized instructional program.

## APPENCIX A

For teachers interested in learning more about precision teaching, I would suggest that you write to this address for a listing of books and charting materials.

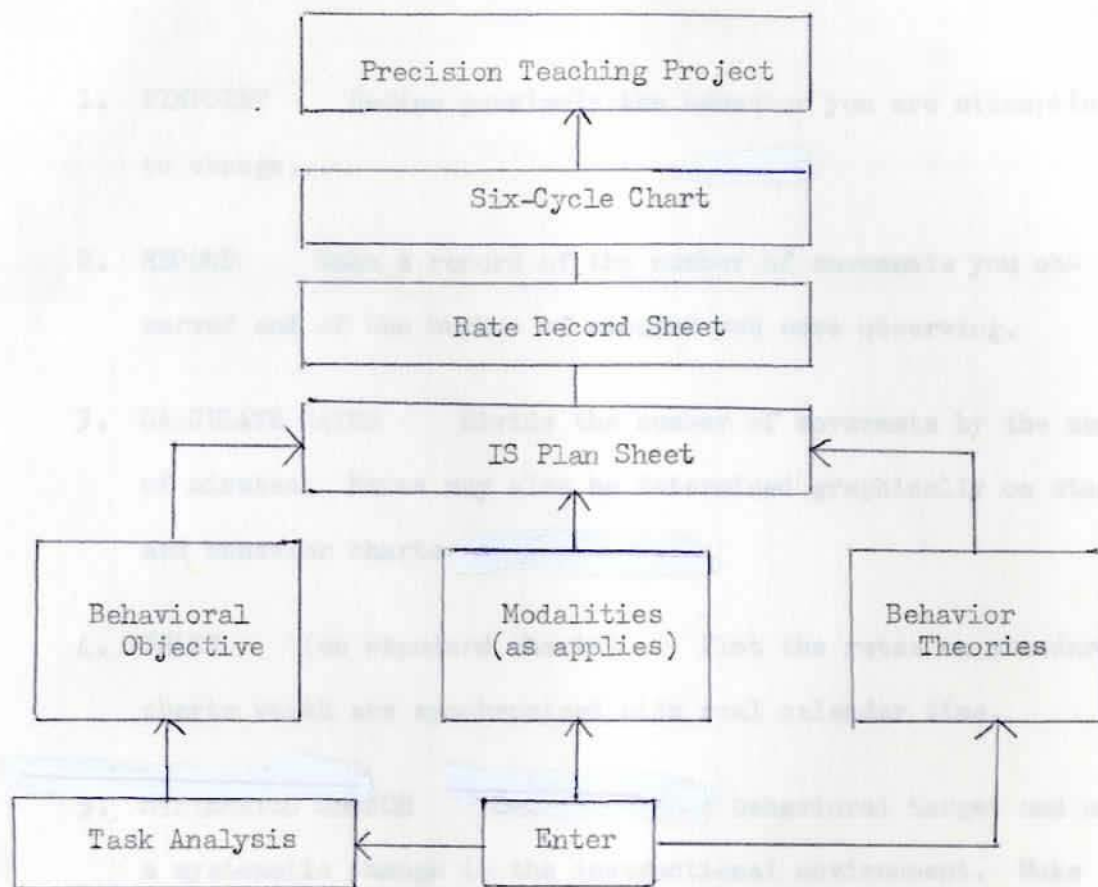
Behavior Research Company  
Box 3351  
Kansas City, Kansas 66103

In the pamphlet listed under PUBLICATIONS IN PRINT, I would recommend reading Teaching Exceptional Children, Vol. 3, No. 3, May '71 @ \$2.00 first. This journal has several basic, introductory articles on precision teaching and various ways to use precision teaching.

Since October, I have purchased the other two books on precision teaching. These books are worth your investment if you desire to delve deeper into this process of monitoring daily improvement.

APPENDIX B

Flow Chart of a Precision Teaching Project



## APPENDIX C

### SEVEN STEPS OF PRECISION TEACHING

1. **PINPOINT** Define precisely the behavior you are attempting to change...
2. **RECORD** Make a record of the number of movements you observed and of the number of minutes you were observing.
3. **CALCULATE RATES** Divide the number of movements by the number of minutes. Rates may also be determined graphically on standard behavior charts.
4. **CHART** (on standard charts) Plot the rates on standard charts which are synchronized with real calendar time.
5. **SYSTEMATIC CHANGE** Determine your behavioral target and make a systematic change in the instructional environment. Make changes one at a time whenever possible.
6. **OBSERVE CHARTS REGULARLY** Charted behavior rates will provide your most sensitive feedback on the success or failure of the instructional system you have in effect. Let your chart tell you when to make changes.
7. **GRANDMA'S LAW** Try, Try again. Persistent and systematic changes in the instructional variables will provide results.

APPENDIX D

IS PLAN SHEET

PLAN SHEET # \_\_\_\_\_ FOR \_\_\_\_\_ TARGET A \_\_\_\_\_ Pinpointed by: Pupil \_\_\_\_\_ DATE: \_\_\_\_\_

M \_\_\_\_\_ Manager \_\_\_\_\_  
Desired Rate \_\_\_\_\_ D \_\_\_\_\_ Advisor \_\_\_\_\_

LOCATION \_\_\_\_\_ MANAGERS \_\_\_\_\_

PROGRAM      PROGRAMMED EVENT      MOVEMENT CYCLE      ARRANGEMENT      ARRANGED EVENT

PROGRAM	PROGRAMMED EVENT	MOVEMENT CYCLE	ARRANGEMENT	ARRANGED EVENT

DATE

TRAINER

ADVISER

MANAGER

BEHAVER

PROGRAM	PROGRAM EVENTS	ACCELERATION			DECELERATION		
		MOVEMENT CYCLE	A	ARRANGED EVENT	MOVEMENT CYCLE	A	ARRANGED EVENT



NAME \_\_\_\_\_  
 PROJECT \_\_\_\_\_  
 SHEET \_\_\_\_\_

$$\text{RATE} = \frac{\# \text{ movements}}{\# \text{ mins.}}$$

APPENDIX E

DAY	MINUTES OF COUNTING	MOVEMENTS COUNTED	RATE	NO CHANGE	IGNORED	CHARTED	COMMENT
MON			●				
TUES			●				
WED			●				
THUR			●				
FRI			●				
SAT			●				
SUN			●				
mo/day							



MON			●				
TUES			●				
WED			●				
THUR			●				
FRI			●				
SAT			●				
SUN			●				
mo/day							



MON			●				
TUES			●				
WED			●				
THUR			●				
FRI			●				
SAT			●				
SUN			●				
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MON			●				
TUES			●				
WED			●				
THUR			●				
FRI			●				
SAT			●				
SUN			●				
mo/day							



MANAGER

BEHAVER

PROJECT

	O	●	X	N.C.	I.		O	●	X	N.C.	I.		O	●	X	N.C.	I.		O	●	X	N.C.	I.						
MON						MON						MON						MON						MON					
TUE						TUE						TUE						TUE						TUE					
WED						WED						WED						WED						WED					
THUR						THUR						THUR						THUR						THUR					
FRI						FRI						FRI						FRI						FRI					
SAT						SAT						SAT						SAT						SAT					
SUN						SUN						SUN						SUN						SUN					
	O	●	X	N.C.	I.		O	●	X	N.C.	I.		O	●	X	N.C.	I.		O	●	X	N.C.	I.						
MON						MON						MON						MON						MON					
TUE						TUE						TUE						TUE						TUE					
WED						WED						WED						WED						WED					
THUR						THUR						THUR						THUR						THUR					
FRI						FRI						FRI						FRI						FRI					
SAT						SAT						SAT						SAT						SAT					
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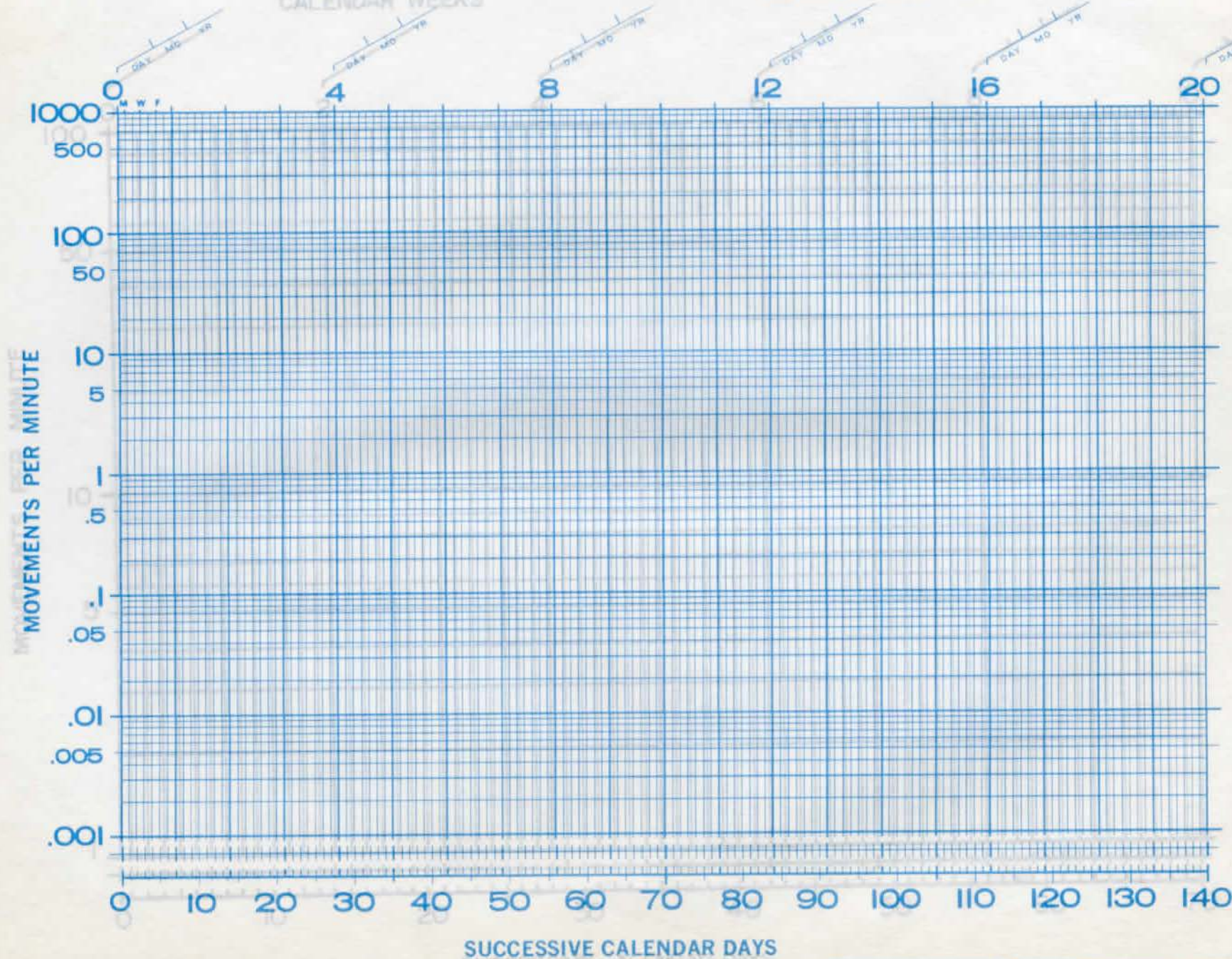
DAILY TIME \_\_\_\_\_

TIME SAMPLE \_\_\_\_\_



CALENDAR WEEKS  
CALENDAR WEEKS

5 CYCLE - 140 DAYS 120 WKS.  
BEHAVIOR RESEARCH CO.  
BOX 3381 - KANSAS CITY, KANS. 66103



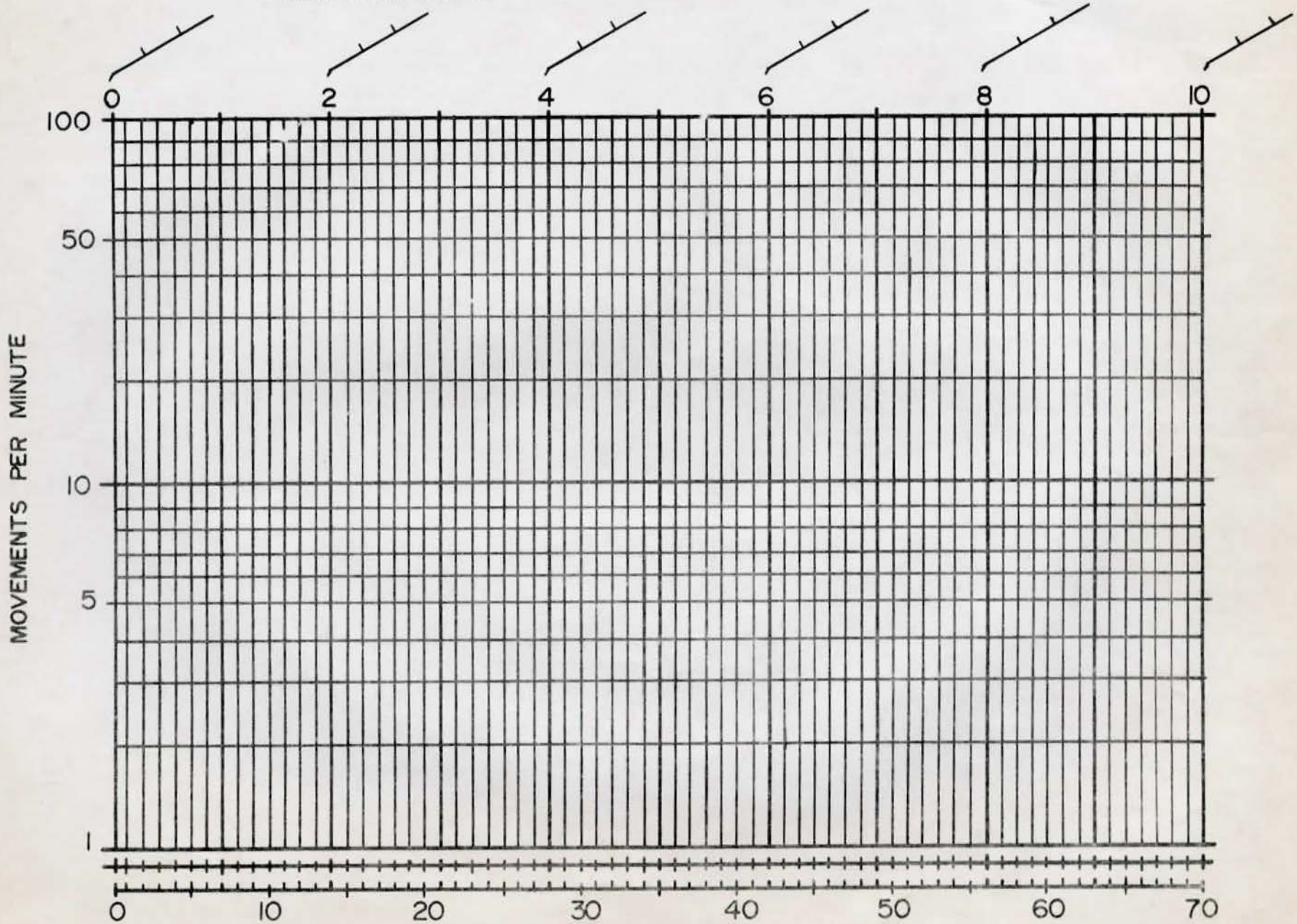
APPENDIX F

SUPERVISOR    ADVISER    MANAGER  
SUPERVISOR    ADVISER    MANAGER  
DEPOSITOR                    AGENCY

BEHAVIOR    AGE    LABEL    MOVEMENT  
BEHAVIOR    AGE    LABEL    MOVEMENT  
CHARTER    CHARTER

6

CALENDAR WEEKS



SUPERVISOR    ADVISER    MANAGER

BEHAVIOR    AGE    LABEL    MOVEMENT  
CHARTER

APPENDIX G

PRECISION TEACHING FORMS

FOR

(Name)

## APPENDIX H

### 65 WAYS TO SAY "GOOD FOR YOU"

Everyone knows that a little praise goes a long way in any classroom. But "a little praise" really needs to be something more than the same few phrases repeated over and over ad nauseum. Your students need more than the traditional "Good" and "Fine" if encouragement is in the cards. Here are some additional possibilities:

That's really nice.  
Thank you very much.  
Wow!  
That's great.  
I like the way you're working.  
Keep up the good work.  
Everyone's working so hard.  
That's quite an improvement.  
Much better.  
Keep it up.  
It's a pleasure to teach when you work like this.  
Good job.  
What neat work.  
You really outdid yourself today.  
This kind of work pleases me very much.  
Congratulations! You only missed \_\_\_\_\_.  
That's right! Good for you.  
Terrific.  
I bet your Mom and Dad would be proud to see the job you did on this.  
Beautiful.  
I'm very proud of the way you worked (are working) today.  
Excellent work.  
I appreciate your help.  
Very good. Why don't you show the class?  
Thank you for (sitting down, being quiet, getting right to work, etc.)  
Marvelous.  
Groovy.  
Right on.  
For sure.  
Sharp.  
That looks like it's going to be a great report.  
I like the way Tom is working.

My goodness, how impressive!  
You're on the right track now.  
That's "A" work.  
John is in line.  
Mary is waiting quietly.  
Dickie got right down to work.  
Ann is paying attention.  
It looks like you put a lot of work into this.  
That's clever.  
Very creative.  
Very interesting.  
Good thinking.  
That's an interesting way of looking at it.  
Now you've figured it out.  
Clifford has it.  
That's the right answer.  
Now you've got the hang of it.  
Exactly right.  
Super.  
Superior work.  
That's a good point.  
That's a very good observation.  
That certainly is one way of looking at it.  
That's an interesting point of view.  
Thank you for raising your hand, Charles. What is it?  
Sherrie is really going to town.  
You've got it now.  
Out of sight.  
Nice going.  
Far out.  
You make it look easy  
That's coming along nicely.  
I like the way Bill (the class) has settled down.

Source: Edward S. Kubany, Teacher, Volume 90,  
Number 1, September, 1972, p.47.

## APPENDIX I

### APPROVAL RESPONSES

Works Spoken: Approval

#### Words

Yes	Good	Neat
Nice	Fine answer	Of course
O.K.	Uh-huh	Cool
Great	Positively!	Likeable
Fascinating	Go ahead	Wonderful
Charming	Yeah!	Outstanding work
Commendable	All right	Correct
Delightful	Nifty	Excellent
Brilliant	Exactly	That's right
Perfect	Keep going	Fantastic!
Satisfactory	Good responses	Terrific!
How true	How beautiful!	Swell
Absolutely right	Wonderful job!	Beautiful work
Tasty	Exciting!	Delicious
Marvelous!	Pleasant	Fabulous
Thinking	Well-mannered	Splendid

#### Sentences

That's clever.  
I'm pleased.  
Thank you.  
I'm glad you're here.  
That's a prize for a job.  
You make us happy.  
That shows thought.  
We think a lot of you.  
You're tops on our list.  
That's good work.  
Remarkably well done.  
You're very pleasant.  
That shows a great deal of work.  
Yes, I think you should continue.  
A good way of putting it.  
I like the way (name) explained it.  
That is a feather in your cap.  
You are very friendly.

Source: Special School District  
St. Louis County

## APPENDIX I

That's an excellent goal.  
 Nice speaking voice.  
 That's a nice expression.  
 It is a pleasure having you as a student.  
 That's interesting.  
 You make being a teacher very worthwhile.  
 That's sweet of you.  
 Well thought out.  
 Show us how.  
 You're doing better.  
 You are improving.  
 You're doing fine.  
 You perform very well, (name).  
 That's very good, (name).  
 I'm so proud of you.  
 I like that.  
 This is the best yet.  
 That's the correct way.  
 That's very choice.  
 You do so well.  
 You're polite.  
 Thinking!

Relationships

Nice things happen to nice children.  
 That is very imaginative.  
 You are worthy of my love.  
 That will be of great benefit to the class.  
 I admire it when you work like that.  
 That is original work.  
 I appreciate your attention.  
 You've been a fine credit to your class.  
 I commend your outstanding work.  
 We are proud to honor your achievement.  
 That was very kind of you.  
 You catch on very quickly.  
 Obedience makes me happy.  
 That deserves my respect.  
 You demonstrate fine ability.  
 That is clear thinking.  
 You should be very proud of this.  
 That was nice of you to loan her your                     .  
 I wish you would show the class how you got such an interesting effect.  
 I like that-I didn't know it could be done that way.  
 Permission granted.

## APPENDIX I

That's a good job—other children can look up to you.  
 Let's watch him do it.  
 He accepts responsibility.  
 That was a good choice.  
 Show this to your parents.  
 I know how you feel—should we continue?  
 I'm happy your desk is in order.  
 Why don't you show the class how you got the answer?  
 That's a good point to bring up, (name).  
 I agree.

## THINGS: APPROVAL

Materials

Storybooks	Pencil sharpeners
Pictures from magazines	Subject-matter accessories
Collage materials	Pencil holder
Counting beads	Stationery
Paintbrushes	Compasses
Papier-mache	Calendars
Book covers	Buttons
Crayons	Pins
Coloring books	Pictures
Paints	Musical instruments
Records	Drawing paper
Flash cards	Elastic bands
Surprise packages	Paper clips
Bookmarkers	Colored paper
Pencils with names	Pets
Seasonal cards	Flowers
(Valentines, birthday)	Classroom equipment
Chalk	Clay

Playthings

Toys	Stamps
Perfume	Whistles
Cartoons	Bean bags
Kaleidoscopes	Jumping beans
Flashlight	Wax lips and teeth
Headdress	Masks
Rings	Straw hats
Striped straws	Banks
Kickball	Address books



APPENDIX J

Professional Organizations

Academic Therapy Publications  
Membership Department  
1539 Fourth Street  
San Rafael, California 94901

A journal for professionals and parents concerned with the learning disabled. \$7.50 for a one-year membership.

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Missouri Association for Children With Learning Disabilities  
P.O. Box 3303 Glenstone Station  
Springfield, Missouri 65804

Regular one-year membership \$5.00

ACLD is a nonprofit organization whose purpose is to advance the education and general welfare of children of normal or potentially normal intelligence who have learning disabilities of a perceptual, conceptual, or coordinative nature.

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Council for Exceptional Children  
1920 Association Drive  
Reston, Virginia 22091

Regular one-year membership \$20.00

Subscriber receives eight issues of Exceptional Children, a comprehensive periodical about the field of special education, four issues of the journal, Teaching Exceptional Children, and four issues of Update, the newspaper that keeps members informed about progress being made by CEC on its many projects.

Members of CEC are eligible to join divisions of CEC that pertain directly to their field. I also belong to DCLD--Division for Children with Learning Disabilities.

## APPENDIX J

Another division related to my field is CCBBD--Council for Children with Behavioral Disorders.

You can join these divisions by membership in CEC and writing to the same address as CEC.

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International Reading Association  
Six Tyre Avenue  
Newark, Delaware 19711

This is an excellent related organization.

A professional organization for individuals and groups concerned with the improvement of reading at any educational level.

Membership for one year.

Membership with one journal \$15.00, Reading Teacher

Membership with two journals \$20.00, Journal of Reading

Membership with three journals \$25.00, Reading Research Quarterly