DOCUMENT RESUME

ED 058 690 EC 041 161

AUTHOR	Cantrell, Mary Lynn
TITLE	Academic Programming in the Re-Education School.
INSTITUTION	Tennessee State Dept. of Mental Health, Nashville.
SPONS AGENCY	National Inst. of Mental Health (DHEW), Bethesda, Md.
PUB DATE	[70]
NOTE	23p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Behavior Change; *Behavior Problems; *Elementary School Students; *Emotionally Disturbed; *Exceptional Child Education; Learning Disabilities; Mathematics; Operant Conditioning; Positive Reinforcement; *Programed Instruction; Spelling

ABSTRACT

Presented are 12 programed instruction exercises in writing letters of the alphabet, spelling words, addition, numeral-number association, subtraction, color words chart, answering basic questions about stories, sentences, paragraphs, and paragraph titles for elementary school children who demonstrate a learning disability and/or behavior problem. Three assumptions behind the programing of the 12 exercises are said to be that academic skills are important for the children, that efficient instruction is needed, and that learning is assumed to be an individual experience. The programing follows principles of behavior change, operant conditioning, and positive reinforcement. (For two related pamphlets, see EC 041 167-8.) (CB)

ACADEMIC PROGRAMMING

IN THE RE-EDUCATION SCHOOL

RE-EDUCATION PROGRAM

ACADEMIC PROGRAMMING

IN THE RE-EDUCATION SCHOOL

Written by
Mary Lynn Cantrell

A PROJECT OF:

The Information-Dissemination Office
Tennessee Re-Education Program
Tennessee Department of Mental Health

Frank H. Luton, M.D., Commissioner
Department of Mental Health

Charles W. McDonald, Ph.D., Director
Tennessee Re-Education Program

Steve Weinberg, Director
Information-Dissemination Office

Mike Ragsdale
News Media Officer

The publication was made possible through grant #MH14645-02 of the National Institute of Mental Health.

ACADEMIC PROGRAMMING
IN THE RE-EDUCATION SCHOOL

Despite the fact that children are referred to Re-Ed on the basis of their maladaptive behavior, there appears to be a markedly high incidence of academic deficiencies in Re-Ed children. This paper will stress programming for academic skill acquisition, but many of the processes would also apply to the acquisition of other skills emphasized in Re-Ed programming. Re-Ed concerns for competency building also include social relationship skills, motor performance or recreational skills, music, art, and the behavioral skills prerequisite to learning, such as the ability to attend to or sort out relevant stimuli.

Several basic assumptions appear to form a basis for programming for skill competency. The initial assumption is that academic skills are important for Re-Ed children. They are important as viewed by society, as emphasized by the child's family, and as seen by the child who fails in his attempts to learn or who is bored in a classroom where he meets no new challenges. Academic skills are important as possible origins of behavior disorders; the question often is: 'Which came first -- the learning problem or the behavior problem?' Academic programming can also be seen as a crucial part of classroom behavior management. A student who is given academic tasks relevant to his needs, feasible for him to accomplish, and leading to interesting results is less likely to be a behavior problem in the classroom.

The second basic assumption is a series of programming biases as to how efficient instruction occurs. Learning has been demonstrated to be efficiently accomplished when material is (a) presented in small steps, approximating an end goal, (b) arranged hierarchically in sequential fashion, (c) presented with frequent feedback regarding the correctness of the learner's performance, and (d) followed by a rewarding opportunity to use the newly acquired skill in relevant application.

Thirdly, learning is always assumed to be an individual experience. Each individual has strengths, weaknesses, and perhaps unique patterns in his acquired knowledge and use of learning strategies. There is a wide range of differences among children in their relative use of sensory modalities, in specific skill deficits or learning gaps, and in previous exposure to information and learning strategies. Children differ widely in their need for repetition or review and in their ability to generalize learning to new settings. A minimax problem exists, however, in that programming must provide for maximum individual involvement and yet be feasible for group operation.

All of these assumptions underlie academic programming for a Re-Ed student. The responsibility for planning as programmers for a Re-Ed child and his group belongs to the team of Teacher-Counselors (T-C's). Each incoming student is given a series of diagnostic educational tests and tasks which give information relevant to the programming for him. The T-C's initial planning for a student uses information from this program relevant evaluation and supplements it as needed. Programming plans are changed continually throughout the child's stay as his performance changes. The T-C team is largely autonomous, which inevitably means that no one method or technique is consistently used at all times in all Re-Ed schools. Many Re-Ed teachers show similarities, however, in the strategies they adopt to program for a child academically. Frequently material from diagnostic workups on the children is used to prepare academic assignments from viewpoints similar to those of prescriptive teaching (Peter, 1965) or the engineered classroom (Hewett, 1968). The primary tools used by Re-Ed T-C's for making teaching relevant to the children's present lives are naturalized, actualized, and enterprise teaching techniques. Re-Ed teachers evaluate their students' learning by specific evaluation procedures, such as using teacher-made or standardized tests, graphing performance on interval graphs, or using precision teaching methods (Lindsley, 1964).

One consideration taken into account as Re-Ed programming is planned is the expectations phenomenon investigated by Rosenthal and Jacobsen (1968). A specific attempt is made by T-Cs to disregard IQ scores and daily program from where a child is toward the upper limits of a realistic task for him. If teachers do in fact influence the achievement of a child by the expectations they hold for his behavior and specific ways in which these expectations influence their interactions with him, then we intend to make that phenomenon work for rather than against the child.

The T-C plans academic lessons much like the writer of programmed instructional materials, (Taber, Glaser and Schaeffer, 1965; Markle, 1961) although assuredly not so rigorously. The previously stated assumptions regarding how efficient learning occurs give rise to a basic programming format which can be used by a T-C in any phase of group or individual planning. This basic format can be stated in seven successive steps:

Decide on a specific terminal state. Global goals such as 'reading at the third grade level' are not nearly well enough defined to allow for the efficient determination of what steps must be made by a child in his learning. A more specific goal, such as 'reading thirty words listed' or 'adding two digit numbers with carrying', makes it possible for the teacher to plan toward a definite goal which can easily be evaluated.

Assess baseline level and deficit areas. We not only have to know specifically what the child needs to learn. We also need to know what he knows and doesn't know. What can he do at present with regard to this specific skill and where do his skills show gaps in learning? This is also done specifically; for example, the T-C may determine whether the child can read any of the thirty desired words, and what similar but simpler words he can read. In the case of the arithmetic goal, one may determine whether the child can add two digit numbers without carrying and can give the basic number combinations.

Determine the necessary progression of hierarchical tasks requisite to a skill. Before a child can add two-digit numbers with carrying, he must have number-numeral associations, be able to combine one digit numbers, and add two-digit numbers without carrying. The sequential skills between what the child can do (or baseline) and the specific goal (or terminal state) must be specified.

Program steps from baseline to terminal state, utilizing cueing and fading. The hierarchical tasks must be sub-divided into smaller tasks for the student to perform. What series of tasks will we provide for him to do in order to learn all the basic number combinations? What aids or prompts (cues) can we give him to teach the skill as quickly as possible, and then how can we gradually remove those prompts (fading) so that he no longer needs them? Some prompts frequently used by teachers in teaching basic number combinations are the number line or concrete objects. Specific examples of cueing and fading are given in the appendix. (This appendix contains a variety of annotated, semi-programmed, teacher-made materials.)

Provide for:

Active pupil response. Entirely too much learning is expected to occur when a child does nothing more than listen. What can the student do actively with each small task that will require his attention and demonstrate his learning? For example, why not ask all students to find and hold up the card with the correct answer, rather than call on one child in the group for a verbal response?

Success. Good programming insure a high proportion of successes to failures. Success encourages a student to try a similar task; a history of failure appears to merely 'turn one off' to learning tasks. A few failures are probably preferable to 100% success in human learning, however, A goal of approximately 90% successes and 10% failures is probably a good programming criterion.

Feedback. Learning appears to occur most quickly when one is given immediate feedback as to whether his performance was correct. The T-C's task is to build in ways to give students feedback as frequently and as soon after their performances as possible.

Individual pacing. The construction of academic tasks should allow a student to move as swiftly as he can or as slowly as he needs through the material, without requiring him to match his pace to that of the larger group.

Individual placement. Hopefully, materials prepared for one child or a particular group of children will also be applicable to other children with similar needs. The material should incorporate a procedure whereby students may be individually placed at any appropriate point in the program according to their own academic skills and deficits.

Repetition, review, and generalization. Programming should be flexible enough to provide for differential amounts of repetition and review as they are needed by different children. If a child has learned a skill only in the context of the material presented and cannot use the skill in other settings, programming should provide for generalization of the skill to other situations in which it will be needed. For example, one strategy frequently used to facilitate generalization of a new word learned is the presentation of the word in different manuscript and cursive type faces.

Branch or break down steps as needed. There will likely be tasks designed by the programmer where the steps prove too large for a student to make. The task at this point is to divide this step into smaller steps, utilizing more prompts or cues and fading more slowly, until the child does in fact move successfully through the material.

Assess whether the terminal state was attained. If the terminal state was specifically defined initially, testing for those specific skills at the end of the program is a simple matter. If the terminal state was not sufficiently attained, the programmer is cued to re-adapt the programming and branch for the child until the end goal is reached.

These basic programming directives are easily applicable to teacher training. In terms of time and training the teacher cannot realistically be expected to become a writer of programmed instruction units in all subject area for all pupils. The teacher can, however, learn to think and plan much like a programmer. This means that, like a programmer, the teacher takes the responsibility for whether or not the child learns -- a difficult burden. It is much more comfortable to see a student's emotional disturbance, learning disability, or mental retardation as the 'cause' for his non-learning. At the same time, a teacher who questions his own teaching methods rather than the learner's ability is more likely to find strategies through which the student will learn.

It is possible for a Teacher-Counselor to plan each class hour or assignment so that it is consistent with a basic programming format. When appropriate programmed materials or the time to construct them are not available, he can look for approximations or adaptability in other curricular materials. For example, the teacher 'who thinks like a programmer' is more likely to look for materials which contain:

Step by step, sequential progressions of tasks. The arrangement of learning tasks in hierarchial fashion is more carefully done in some commercially prepared materials than in others. The programmer-teacher would look for those materials where skill components are most clearly and sequentially ordered.

Use of active pupil response. Some teaching materials and techniques allow for more active or overt pupil response than others. A teacher who attends to the need for active responding by the learner is likely to find ways to adapt materials so that each student is required to do more than merely read or listen.

Short units of reading matter. In terms of retention of information it is probably preferable to give a child five questions to answer or activities to perform after reading three paragraphs than to give him three questions to answer after reading five pages. In most curricular materials the latter is the case, but recent materials appear to be increasing the proportion of active to passive pupil tasks.

Ways to give feedback as quickly as possible. Many materials which are not designed so that a student receives feedback after each or after only a few responses can be adapted so that they can do so. For example, a teacher's key for thirty arithmetic problems can be divided into three or five problem segments individually made available to the pupil after the completion of each segment.

Ways to emphasize success and encourage correction. Many children with a history of academic failure appear to be discouraged by the red Xs they so often see on their papers. In marking a paper in this fashion, a teacher emphasizes errors rather than successes. It is possible to check only the correct answers, giving a student the opportunity to correct his mistakes in order to get all of his answers checked. Grades, if needed, can be assigned after correction rather than after a child's first attempt to work on the paper.

Ways to correct deficits or branch before going on in a program. If a student is having some difficulty at one point in a program, parts of other programs or teacher-made materials can be used as 'branches' to correct that deficit before he progresses in the original program. Many teachers branch beautifully through activities such as creatively tearing pages out of old workbooks or finding ways to give a student additional cues until he no longer needs the aid.

Ways to speed up, back up or slow down. A student can probably learn most efficiently from materials which are adaptable in allowing for variations in his speed of performance according to the difficulty level of the material. A teacher can make many materials more adaptable by looking for ways to cut repetition or review (if a child doesn't need it and can move faster), to increase prompts, repetition and review (if the material is moving too rapid for a child), or to adapt and re-enter the material at an earlier stage (if the child appears to have missed a crucial skill).

Built-in repetition and review. Good materials and good teachers have probably learned that one pupil demonstration of a skill does not necessarily mean that the skill is inherently his to be called upon on demand. Preferably, provision should be made for use of a skill soon after it is learned. At least there should be included periodic repetition and review of crucial skills and information sufficient for the individual student to maintain the learning and to generalize the use of that learning when it is needed in other settings.

Specific terminal state tests. Some commercially prepared curricular materials contain diagnostic tests that sample all the skills they expect the student to have at the end of the learning sequence. This allows for efficient placement in the learning sequence and for adequate evaluation at the end of the program. When these are not available, a teacher can make terminal state tests which specifically tell him what skills his students lack or have. This kind of test is useful both as a diagnostic aid prior to programming and as an evaluative measure after programming. An example of a diagnostic arithmetic terminal state test in addition is given in the appendix.

A 'programmed' Re-Ed classroom provides for both individual and group structure in order to attain specified goals. In addition to structure it must also incorporate the flexibility to make use of unexpected opportunities for learning and to make learning experiences enjoyable and comfortable ones. Classroom structure is established largely through the predictability of the T-C's expectations of and reactions to behavior. For example, if a behavioral goal is to have each class member to work consistently on a group task, the teacher might initially structure the task session at the 'groupwork table' where people consistently are given attention when they are productively engaged but excluded when they are not contributing members. The cues that become associated in time with the 'groupwork table' are a way of communicating to the child that this is a no-nonsense, work-oriented place. Predictable reactions to certain behaviors in certain locations and the ways in which task expectations are clearly delineated in those areas are relatively quick ways to bring a child under 'stimulus control' and elicit from him more of the desired behavior. Predictable structuring of time, or scheduling, is also an aid to the T-C in providing classroom structure. The primary key to time scheduling in Re-Ed is in the use of the Premack principle (1959, 1965). Low probability behaviors (LPB's) (such as classwork or brushing teeth) are scheduled to precede high probability behaviors (HPB's) (such as recess time or TV viewing), so that access to HPB's is given after LPB's are accomplished. For example, many Re-Ed classrooms have free-time areas which contain many things of interest to that particular group of children and to which the children gain access for a specified period of time after completing a specified unit of work.

Structure is provided for individual students in the classroom through the ways in which academic tasks and their consequences are set up for each individual. Tasks are given which are feasible for each student to perform at that given time, feasible both in terms of difficulty and length. Generally, initial assignments are either diagnostic ones or ones which the child can already perform with ease. These assignments gradually increase in difficulty, 'following the behavior' of the child in terms of academic accomplishment as he moves along. Length of initial assignments is judged by what the T-C is reasonably sure this child will be able to tolerate and perform independently. The task may be to solve only 1 or 2 or 3 arithmetic problems at first, but gradually the length of assignments is increased, with the end goal being assignments equal in length to those given in regular classrooms. The successful completion of assignments is determined according to the T-C's criteria for acceptability for that particular assignment. Generally, tasks are formulated so that certain levels of accomplishment, speed and accuracy are expected and reinforced.

The completion of specified assignments is followed by a rewarding event. Since rewards are individually defined according to what each student values, T-Cs must provide for consequences which will serve as rewards valued by each of the specific students in their group. The rate at which rewards must be earned in order to increase the desired behavior is also an individual consideration for which group and individual planning must provide. For example, a child new to the Re-Ed group may need frequent teacher attention while working on a task to keep him task-oriented long enough to complete it, while another child in the room may be working independently with little teacher attention. These differential rates of giving attention are intentional actions on the T-C's part since the T-C knows that when a child nearing discharge returns to public school he will not be able to receive much teacher attention and must be able to work independently on a slim schedule of reward.

The following may serve as just one illustration of classroom programming which provides for both group and individual structure. The Re-Ed classroom day in a Children's Center usually begins at 8:30 a.m. The night aide brings the children to the classroom door. As soon as they are reasonably quiet and orderly, the door is opened and the T-C says good morning to each child as he comes into the room. Each child's first assignment is on his desk so that he does not have to wait to receive something to work on. Each student has a stack of books and assignments prepared individually for him on a bookcase next to the teacher's desk. The stack contains an assignment chart for that day or week, books with markers on which directions are written, worksheets, games and written directives such as 'Work with Bobby, Ed, and me at the groupwork table.' As a child finishes an assignment he either checks it according to a key or it is checked by the T-C. After the work is completed, checked, and corrected if needed, it is placed in a 'finished work' stack on a bookcase near his desk, and another assignment is picked up from his 'work to do' stack. The completion of three assignments allows him access to recess, free time at the fun table, snacks, or a similar reward, after which he begins on the next three assignments. The goal is to complete all assigned work by lunchtime. Any work not completed must be finished that afternoon during the time set aside for interesting group activities. This kind of classroom programming allows great flexibility for individual programming of assignments and for individual reinforcement schedules.

Planning for a productive 'programmed' classroom involves more than academic preparation and scheduling. A crucial and inseparable feature is the consistent use of behavior management techniques, such as attending to students only when they are working or raising their hands, or using timeout procedures when highly disruptive behavior occurs. These are valuable aids in building a productive classroom atmosphere. But regardless of the behavioral control of the students in the room, the productivity of the classroom is only as great as the academic programming is relevant and feasible to each student's learning needs.

A large part of the T-C's task involves the continual evaluation of the child's learning and consequent revision of the programming for him. Although standardized tests are given Re-Ed students, these pre- and post-enrollment measures are not sufficient for the continuous evaluation needed for efficient programming. Teacher-made terminal state tests or those accompanying published materials are usually used as each programming phase is completed. There is no competitive grading at Re-Ed. The T-C's alternatives to grading children are varied. Frequently, performance is graphed on interval charts where children may see a visual representation of their accomplishments. Precision teaching (Lindsley, 1964) is a way of using daily probes or other counts of academic or non-academic behaviors to figure rates of acceleration or deceleration of those behaviors. These rates are charted on 6-cycle graph paper and provide feedback information to children and T-Cs as to whether their performance is improving. Performance Determined Instruction (Gray et al., 1969) is a method of daily evaluating performance and changing programming to provide for a maximum 92% - 2% correct performance rate.

Skinner (1968) has said that the attractiveness of presentation of the learning material is not nearly so important as the events which follow learning something new, despite its method of presentation; in effect, it is critical that learning lead to something more interesting. This variety of reinforcement is probably how one becomes 'turned on' to the never-ending process of learning. A primary Re-Ed concern is that academic skills be given application relevant to a child's life soon after he acquires them. There are three general methods by which T-Cs attempt to make classroom learning meaningful to Re-Ed students.

Actualized teaching is the provision of an actual experience in which the child must use an academic skill to accomplish a goal. For example, if the classwork for the morning emphasized measurement, that night's activities might include measuring the living area to see if there is room for a prospective ping-pong table. If the day's work included fractions, the group might bake a cake for snacktime, using a recipe which involves the use of fractions. The arts and crafts programs at Re-Ed typically include numerous actualized teaching experiences.

Naturalized teaching involves taking advantage of opportunities for learning in the natural environment. A science unit on trees is better taught in the woods than in a classroom. A spontaneous event such as the flight of a blimp over the schoolyard or the cutting of a tree on campus is a natural opportunity to learn about blimps or how to determine the age of a tree.

Enterprise units are much like those of traditional unit teaching in that they involve different academic skills of each child at different levels. There is one important difference, however, in that the enterprise units grow out of a group interest rather than from the teacher's planning. Enterprise units have included widely varied activities, ranging from planning for a two week trip to a Cherokee reservation to vicarious participation in the stock market. One group's interest in dinosaurs led to a study of fossils, the early history of the earth, and a jaunt into anthropology. After finding an authentic Indian recipe for making acorn bread, another group initiated the procedure with the selection and picking of suitable acorns and carried through the entire process until they were rewarded with some quite edible fresh acorn bread. Realizing that most Re-Ed children have had largely unpleasant experiences with educational tasks, T-Cs are constantly aware of the need to provide ways in which educational tasks can be made feasible and meaningful.

Programming for Re-Ed students, like all students, must provide for multi-level skill building in all necessary tool and social skills. Programming goals include enhancement of already adequate skills as well as remediation of skills in which the child is deficient. The acquisition or refinement of any skill increases a child's repertoire and broadens his horizon for future choices; this we value for our children. Programming goals for Re-Ed students are intentionally specific, but the hope is shared for a more global end goal. This shared goal is that each problem child will receive a new chance to become a happy, productive, self-initiating, and largely self-reinforcing human being who demonstrates concern for the physical well being and feelings of others and who seeks out opportunities to learn and grow throughout his life.

REFERENCES

Gray, B. B., Baker, R. D., & Stancyk, Susan E. Performance determined instruction for training in remedial reading. **Journal of Applied Behavior Analysis**, 1969, **2**, 255-263.

Hewett, F. M. **The emotionally disturbed child in the classroom.** Boston: Allyn and Bacon, Inc., 1968.

Lindsley, O. R. Direct measurement and prosthesis of retarded behavior. **Journal of Education**, 1964, **147**, 62-81.

Markle, Susan M., et al. **A programmed primer on programming.** New York: Center for Programmed Instruction, 1961.

Peter, L. J. **Prescriptive Teaching.** New York: McGraw-Hill Book Co., 1965.

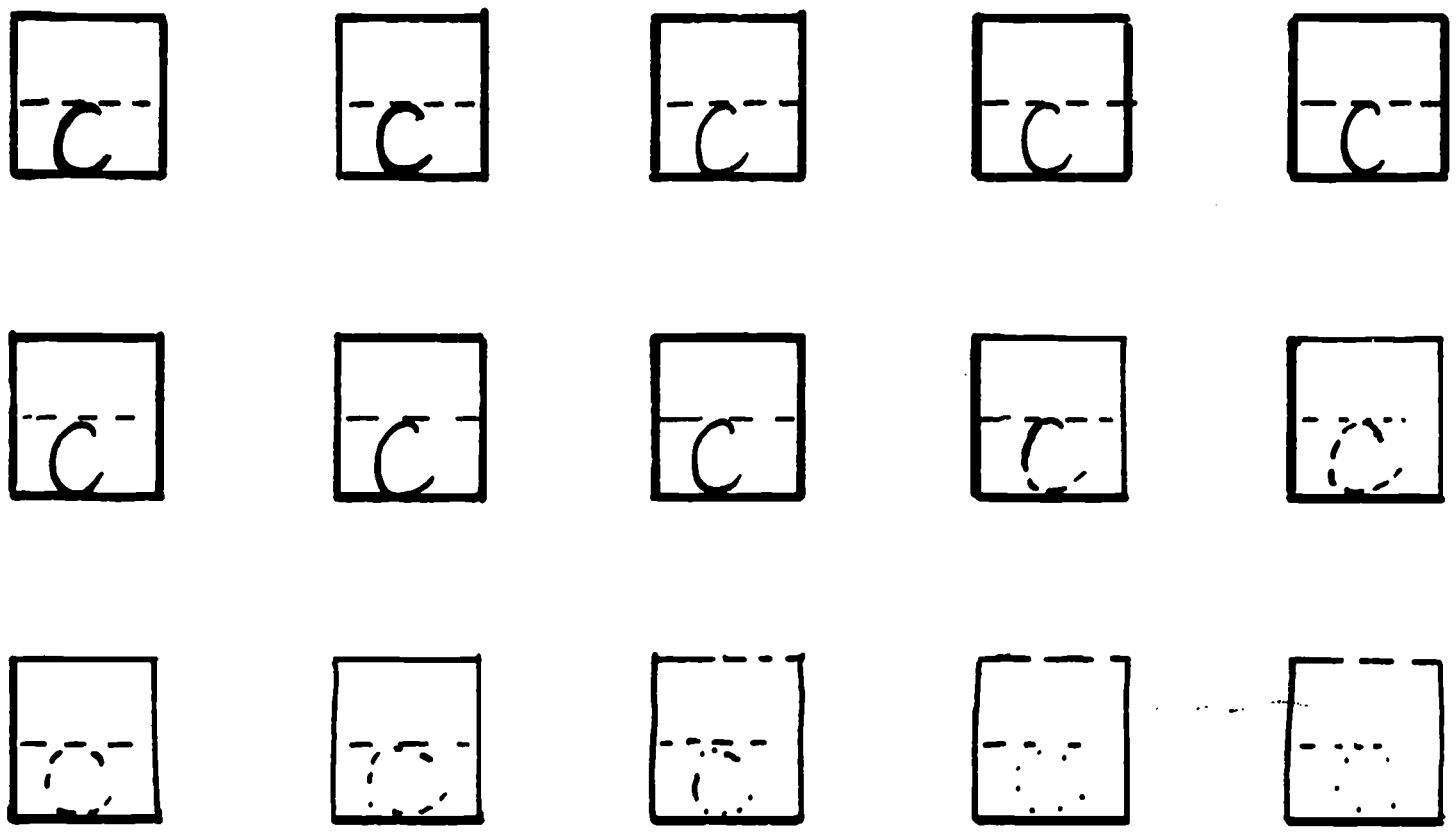
Premack, D. Toward empirical behavior laws: I. Positive reinforcement. **Psychological Review**, 1959, **66**, 219-233.

Premack, D. Reinforcement theory. Paper read at Nebraska Motivation Symposium, Lincoln, Nebraska, 1965.

Rosenthal, R. & Jacobson, L. **Pygmalion in the classroom: Teacher expectation and pupils' intellectual development.** New York: Holt, Rinehart & Winston, 1968.

Skinner, B. F. **The technology of teaching.** New York: Appleton-Century-Crofts, 1968.

Tabor, J., Glaser, R. & Schaeffer, H. H. **Learning and programmed instruction.** Palo Alto, California: Addison-Wesley Publishing Co., 1965.

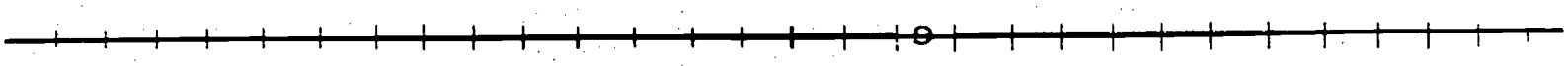


A child who has trouble writing letters legibly on lined paper could be given added prompts through writing sheets like the above. The boxes delineate the space the letter is to take but are faded out as the child becomes more proficient in writing the letter. Initially, the teacher's hand would guide the child's to teach him where to start and in what direction to move. Another possibility for programming is to start with large letters which require less fine motor control and gradually decrease letter size as the child grows more proficient.

surprise
surprise
surprise
surprise
surprise
su_____
_____
_____
_____
_____

18
eighteen
eighteen
eighteen
_____
_____
_____
_____
_____
_____

beautiful
beau_iful
beau__ful
beau____l
bea_____l
bea_____
b_a_____
b_______
_ _ _ _ _ _ _ _
_____
_____



New spelling words or spelling words missed can be presented through a presentation like the above left. The child traces over the correct word and rewrites it each time with fewer prompts given.

Number words can be presented in much the same fashion, with the associated numeral also paired with the words (above right).

Diagnostic
ADDITION

Name: _____
Date: _____

(13 NC S<20) *

6	7	5	9	6	4	3	1	7	8	2	3	2
+3	+5	+4	+8	+9	+1	+2	+8	+7	+6	+0	+1	+2

(4 NC S<10)

1	4	7	3
1	2	0	5
+3	+3	+2	+1

(6 NC S>10)

12	26	41	13	63	40
+75	+10	+45	+60	+23	+32

(2 NC S>100)

910	201
+130	+280

(9 WC 1 S>10) **

38	13	89	25	37	76
+2	27	+4	+18	+58	+35

142	204	$3.36
+109	+357	+4.14

(5 WC1 S>100)

63	79	98	65	58
+58	+65	+74	+65	+57

(4 WC2 S>100)

108	199	$6.32	$4.86
+198	+239	+2.78	+3.76

(13 Misc. T=56) ***

3	36	68
2	12	27
7	27	73
+4	+41	+46

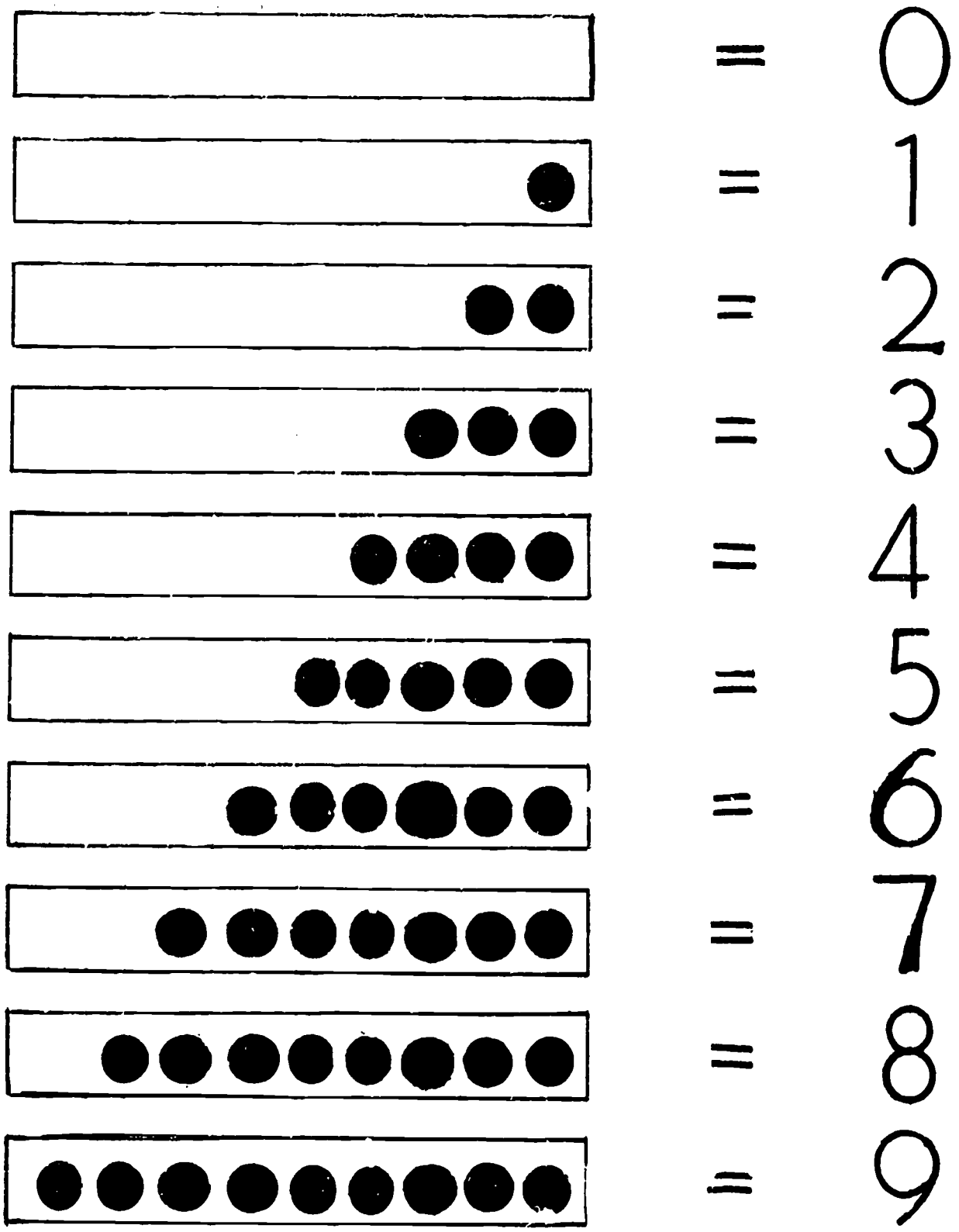
107	216	8+7=	4+9+2=
861	431	5+9=	9+3=
333	392	7+6=	9+8+0=
+749	+785		8+5+1=
			9+7+3=

(13 NC S<20) *
* 13 — 13 problems
NC — No carrying required
S<20 — Sum less than 20

(9 WC1 S>10) **
** 9 — 9 problems
WCI — With carrying once
S>10 — Sum greater than 10

(13 Misc T=56) ***
*** 13 — 13 problems
Misc — Miscellaneous
T=56 — Total 56 problems on page

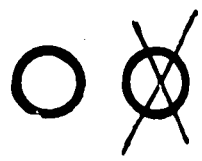
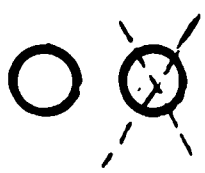
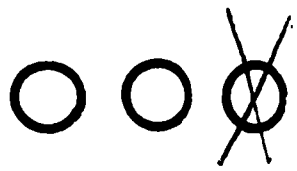
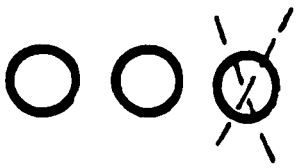
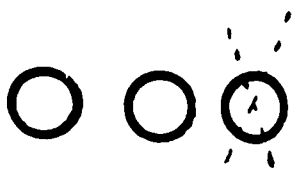
This test samples all the basic combinations in adding one-digit numbers and all the basic addition skills. Instructions might be: "Do all of these that you can do, but do not feel badly about all the hard ones; tell me when you have done all you can." Results should provide the teacher with specific information concerning his addition skills. If it is feared his motivation to do all he can correctly is not optimal, the paper could be given him with a reward for each correct answer.



This is a prompt sheet of numerals and their associated number of objects to be used as long as needed with worksheets like the two that follow. The first worksheet is part of a numeral-number association program; the second, a beginning subtraction program. When used by a child these sheets are covered by a cardboard cover sheet with a hole cut which displays only one frame or problem at a time. A second hole is cut with a flap that can be pulled up to display the correct answer at the right after the child has made a response of his own. When one frame is completed the child slides down the cover sheet to uncover the next frame.

○	=	□	1
○	=	□	1
○	=	□	1
○ ○	=	□	2
○ ○	=	□	2
○ ○	=	□	2
○	=	□	1
○ ○	=	□	2
○	=	□	1

Answer Column

	2 - 1 = ☐	1
	2 - 1 = ☐	1
	2 - 1 = ☐	1
	2 - 1 = ☐	1
	3 - 1 = ☐	2
	3 - 1 = ☐	2
	3 - 1 = ☐	2
	3 - 1 = ☐	2
	2 - 1 = ☐	1

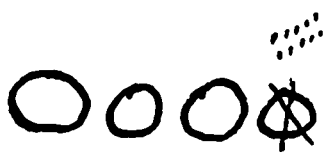
ARITHMETIC
HOMEWORK

Name: Steve
Date: May 17

Example:

$$\begin{array}{r} 32¢ \\ -\ 18 \\ \hline \end{array}$$

$$\begin{array}{r} {}^{2}\cancel{3}\,{}^{12}2¢ \\ -\ 18 \\ \hline 14¢ \end{array}$$

$\begin{array}{r} {}^{3}\cancel{4}\,{}^{12}2¢ \\ -\ 18 \\ \hline 24¢ \end{array}$		$\begin{array}{r} {}^{12}52¢ \\ -\ 27 \\ \hline 25¢ \end{array}$
$\begin{array}{r} 4\,{}^{10}\cancel{5}0¢ \\ -\ 28 \\ \hline 22¢ \end{array}$		$\begin{array}{r} {}^{13}83¢ \\ -\ 78 \\ \hline 05¢ \end{array}$
$\begin{array}{r} {}^{17}37¢ \\ -\ 18 \\ \hline 19¢ \end{array}$		$\begin{array}{r} {}^{10}90¢ \\ -\ 26 \\ \hline 64¢ \end{array}$
$\begin{array}{r} 5\,{}^{13}63¢ \\ -\ 44 \\ \hline 19¢ \end{array}$		$\begin{array}{r} {}^{14}74¢ \\ -\ 26 \\ \hline 48 \end{array}$

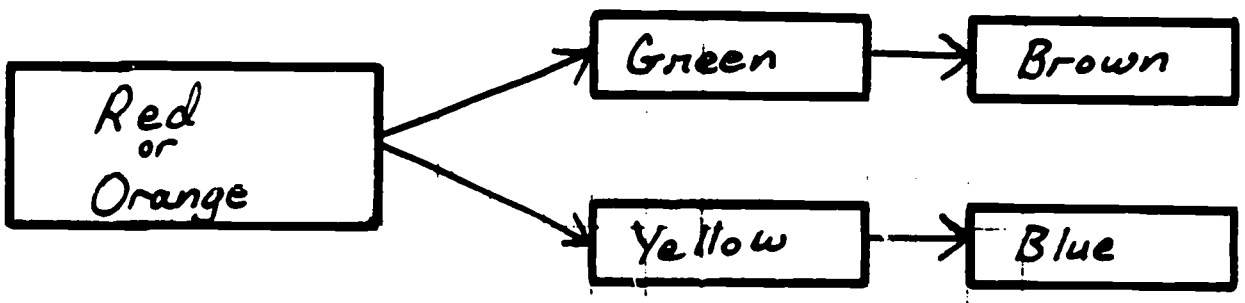
This homework paper is provided with a sample problem, worked correctly with the prompts used in class to introduce borrowing to Steve. His own decreasing use of the prompts as he worked more problems is notable on this paper.

COLOR WORDS CHART

Thing = red Action = green What Kind = blue

Name = orange Being = yellow How = brown

Two sentence patterns:



EXAMPLES:

Red	Yellow	Blue
Balls	are	round.

Orange	Green	Brown
Bob	ran	fast.

Many of the public school language textbooks to which Re-Ed children return require knowledge of parts of speech. Frequently names such as proper nouns, transitive verbs, adjectives, or prepositions are words which flood students immediately and appear to block learning. With one such group, we started out using color designations for kinds of words. Things were always red; Names were always orange; Action was always green; a Which One word was always purple; a What Kind word was always blue; etc. These were presented one by one in the order given, one per day over a week's time. After words were easily classified by color, we started putting color words on cards together into sentences. After the students could easily identify words in sentences by color, it was possible to gradually name red words Common Nouns, orange words Proper Nouns, green words Verbs, blue words Adjectives, etc. This led eventually to identifying words in sentences by parts of speech as designated in the textbooks.

Story: _____ Name: _____

Pages: _____ Date: _____

An important part of being able to tell or write about what you read is being able to answer several basic questions about any story. These questions are:

1. WHO was the story about?
2. WHERE and WHEN did the story take place?
3. WHAT HAPPENED to the characters?
4. HOW did the story end?

Answer these four questions about the story you just read.

1.

2.

3.

4.

Some children appear to have difficulty performing a task often given them by teachers -- relating what they have read in a written paragraph. This task appears to call for at least five specific skills: (1) picking out the important features of a story read, (2) expressing each feature in a complete sentence, (3) combining these sentences in paragraph form, (4) titling a paragraph and (5) writing it independently. This sheet and the following worksheets progress in this order. The child progressed from one to the next only as he was able to perform well on the first. Individual branching worksheets were prepared if he had trouble on a particular one. After all five were completed, the terminal step was independent writing of a paragraph on plain notebook paper.

Story: _____ Name: _____

Pages: _____ Date: _____

A complete sentence expresses a complete thought. Words that do not express a complete thought are phrases, not sentences. For example, "The dog is black." is a complete sentence. It gives you a complete thought. "The dog" or "dog is" or "black" are phrases. They give you a picture, but not a complete picture.

Fill in the blank with phrase or sentence.

"The house" is a _____ .

"The yellow house" is a _____ .

"The house is yellow" is a _____.

Now answer the four key questions about any story in complete sentences. Make sure you use capital letters and periods where they belong.

1. _____

2. _____

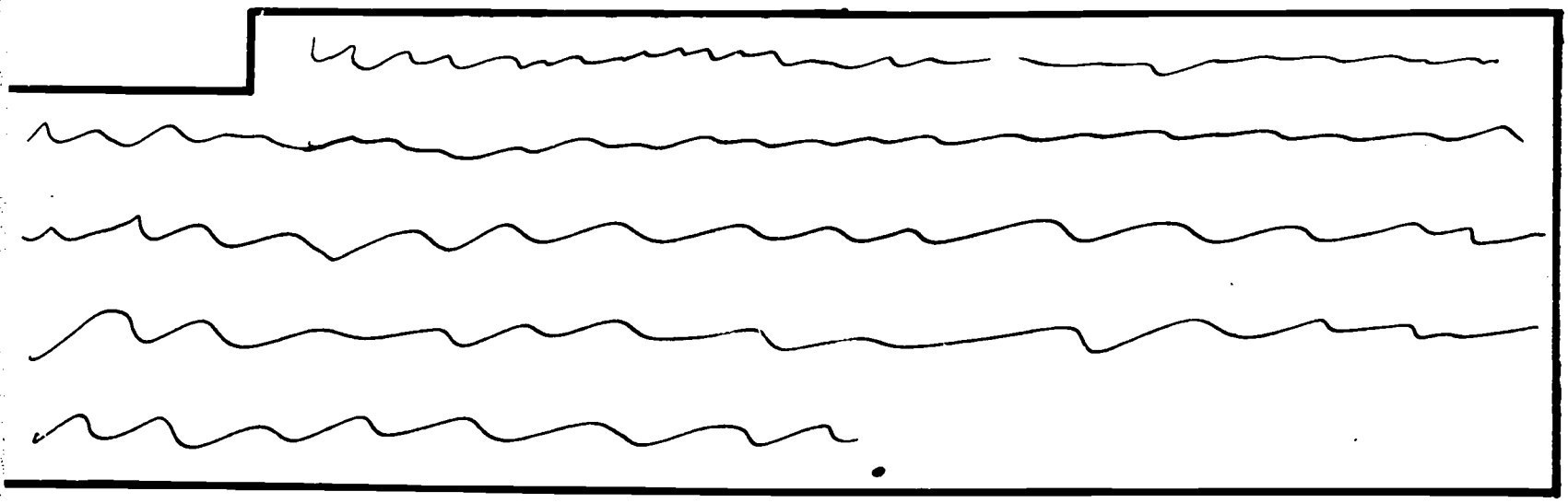
3. _____

4. _____

Story: _____ Name: _____

Pages: _____ Date: _____

A group of sentences that tell about one idea make a paragraph. You are reading a paragraph about what a paragraph is right now. A paragraph always begins with the first word indented or written, a little bit to the right. The rest of the sentences begin after the end of the sentence before it. Your paragraph makes a box that looks like this:



Now answer the four key questions about a story in complete sentences.

Put the sentences together into a paragraph in this box:

Story: _____ Name: _____

Pages: _____ Date: _____

Titles of Paragraphs

The title of the paragraph goes in the center of the top line, like the one above. The title of the story or the main subject of the story usually makes a good heading or title for a paragraph.

Now answer the four key questions about a story in a paragraph. Choose a title and write it above your paragraph.

STORY: _____ NAME: _____

PAGES: _____ DATE: _____