THE NEWSLETTER COLLECTS AND DISTRIBUTES PROFESSIONAL ARTICLES, REPORTS OF OUTSTANDING PROGRAMS, AND INFORMATION ON MATERIALS AND RESEARCH IN THE FIELD OF EDUCATIONAL END EAVOR IN GRANITE SCHOOL DISTRICT, UTAH. THIS ISSUE IS CONCERNED WITH THE INSTRUCTIONAL GOALS, PROGRAM PREPARATION, EVALUATION, AND DESIGN OF A DEMONSTRATION CLASSROOM TO DEVELOP INDEPENDENT WORK SKILLS. THE RELATIONSHIP BETWEEN TEACHER AND PUPIL IN DEVELOPING SELF-CONTROLLED WORK SKILLS IS EMPHASIZED. CENTER-SPONSORED PROJECTS AND A PILOT STUDY CONCERNING THE MOTIVATION OF CLASSROOM BEHAVIOR ARE DESCRIBED. THE PUBLICATION SERVES AS A STIMULUS TO INSERVICE TEACHER TRAINING THROUGHOUT THE SCHOOL DISTRICT IN UTAH. (MC)
The current emphasis upon individualized instruction in the schools has many implications. One set of implications concerns the relation between the pupil’s work skills and the teacher’s behavior. Individualized instruction requires that the teacher spend individual time with each child on his program or his products. The teacher’s role becomes that of the expert in diagnosis, prescription preparation, and general trouble-shooting. Ideally, with no pragmatic demands, this might be met by a one-to-one tutorial setting, at least for much, if not all academic instruction. Realistically, it must be met by the teacher moving from child to child as needed, yet maintaining the work output of the other children while attending to a single individual.

That is, the children should work individually yet receive teacher attention when they reach some trouble spot or require some input which they cannot produce by themselves. This means that teachers must be able to develop good independent work skills in each child.

In many classrooms the teacher, by his behavior, controls the children’s working habits. The teacher decides when the children shall work; the teacher continually prods the children to attend, to continue working, and to complete what they are doing. He instigates new activities on completion of a work unit. This is not to say that these procedures are always effective in getting children to participate in class-work. As a matter of fact, even with children who do work regularly, the degree of teacher control over classwork becomes evident when the teacher leaves the room. Classwork virtually ceases.

Ideally, we would like children to continue working without constant teacher input. The reasons for inadequate development of self-controlled work skills are probably numerous. Many teachers attend to a child when he stops working, but ignore him when he is working satisfactorily. These teachers act as if their task is to detect and attend to “misbehavior” only. Such differential attention might inadvertently reinforce the undesirable behavior. In an unpublished paper, Becker experimentally demonstrated in a classroom that the more the teacher told children who were out of their seat to sit down, the more they left their seats.
In an "escape" contingency classroom the children learn to work if and only if the teacher "bugs" them. Similarly, reinforcement of poor work skills is probably common.

Another problem concerns the kind of reinforcement contingencies used by teachers to maintain work skills. In some classes the essential "control" procedure programmed by the teacher is an "escape" contingency. That is, rather than positively reinforcing the children's appropriate behavior, the teacher adversely stimulates the children with repeated instructions, threats, and criticisms when they are not working. The threats, etc., cease only when the children return to work. That is, the children will do whatever is necessary to terminate and thus escape this unpleasant "noise." However, such a procedure will fail in the long run because it develops no motivation to work other than a need to escape the teacher's verbalizations. In such a classroom, the children learn to work if and only if the teacher stops "bugging" them; when the teacher stops, the work also stops. The teacher is thus trapped in a predicament where he has to repeat the instructions, threats and demands over and over again.

In our demonstration classroom we are attempting to develop practical easily taught programs for developing and maintaining independent work skills. We also hope to evaluate the program's effectiveness and our ability to teach them to teachers.

INSTRUCTIONAL GOALS

The first step in developing this program has been to specify those exact behaviors which make up "independent work skills" in a third grade. We have developed three classes of work skills behavior.

The first class concerns attending to instructions. An example of a specific behavioral objective in this category is: The child does not manipulate his desk or objects in or on it while the teacher is giving instructions. An exception is made for situations where the child is instructed to do so.

The second class of objectives relates to pupil activity while actually engaging in independent academic work. An example of one of the objectives in this category is: If so instructed, the child works without talking unless he is seeking aid from his teacher or a fellow student, or giving aid to a fellow student.

The third class of objectives concerns pupil activities upon completion of a work unit. An example of a specific objective in this category is: Upon completing a unit the child selects a new activity and, depending upon the situation, (a) starts after reading instructions, (b) sits quietly and awaits further instructions, or (c) seeks instructions from other students or his teachers.
PROGRAM PREPARATION AND REINFORCEMENT SYSTEMS

Specific sub-programs, which take account of the entering behaviors of the children, relate to different aspects of the work skill program. There is no global program which covers all work skills. For instance, one sub-program is designed to develop “listening” skills, i.e., attending to verbal presentations. Another sub-program covers completing seatwork assignments. A dual reinforcement system which requires little teacher effort has been designed. Points can be earned by all individuals for the class as a whole during activities where the teacher must work with several pupils at one time. The teacher tallies these points on an inexpensive counter which is visible and audible from any location in the classroom. Students earn individual points for activities such as correctly completing an academic unit. All points can be periodically traded for “back-up” reinforcers selected by the children. These reinforcers are privileges and other typical classroom activities.

EVALUATION AND DESIGN

Evaluation data will consist of observer measures of teacher behavior and pupil work-skills behavior, records of assignment completion and correctness, and some general measures of academic achievement. Data on both the experimental and control classes will be collected before the program is instituted, during, and after the termination of the formal program. The experimental class will be compared with itself, and with other control classes.

DISSEMINATION

Area demonstration teachers, trained by us, will set up similar programs in other schools which will be evaluated in the same manner as the experimental class.

ABOUT THE AUTHOR

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Dr. Sloane is presently directing one of three ECRI sponsored projects emphasizing in-service teacher training in developing teaching skills and innovative teaching practices. His project is aimed at helping teachers learn to modify and eventually redirect classroom problem behavior into academically oriented behavior through experimental behavioral analysis.

Several additional papers in behavioral management are available through ECRI upon request:

1. Summary of basic principles of reinforcement. Howard N. Sloane.
2. Some basic principles of understanding child development and behavior. Wesley C. Becker and Howard N. Sloane.
5. The science of learning and the art of teaching. B.F. Skinner.
7. Programmed instruction as an approach to teaching reading, writing and arithmetic to retarded children.
11. Effects of social reinforcement of child behavior. Florence R. Harris, et. al.
13. How to succeed as a parent without really trying. Dr. Elwin Nielsen.
14. Programs for children who do not pick up things in their room. Dr. Howard N. Sloane.
15. A program to cut down dawdling. Dr. Howard N. Sloane.

EXEMPLARY TEACHING PRACTICES

John Allen, Reading Center Intern, and Lynette Murdock, University of Utah, instructed teachers at Woodrow Wilson Elementary School in using behavioral management techniques to help them control children's academic and social behavior. Each of the six teachers in the program selected a specific classroom problem and then met with Mr. Allen to discuss contingency management techniques and their application. But the teacher himself was responsible for developing an appropriate contingency for controlling the behavior he was studying.

Miss Marianna S. McClellan, as a first grade teacher, had two children who, when in need of attention, ran around the classroom and climbed on furniture. One, when thwarted, would stand
and scream at the top of her lungs, while the other, at his peak, would balk and refuse to participate at all.

Before her training sessions, Miss McClellan physically forced these children back into classroom activities, thereby reinforcing their disruptive behavior by giving them the attention they sought. She was maintaining the same behavior she was trying to eliminate. In correcting her error she developed a program which she could apply to her entire class.

Her "Stamp Program" allows the children to earn stars for non-disruptive classroom behavior. These stars are placed after their names on a bulletin board. She carefully selects and rewards the tolerable bits of the child's behavior and ignores the rest. Little by little the child begins to realize that only his desirable behavior warrants any notice; and little by little he adds more of it to his classroom repertoire. And as the child improves, the teacher raises the standards. She demands more of the child. But she also rewards him oftener, and so do his classmates. The token reward, the star, slowly looses its reinforcing powers, but by this time the more dynamic and generous social approval from his classmates and teacher more effectively accomplishes the same function.

In the meantime the teacher also rewards the better behaved children for maintaining their usual high standards.

A child may trade four stars for a stamp which may be cashed in for a small item such as a piece of candy. Or he may collect stamps and ultimately cash them in for more valuable premiums such as a small toy, or the privilege to paint, color, or work on other art projects. Children may also pool their stamps and earn a special art period in the afternoon.

As she slowly gains control of her more disruptive children, Miss McClellan divides her class into four groups which compete among themselves for bonus stars. She appoints a chairman within each group who, under her supervision, is responsible for recording accomplishments and awarding stars and stamps. If a child now gets out of hand and disrupts the class, she removes him to a "Time-Out Room," a corner framed by a tall screen, where she secludes him commenting, "You can't stay with the rest of us if you are going to create a disturbance." After he calms down, she returns him to his group without mentioning the incident again.

The length of time a child spends in seclusion is important. The experts suggest a three-minute interval for the first grader after the child calms down. Three minutes is long enough to prevent the child from getting the idea that he can shuttle the teacher
back and forth between his seat and the isolation booth by alternately acting up and settling down. And it is short enough to prevent the child from being severely punished, by seclusion, for the same behavior that the teacher is trying to establish.

1 The ECRI Newsletter staff solicits your contributions to this column. Submit third person accounts of exemplary practices that have worked well in your classroom to: Editor, ECRI Newsletter.

LETTERS TO THE EDITOR⁷

ORAL vs. SILENT READING

The article titled "Programmed Reading Versus Current Basals" (January, 1968) mentioned achievement scores on silent reading and writing samples. It states, "... in no case was a significant difference found in which the control group (Basal Readers) was favored." "In other words the Programmed Reading Series yielded achievement on all measures either equal to or better than the currently used basals. For oral reading, however, the control group performed significantly better in gains on one subscore.

The "Hawthorne effect" is the effect brought about by the enthusiasm which results from trying out something new regardless of the specific nature of the innovative program. But if control as well as experimental classes are observed in the course of the experiment, the "newness" effect should be produced in both groups and therefore will not add to special treatment effects only in the experimental group.

The Hawthorne experiments at the Western Electric Company in the 1920's have shown that psychological as well as physical factors can influence group performance. Experimental manipulation of the workers' surroundings resulted in an increase in production. Later investigations proved that the increase in production was more a result of "special attention" than of physical changes.

A later sentence reads, "Controls were observed also to avoid the Hawthorne effect." What is the Hawthorne effect?

Mrs. Barbara Andersen

First of all Dr. Della-Piana did not intend to imply that silent reading is more important than oral reading. There were no significant differences between the experimental and control groups in the silent reading sample. Yet the Programmed Reading Series yielded achievement on all measures of silent reading and writing samples either equal to or better than the currently used basals. For oral reading, however the control group performed significantly better in gains on one subscore.

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2. The ECRI Newsletter staff welcomes comments from its readers on any portion of this Newsletter. Address all correspondence to: Editor, ECRI Newsletter.

CENTER SPONSORED PROJECTS

UNIPAKS

The Exemplary Center for Reading Instruction and the Continuous Progress Education Project (both supported by E.S.E.A., Title III grants) are co-sponsoring a class on the “Development of Individualized Reading Materials” (UNIPAKS). Selected persons have registered for this class (Educational Psychology 289) which is being instructed by Dr. Gabriel Della-Piana, University of Utah Coordinator for the Reading Center.

UNIPAKS are self-contained sets of teaching-learning materials designed, in this case, for independent, individual reading instruction. The original UNIPAKS model was designed by the Materials Center, I/D/E/A Kettering Foundation.

As part of the class, a two-day workshop was held January 18 and 19, in the Granite School District Auditorium. Kettering Foundation added its support to make this event an outstanding conference on individualized instruction.

Speakers included Dr. Kenneth Goodman, Associate Professor of Education, Wayne State University, Detroit, Michigan; Dr. Matthew Israel, Consultant, Cambridge, Massachusetts; Dr. Nicholas Silvaroli, Director of Reading Education, Arizona State University; Dr. Glen Ovard, Coordinator, Educational Experimental Programs, Brigham Young University; Dr. Philip Kapfer, Research and Dissemination Director, Clark County School District, Las Vegas, Nevada; Mr. Bruce Griffen, Administrative Intern, Roy High School, Roy, Utah; Mr. Gardner Swenson, Director, Materials Center, I/D/E/A; Mr. R. H. Ringis, Associate Director, Materials Center, I/D/E/A; Dr. Ethna Reid, Director, Exemplary Center for Reading Instruction; Mrs. Carma J. Hales, Director, Continuous Progress Education; Mr. Ralf C. Riches, Director, Elementary Education, Granite School District.

Teachers, administrators and supervisors from several Utah districts are participating in the class.

MOTIVATING CLASSROOM BEHAVIOR: A PILOT STUDY

When a pinball machine and a candy dispenser were placed side by side where first-grade children had uninterrupted access to both, Premack (1959) found that some children played the pinball machine more often than they ate candy, and vice versa. The pinball machine was wired so that it could be played continuously; the candy machine delivered a uniform sized chocolate
drop into a dish each time a child removed one from the dish. Children who played the pinball machine more than they ate candy were called "manipulators;" those who ate more candy than they played the pinball machine were called "eaters." Sixty-one percent of the children tested were "manipulators."

In a later phase of the same study, both the "manipulators" and the "eaters" were divided into experimental and control groups. The "experimental manipulators" had to eat a piece of candy before they were allowed to play the pinball machine. The "control manipulators" had to play the pinball machine before they were allowed to eat a piece of candy. The "experimental eaters" had to play the pinball machine before they were allowed to eat a piece of candy, and the "control eaters" had to eat candy before they were allowed to play the pinball machine.

The experiment resulted in the "manipulators" eating more candy when they were allowed to play the pinball machine only after eating candy, and the "eaters" playing the pinball machine more when they had to play the pinball machine before they were allowed to eat candy.

The Premack principle (1965), "... for any pair of responses, the independently more probable one will reinforce the less probable one," evolved from these findings. It appears to have some practical application in the classroom. If a teacher finds that a particular pupil prefers arithmetic to reading, then assignments can be arranged so that the child has to read before he is allowed to do arithmetic. The principle can be applied simply by asking children what they prefer to do or by observing what they do most when given a choice.

Mrs. Madge Alter and Dr. Gabriel Della-Piana designed a series of experiments to test the feasibility of applying the Premack principle in the classroom. These studies were co-sponsored by the Exemplary Center for Reading Instruction and the Rocky Mountain Educational Laboratory, Department of Health, Education and Welfare.

EXPERIMENT ONE

Experiment One was launched to find a way for teachers to determine the relative frequency of each child's different classroom activities. The first task was to list all of the major kinds of classroom behaviors which occurred when children were given their choice. Based upon observations in second and third grade classrooms, seven activity categories were listed: (a) reading a chosen book; (b) other activities (sharpening a pencil, looking out the window, handing in papers, sitting and thinking); (c) assignments in English and spelling; (d) checking work with the teacher; (e) special activities (coloring, cutting out, pasting, or making valentines and other holiday greetings); (f) assignments in arithmetic; and (g) talking with a friend.

Simple line drawings depicting each of the seven categories were photographed and the resulting 35 mm. slides were randomly paired into 21 combinations so that each activity was paired with every other. The slides were projected in pairs for groups of third-
grade pupils who were asked to indicate their choice between the activities in a pair. Their choices were tested for stability one and two weeks later by repeating this procedure.

Of the seven activities, the first, second and third choices were called the high frequency choices, and the fifth, sixth and seventh the low frequency choices. It was found that: (a) 72 percent of the original high frequency activities remained high frequency activities one and two weeks later; (b) 77 percent of the original low frequency activities remained low frequency activities one week later; and, (c) for the entire group, the most stable choices (those which remained either high or low over a two week interval) were reading a chosen book, assignments in English and spelling, checking work with the teacher, and talking with a friend.

EXPERIMENT TWO

The second study was designed to determine if, when a child has chosen a specific activity he likes most to do in comparison with the other six activities, does he actually spend his time doing it?

Four children were observed during a class period. Observers spent one minute observing a given child, paused for four seconds, observed the second child, and so on. These observation data provided an estimate of the frequency and duration of a given classroom activity. The children then indicated their choice of activities from among the paired slides as in experiment one. The results were as follows: one, observer agreement on listing the frequency and duration of the children's classroom activities was high on most categories, but it was low on category (b) (other activities) and category (g) (talking with a friend); two, there was a negligible relationship between the frequency of choice of an activity on the paired slides and actual frequency of the same behavior in class.

FURTHER STUDIES AND IMPLICATIONS

Preliminary data on the follow-up study has shown that when the choice is between arithmetic and reading, the children actually spend more time in the classroom with the activity for which they indicated a preference on the paired slide presentation. There was a 90 percent agreement. And data is currently being analyzed to determine whether reading can be increased by first requiring some reading before a child is allowed to do arithmetic (arithmetic being the more coveted of the two tasks). The results will be presented in a complete report later this year. But while studies are still under way, the teacher can make use of the Premack principle in motivating reading by requiring a child to perform a short "disagreeable" task, before allowing him to work on something he enjoys more.

REFERENCES


A LINGUISTIC STUDY OF CUES AND MISCUES IN READING

Kenneth S. Goodman
Wayne State University

In this study Dr. Goodman explored several ways in which young readers extract meaning from the printed page. His study was based on the theoretical contention that language is essentially a code composed of sounds or letters arranged according to patterns of arbitrary units. The units of language, phonemes or graphemes, have no independent meaning, but when used systematically they accommodate several languages. To follow the code simile, the speaker or writer may transmit a message by arranging an inventory of symbols according to a coding system or grammar. The listener or reader differentiates the symbols according to his knowledge of the system to reconstruct the message. Both the writer and the reader are so skillful in using the code that they are hardly aware of the processes involved.

Though this study's theoretical approach applies to all reading, its main concern is with English read by native speakers. Native speakers learning to read their own language are quite competent in using their language orally. Hence, they are well acquainted with at least part of the coding system. This is true of even the very young reader.

Because this study was an exploration in understanding reading phenomena, no specific hypotheses were tested. But several hypotheses were involved in planning the study: (a) Early readers are able to recognize many words in context which they cannot recognize in word lists. (b) The ability to read with natural intonations is closely related to reading comprehension. (c) Errors are not haphazard in reading but are cued. (d) Artificial language in basal readers causes errors by miscuing readers. (e) Children alter the language to make it more natural sounding to them in retelling a story which they have read.

Dr. Goodman found support for hypothesis (a) in that first, second and third grade children can read many words in context which they cannot read from a word list. Hypothesis (b) was given some support by the fact that many children read with natural intonations. Another conclusion is that regressions in reading — going back to correct errors — are made to improve comprehension. If the regression immediately follows an error, then the reader is aware that what he has just read is inconsistent with what came before. If the regression comes some distance after the error, then he has found subsequent cues to be inconsistent with his error. He regresses to restore consistency.

But not all errors lead to regression. Errors which do not produce an inconsistency go unnoticed by fairly proficient readers. Most of these are not serious errors; they do not disturb comprehension. For example, reading "I have this book" instead of "I have the book" is an error of almost no consequences. "He sat by the book" rather than "He sat by the brook" makes a lot of
difference. Further, some errors actually improve comprehension, "I'm coming" for "I am coming" is recasting unnatural written language in a more natural format. Or "There was a lot of goats" for "There were a lot of goats" might be a translation to a more natural dialect from the printed page, a correction rather than an error.

As inferred from hypotheses (c), (d) and (e), reading errors come from the gap between the child's reading and speaking levels. His speaking level is much more advanced because of his speaking experience. Consequently, reading is a step down from fluent oral usage to unnatural sounding written passages.

Several observations reported in this study have raised questions about some of the more common practices in teaching reading. All of the children in this study were from the same school and were taught to read by similar methods. Yet the 100 youngsters who participated in the study provided examples of every type of reading difficulty which could be predicted on the basis of linguistic theory. Hence, the practice of teaching "word attack skills" to all members of a class at the same time is questionable. If, for example, a group of 20 children all get the same intensive lessons on words starting with initial "m" and "b", some might profit, others might suffer, and some might neither profit nor suffer. How the same lesson affects different children will depend upon the difficulties he is experiencing at the time. In a sense it's as if a doctor lined up all the children under his care and gave them all the same medication thinking that some need it now, some will need it later, and some

Another common practice, introducing new words in a story before the children are permitted to read it, is also questionable. Whether harmful or beneficial, it seems unnecessary in view of a youngster's ability to get new words from context.

Finally, because children, especially second and third graders, are so apt at correcting their own reading errors, teachers should not interrupt children during oral reading to correct errors. If children use the context cues to correct their own errors, this is obviously preferable to having teachers or other children correct them.

Observations made in this study also suggest that reading materials, particularly basal readers, should be written in a natural flowing tone so that they provide as many natural reading cues as possible.

3 This paper in its entirety is available through ECRI.