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ABSTRACT

Reported is the 1969-70 school year of Vermont's Consulting Teacher Program (Burlington) during which two consulting teachers-in-training assisted 16 teachers and four aides in providing special educational services for 27 handicapped learners enrolled in regular elementary classrooms and two handicapped learners in special classes. The report documents service and research activities (including release of teachers-in-training from regular duties 2 days/week and followup study of nine childern served in 1968-69); teacher preparation which involved both course work and practicum experiences; parent involvement; curriculum development; a summer research and development program; and dissemination activities such as presentation of consultant teacher projects at the first annual convention for behavioral educators. Activities of consulting teachers-in-training are described as including obtaining daily measures of educational and social deficits of handicapped learners which were ameliorated through applications of behavior modification principles, and providing interested parents with opportunities for home management projects. Appendixes include samples of service/research, teacher aide, junior student, and home projects. (GW)

1969 - 1970

Yearly Report

Consulting Teacher Program

Burlington School District

The project presented or reported herein was performed pursuant to Grant 55414-69, Title VI-A, Elementary and Secondary Education Act, from the U.S. Office of Education, Department of Health, Education, and Welfare to the Vermont State Department of Education. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

ABSTRACT

A cooperative project of the College of Education, University of Vermont; Division of Special Educational and Pupil Personnel Services of the Vermont State Department of Education; and five school districts in Chittenden county (Burlington, Chittenden Central, Chittenden South, South Burlington, and Winooski); funded under Title VI-A, Elementary and Secondary Education Act.

During the 1969-1970 school year, the Consulting Teacher Program in the Burlington school district provided special educational services for 27 handicapped learners enrolled in regular elcmentary classrooms and two enrolled in special classrooms. Two Burlington consulting teachers-in-training assisted 16 teachers and 4 teacher aides who requested their services on the two days per week each was released from regular teaching duties. Cooperating teachers obtained daily measures of educational and social deficits of handicapped learners which were then ameliorated through applications of behavior modification principles. The effectiveness of such applications was researched through the functional analysis of behavior. In addition, the consulting teachers-in-training conducted workshops for teachers in two elementary schools to provide inservice training in behavior modification principles; arranged observation and participation experiences in elementary classrooms for eight junior year students in elementary education at the University; and provided interested parents with an opportunity to undertake home management projects. One consulting teacher-in-training withdrew from the program while the other, upon completion of the Master of Education degree this summer, will serve as a full-time consulting teacher in the Burlington School District for the ensuing year.

FIGURES

Fig. 1. Daily percentages of attending during reading period for each condition.

Fig. 2. Daily percentages of attending during arithmetic period for each condition.

Fig. 3. Daily measures obtained by the teacher aide.

Fig. 4. Daily percentages correct on lines read orally during each condition.

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INTRODUCTION

The consulting teacher, in cooperation with the classroom teacher, seeks to provide special educational services to handicapped learners who are enrolled in regular elementary classrooms. These services are provided through systematic applications of learning principles and are evaluated through functional analyses of behaviors of concern. For a more complete description of the rationale and method of the consulting teacher approach to special education, the reader is referred to the 1968-1969 Yearly Report of the Consulting Teacher Program, Volume I.*

SERVICE AND RESEARCH

Procedures.

In the Burlington School District, consulting teachers-in-training were released two days a week from regular teaching duties. Costs for one and a half release days were met by the district, while costs for one half day were provided by the Consulting Teacher Program. One release day was spent consulting with teachers in the school district; observing referred handicapped learners in their classrooms; and devising teaching/learning procedures effective in promoting educational growth. Others who assisted in observations included University consulting teachers, the research assistant of the Consulting Teacher Program, principals,

*McKenzie, H. 1968-1969 Yearly Report of the Consulting Teacher Program, Volume I. Burlington, Vermont: Consulting Teacher Program, College of Education, University of Vermont, 1970.

and consulting teacher aides. In addition, consulting teachers-in-training conducted weekly workshops for inservice training of teachers (see page 4). The second weekly release day was spent at the University of Vermont consulting with UVM consulting teachers, psychologists, and research associates; preparing coursework; attending class; programing materials for workshops and students; and meeting with parents, principals, and special educational personnel and consultants.

In November, one consulting teacher-in-training withdrew from the Program for personal reasons. The release day teacher continued teaching/learning procedures devised for the classroom until the end of the first semester, when a substitute was hired for the remainder of the year.

Results.

A total of 29 children were served in the schools of Champlain, Bennett C. Douglass, Lawrence Barnes, and Lawrence Barnes Annex . Three of the 29 children had been served last year and were referred by current teachers for follow up services. Twenty-seven children were enrolled in regular elementary classrooms. Eleven children had been classified as handicapped by other professionals, while the other 18 pupils were referred on the basis of academic or social deficits. Deficit behaviors were defined on the basis of daily measures of behaviors of concern as obtained by the teachers (see also page 5).

Twenty-eight children demonstrated changes in desired directions as indicated by graphs depicting daily measures of behavior (for one child, only initial measures which defined the behavior were obtained). Other indications of improvement included teacher

and parent reports of improvement, promotion to the next grade, and progress as indicated by achievement scores. For each child served, a written report was prepared which included a brief description of the child, definitions of behaviors of concern, measurement procedures, teaching/learning procedures, and results. An example of a service/research project conducted by a teacher can be found in Appendix A while Appendix B contains an example of a project conducted by a teacher aide.

Behaviors of concern included academic behaviors such as attending to work materials, reading, and arithmetic; and social behaviors such as speaking out without permission, thumbsucking, obeying teacher commands, obeying school rules, interacting with other children, answering teacher's questions, participating in gym, and disruptive and aggressive behaviors.

Effective teaching/learning procedures devised for increasing appropriate classroom behaviors included the use of immediate and frequent teacher praise for the desired behavior and tokens presented for appropriate behavior. (Tokens were later exchanged for praise, cereal, toys, free time, and food.) One teaching/learning procedure found effective in decreasing tantrum and aggressive behaviors involved immediate "time out" from reinforcement whenever the tantrum or aggressive behavior occurred and, concurrently, immediate and frequent teacher praise whenever appropriate behavior occurred. For some children, teacher praise for appropriate behavior was effective in decreasing inappropriate behavior.

Follow up procedures.

Of the nine children served during the 1968-1969 school year,

intensive follow up services were provided for three elementary children on the basis of requests from current teachers. Intensive follow up services included obtaining measures of behaviors studied last year, conducting service/research projects of behaviors of concern this year, providing a big brother, and providing summer school placement. For one child placed in junior high school, conferences were held with teachers and guidance personnel. For the other children, no requests for follow up services were made. Information such as current academic levels, achievement test scores, grades and promotions was obtained through phone conversations with current teachers and prinicpals.

For the ensuing year, when the consulting teacher will be serving on a full-time basis, follow up information can be obtained through direct observation and recording of the behaviors studied this year as well as personal contacts with teachers and principals and consultations with teachers who so request.

TEACHER PREPARATION

Inservice.

In cooperation with the University consulting teacher, Burlington consulting teachers-in-training conducted two workshops for inservice training of teachers: a half-year workshop held at Champlain School for four teachers and one aide and the full-year workshop held at Lawrence Barnes School Annex for 12 teachers, three aides, one prinicpal, and one director.

Participants met for two hour sessions, one afternoon a week, for 15 weeks. Coursework included an introduction to learning

principles. Practicum experience involved classroom applications of these principles in providing special educational services to handicapped learners.

Each participant undertook a service/research project involving a handicapped learner. During a specified daily period, the teacher observed and recorded the behavior as it occurred in the classroom. Objectivity of definition and recording was provided by the consulting teachers-in-training, the University consulting teacher, and others who also observed and recorded children's behaviors. When initial measures which defined behaviors of concern were obtained, the teacher arranged the classroom environment so that the defined behavior of the child was modified in the desired direction. The consulting teachers-in-training also helped each teacher develop programed instructional materials when warranted by children's handicaps.

The effectiveness of a particular teaching/learning procedure was monitored by graphs depicting daily measures of behavior. If the graphs did not show changes in the desired direction, the procedure was modified or a new procedure was introduced. In this way, the teacher assumed the responsibility of arranging the classroom environment so as to provide measured educational growth.

Procedures found effective for one period during the day were often carried out by school personnel teaching or supervising the child at other times during the day. In addition, three teachers conducted service/research projects involving all the children enrolled in their classrooms.

Consultants from the University for these workshops included three psychologists from the staff of the University program in

in special education. Guest speakers included other University consulting teachers, as well as consulting teachers-in-training from surrounding school districts.

Preservice.

During the spring semester, 1970, eight junior year students in elementary education at the University of Vermont were placed with teachers who participated in the workshop held at the Lawrence Barnes School Annex. Students tutored on a one-to-one basis, conducted small group instruction, prepared instructional materials, and, when so instructed by the cooperating teachers, observed and recorded specified behaviors of handicapped learners.

Three students precisely defined and measured the behaviors of the children with whom they worked, and, in two cases, arranged the classroom environment so that the defined behavior of the child increased. An example of a service/research project conducted by a junior student may be found in Appendix C.

Role and training of consulting teacher aides.

Consulting teacher aides were employed on a half-time basis for each consulting teacher-in-training. The major roles of the consulting teacher aide were that of technical assistant and secretary.

Technical assistant duties included collating, tabulating, and graphing the daily measures of behaviors obtained by each teacher; obtaining measures simultaneously with teachers to ensure objectivity of measurement and recording procedures when behaviors were well-defined and routine observations needed; and calculating

reliability coefficients, ranges, and averages for each project.

Secretarial duties included filing data and case studies, preparing reports, and contacting parents and teachers for conferences with the consulting teacher-in-training.

In addition, the aides mimeographed and collated teaching/learning materials and worked as a teaching aide in the classroom of consulting teachers-in-training to provide instruction for individuals and small groups.

In general, training of the aides was undertaken by the consulting teacher-in-training who demonstrated how to plot measures on graph paper; initially accompanied the aide when making routine observations; and so on. One aide enrolled in the teacher workshop; both aides read sample case studies and reports. The research assistant for the Consulting Teacher Program also provided instruction in collating, tabulating, and checking teacher's data and in preparing final reports.

PARENT INVOLVEMENT

Service/research projects were undertaken with the informed and written consent of the parents. Conferences were held with the parent in order to explain procedures and obtain written permissions. In many cases, teachers visited the parents at home. In addition, regular school conferences were held. Some parents expressed interest in helping their children at home.

In the school of one consulting teacher-in-training, many parents did not attend regularly scheduled school conferences. This school was located in an area of the city which is charac-

terized by a high density population with predominantly low incomes. Some of the parents in this area were welfare recipients. In many cases, each of the parents were employed during the day, thus making it difficult to meet with teachers. Many of the parents had few years of formal education and/or educational backgrounds characterized by failure, thus making it possibly embarrassing to meet with teachers.

Parents of the children enrolled in the classroom of the consulting teacher-in-training were invited to participate in a workshop. The topic of the workshop was the application of behavior modification principles to child management, using a programed pamphlet as a guide.* Five evening meetings were held during the school year with four parents regularly attending. (The range of attendance at these meetings was 4-8.) Some of the child management problems that were discussed included thumbsucking, bedwetting, and following rules (such as picking up clothes). One parent successfully completed a home management project (see Appendix D).

This attempt at parent involvement in the management of children's behaviors can be considered a very small beginning. The main problem that remained unsolved was that of attendance. It is possible that if the meetings had been held at the homes of participating parents (instead of the school auditorium), more parents and neighbors may have attended. A second problem involved providing sufficient follow up for those parents who were interested

* Smith, F. and Smith, D. Child Management: A Program for Parents and Teachers. Ann Arbor, Michigan: Ann Arbor Publishers, 1966.

in conducting projects at home. Careful monitoring of measurement and modification procedures is an integral part of successful projects. A third problem involved the use of "textbook-like" materials in providing the discussion topics. A few parents expressed opinions that the material was "too bookish" and "psychological", indicating that a more informal presentation might have been more successful.

CURRICULUM DEVELOPMENT

Reading.

Each of the children in the classroom of one consulting teacher-in-training was asked what words he wanted to learn to read. The word was printed on a 3x5 index card. Cards were presented in the morning. If the child did not read the word, the teacher or aide said the word which the child then imitated. The date and the child's response was noted on the back of the card: a "+" for a correct response; a "-" for an incorrect response; and an "I" for imitation. When the word was read correctly on three consecutive days, the child no longer had to read it daily. On days when all words in his stack were read correctly, the child could add a new word.

During the school year, the number of words learned in this way ranged from 40 to 72, with an average of 57 words per child.

Arithmetic.

Three children in the first grade classroom of one consulting teacher-in-training worked on the programed arithmetic worksheets

developed by the Program's staff during the summer of 1969. These children worked at or near a second grade level. Two children began with addition facts (0-11) and proceeded through the 11-18 facts. They then worked through the subtraction facts (0-18). For one child, 1/3 of each worksheet (12 problems) represented the response unit for testing the effectiveness of a token system on increasing academic output.

Twelve children in the classroom of the other consulting teacher-in-training worked through the programed arithmetic worksheets: three in addition, three in subtraction, and six in multiplication.

SUMMER RESEARCH AND DEVELOPMENT PROGRAM

With the help of the school psychologist for the Burlington district and the home/school coordinator for the Lawrence Barnes School, 10 children were referred to the summer research and development school conducted by the University program in special education. If possible, teaching/learning procedures devised during the summer school will be incorporated in the management and education of these children during the 1970-1971 school year, under the direction of the consulting teacher for the Burlington district.

DISSEMINATION

Regular meetings were held with the Director of Pupil Personnel Services for the Burlington School District (as well as other central administrators and the principals of schools involved with the workshops) to provide information on current activities and progress of children served. In addition, meetings were held to plan directions and services for the ensuing year.

One consulting teacher-in-training participated in presentations of results to other teachers in the Washington county area; was a guest lecturer at a course in Learning and Human Development at the University; and attended preconvention meetings for the Council for Exceptional Children's national convention in Chicago during April, 1970.

In the spring of 1970, consulting teacher services were described to the regular weekly staff meeting of elementary principals. Every elementary principal indicated interest in providing consulting teacher services to teachers who so request next year. At this meeting, arrangements were made for presentations to the faculties of four of the ten elementary schools in Burlington. Twenty-four teachers indicated interest in participating in inservice workshops to be held next year.

At the first annual convention for behavioral educators, three consultees from the Burlington district presented their service/research projects. In addition, the consulting teacher-in-training described the Annex Workshop. Visitors at the workshop included the state helping teacher; the gym consultant, remedial

reading teacher, and school psychologist from the Burlington school district; and students and faculty from the College of Education of the University of Vermont.

A full day's tour of the Burlington Consulting Teacher Program was arranged for two representatives of the Vermont State Legislature. One of the legislators was a member of the Education Committee of the House of Representatives.

Studies conducted by teachers participating in each workshop were collected in notebook form and distributed to interested school personnel. There are two such notebooks containing detailed descriptions of measurement procedures devised by the teachers and teaching/learning procedures found effective in modifying children's behaviors.

P_6

Subject and classroom.

P_6 was a six and one half year old girl in a first grade class in a school in a low income, high population density area. There were 14 children in the class. Before entering first grade, she had attended Headstart for six weeks and kindergarten for one year.

Two reading readiness tests were administered; a score of 55 (high average) was obtained on the Alice and Jerry Basic Reading Program First Year Readiness Test 1, in June, 1969. A score of 54 (48th percentile) was obtained on the Metropolitan Readiness Test, Form A, in September, 1969.

She was placed in a level one, first grade classroom (there were six levels, with first level signifying "high"). For the first three weeks of school, readiness materials were presented. Preprimer readers and first grade math books were then presented to the children.

Behavior.

P_6 did not attend to her work and progressed very slowly in the reading and math books. She often talked to other children during quiet work periods, walked around the room, watched other children who were at work, looked out the window, called out for the teacher's attention, and followed the teacher around the room.

Attending behavior was defined as head orientation toward book or materials, or toward the teacher when the teacher was working with P_6.

Measurement and reliability procedures.

Throughout all conditions, observations of the defined behavior were made by the classroom teacher five days a week for two half hour periods in the morning during arithmetic and reading. Samples of attending behavior were obtained every three minutes. At the end of a three minute interval, the teacher recorded "+" if P_6 were attending and "-" if not.

To insure objectivity of definition and measurement procedures, an observer also obtained measures of attending in the same manner. When the teacher was ready to record a sample, she cued the observer with a nod of the head and a raised pencil.

Teaching/learning methods and materials.

The teacher conducted reading and arithmetic classes as independent study times. Assignments were made on an individual basis. The teacher instructed those who raised their hands and corrected assigned worksheets as the children worked on them by placing big red C's next to correct responses and ignoring incorrect responses.

Instructional materials for reading included preprimers and primers from the Lippincott series (McCracken and Wolcott, 1963), and for arithmetic, Elementary School Mathematics, Book 1 (Addison-Wesley, 1968).

Baseline 1.

The teacher obtained daily measures of attending behavior by using a stopwatch to time the three minute intervals. The stopwatch was stopped at the end of the three minute interval. This made a clicking sound. Then the teacher looked at P_6 and re-

corded her behavior. The click seemed to set the occasion for P_6 to look at her work. To determine whether the clicking noise affected the measure of attending, baseline 2 conditions were introduced.

Baseline 2.

The stopwatch was run continuously so that no clicking sound was made. The teacher continued to use the watch to time the three minute intervals by noting when the sample was taken (at three minutes, six minutes, etc.).

Contingency 1.

The teacher made teacher attention contingent upon P_6's attending. She approached P_6's desk for instruction and correction only when P_6 was attending to her work. She frequently verbalized praise when P_6 was attending (e.g., "Good worker, P_6."). She also frequently smiled warmly and hugged P_6 or patted her on the head when P_6 was attending.

Scientific verification.

The teacher returned to baseline conditions: she no longer made teacher attention contingent upon attending behavior.

Contingency 2.

Teacher attention was again made contingent upon attending behavior.

Postcheck.

Although the project ended on class day 43, the teacher continued to make teacher attention contingent upon attending be-

havior. On occasion throughout the remainder of the school year, the teacher obtained a measure of the pupil's attending.

RESULTS

Figure 1 shows the percentages of attending obtained for P_6 during reading period, while Figure 2 shows the percentages of attending obtained during arithmetic period. A percentage of attending was calculated by dividing the total number of "+" scores by the total number of samples, multiplied by 100. Thus, if P_6 obtained 5 "+"'s out of 10 scores on a particular day, 5/10 x 100, or 50% would be recorded.

Also depicted on the figures are the scores obtained by observers (larger circles). Reliability of measurements was recorded as percentages of agreement noted along the top of the graph. Each score obtained by the teacher was compared with the score obtained by the observer. A percentage of agreement was calculated by dividing the total number of agreements by the total number of samples, multiplied by 100. Thus, if the teacher and observer agreed on 8 out of 10 scores, the percentage of agreement would be 8/10 x 100, or 80%.

Percentages of agreement ranged from 88 to 100 with an average of 94. As shown by the large circles in both figures, the measures obtained by the observer matched closely the measures obtained by the teacher. This indicated that the teachers definition of the behavior was clearly observable and that measured changes in behavior were not due to inadvertent changes in definition or recording procedures.

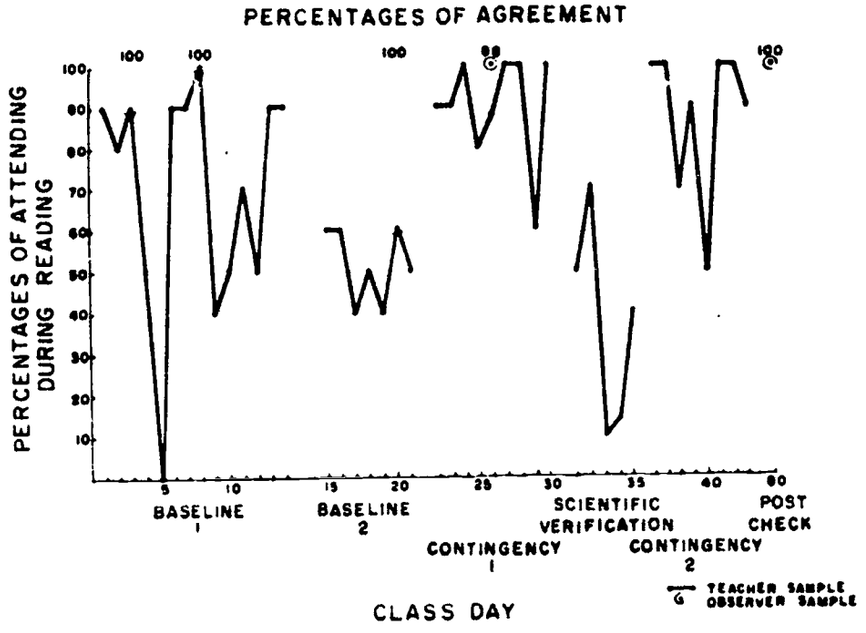

Fig. 1. Daily percentages of attending during reading period for each condition.

As shown in Figure 1, percentages of attending in reading during baseline 1 conditions were quite variable, with a range from 0 to 90, and an average of 70. Under baseline 2 conditions, the average percentage of attending was 51, with a range from 40 to 60.

Under contingency 1 conditions, when the teacher praised P_6 as she attended to reading materials, the percentages of attending increased to an average of 90, with a range from 50 to 100.

During scientific verification, when the teacher no longer praised P_6 for attending, average percentages decreased to 37, with a range from 10 to 70.

During contingency 2, when the teacher reinstated praise for attending, average percentages again increased to an average of 88, with a range from 50 to 100.

The postcheck measure, obtained on day 80, indicated that the pupil maintained her high level of attending.

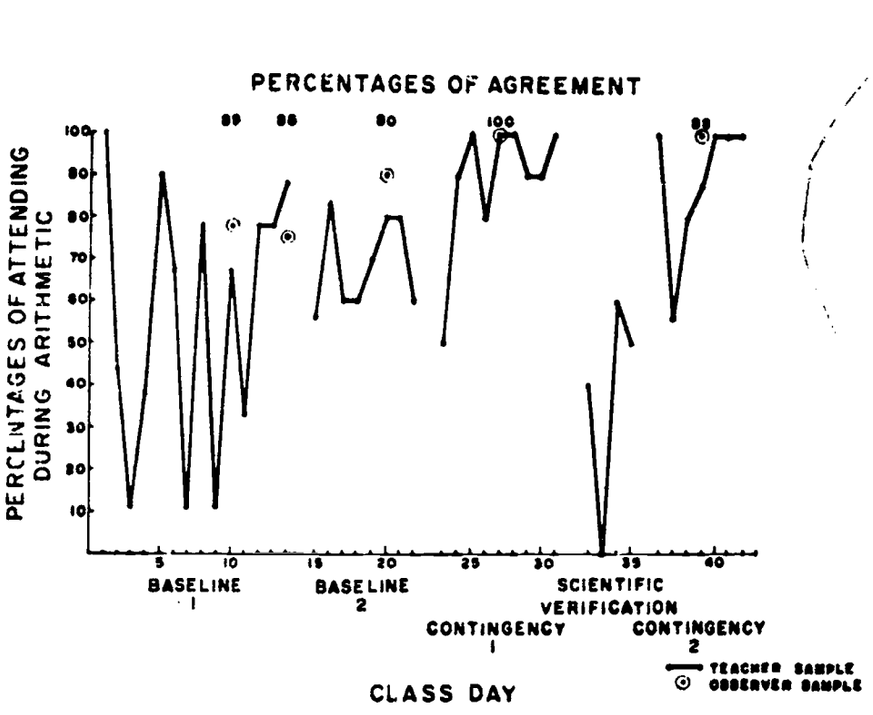

Fig. 2. Daily percentages of attending during arithmetic period for each condition.

As shown in Figure 2, percentages of attending during arithmetic period followed the same pattern as during reading period. Percentages of attending were variable and low during baseline 1, baseline 2, and scientific verification conditions (average percentages of attending were 57%, 69%, and 38%, respectively). Percentages of attending increased during contingency conditions (89% average for both contingency 1 and 2).

DISCUSSION

The systematic application of learning conditions was monitored by precise measurement of the behavior. Measures obtained during baseline 1 condition were higher than those obtained during baseline 2. When the stopwatch clicked (baseline 1), the teacher looked at P_6 to record her behavior. When P_6 no longer heard the clicks (baseline 2), she did not always know when the teacher looked at her.

Therefore, the higher percentage of attending during baseline 1 may have been due to the teacher's attention of looking and recording.

This effect of teacher attention was confirmed when contingent teacher attention was introduced. Measures obtained during baseline 2 and scientific verification indicate that had no contingency procedures been introduced, P_6 would have continued to be inattentive to her work. The teacher was assured that making teacher attention contingent upon the appropriate behavior (attending) was effective in increasing and maintaining that behavior.

With this assurance, the teacher used the contingency conditions at other times during the school day to increase other behaviors such as sitting quietly during lunch, and appropriately participating during art, social studies, and in science discussions.

The teacher felt that without such precise contingency management, P_6 would have become a serious behavior problem since many of her behaviors were similar to those of children labeled "hyperactive" (e.g., hopping around the room, frequently out of seat, incomplete assignments, and loud talking at inappropriate times). These behaviors ceased to be a problem through the precise and systematic use of teacher attention (praise, instruction, and correction), which effectively increased appropriate academic behaviors for this child.

P_{22}

Introduction.

This study was conducted on a school bus. The children in the school had a five minute bus trip from the large elementary school to the first grade facilities. The maximum number of children who rode the bus was 65.

A teacher aide rode the bus with the children. She supervised their entering and leaving the bus. One of the rules was that all children should remain seated during the bus ride.

Pupil.

P_{22} was a seven and one half year old boy who rode the bus. He had a moderate to severe hearing loss in his left ear and a moderate loss in his right ear. In addition, P_{22} had severe deficits in academic skills and frequently behaved inappropriately. During his first year of first grade, he learned to remain in the classroom, attend to work materials, obey teacher directions, and print and read a few words. (See P_4, McKenzie, 1970, Vol. II*.)

During this second year of first grade, he began to complete assignments on a kindergarten level (coloring, solving simple addition problems with digits 0-5, printing and naming the letters of the alphabet). He continued to be aggressive and disruptive. When he was referred for follow up services, the consulting teacher-in-training worked with his teacher and other supervising adults.

* McKenzie, H. 1968-1969 Yearly Report of the Consulting Teacher Program. Burlington, Vermont: Consulting Teacher Program, College of Education, 1970.

On the bus, P_{22} behaved inappropriately. He often stood up and, when told to sit down again, often did not obey.

Definition of behavior.

Standing behavior was defined as any occasion of standing up from his seat after P_{22} entered the bus. Reprimands were defined as occasions when the teacher aide requested P_{22} to sit down.

Baseline.

The teacher aide counted the number of times P_{22} stood up when he was on the bus, and the number of times she told him to sit down during the bus ride at the end of the school day. The teacher aide also measured the length of time P_{22} stood on the bus by activating a stopwatch whenever he stood up and stopping the watch when he sat down.

Contingency 1.

On the first day of contingency 1, the teacher aide told P_{22} that when he sat for the entire trip at the end of the school day, he would receive a surprise. On each day he remained seated for the entire trip, the teacher aide gave P_{22} two one-cent tootsie rolls. She continued to measure reprimand and standing behavior.

Scientific verification.

P_{22} was no longer given two tootsie rolls at the end of the trip for remaining in his seat, and the teacher aide continued to measure reprimands and standing behavior.

Contingency 2.

On the first day of contingency 2 conditions, the teacher

aide again told P_{22} that when he remained in his seat for the entire trip, he would be given a surprise at the end of the bus trip. The teacher aide continued to measure reprimands and standing up behavior.

RESULTS

Figure 3 depicts the day-by-day measures obtained by the aide. Each point on the top graph shows the number of seconds P_{22} was standing up during the bus ride on a particular day. The bottom graph shows the number of reprimands given by the teacher aide for that day.

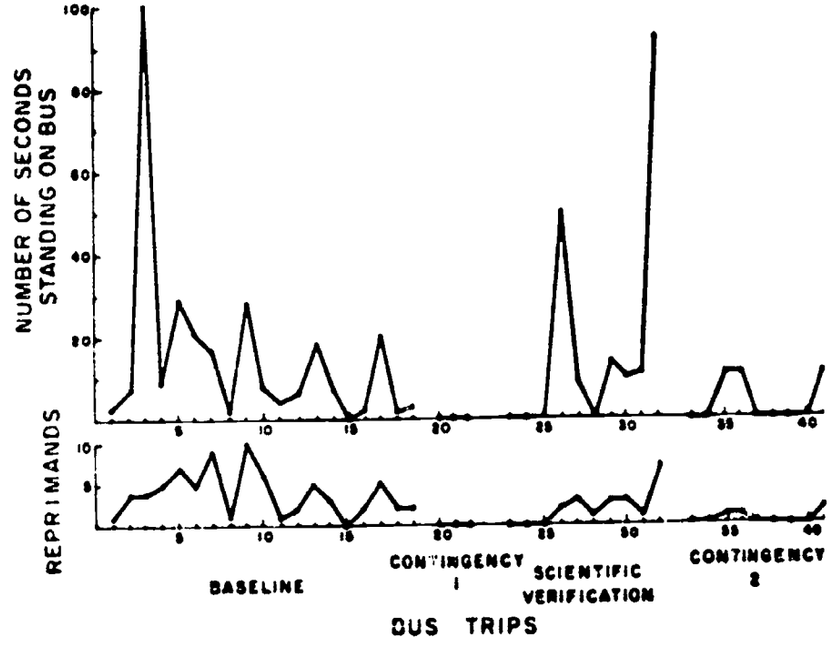

Fig. 3. Daily measures obtained by the teacher aide. The top graph shows how many seconds P_{22} was standing up on each bus ride. The bottom graph shows how many reprimands were given by the aide during each bus ride.

As can be seen from the graph, the number of seconds when P_{22} was standing on the bus was high during baseline and scientific

verification conditions (averaging 18 seconds and 19 seconds, respectively). At the same time, the number of reprimands given by the aide was also relatively high (averaging 4 and 2 for each condition).

During contingency 1 and contingency 2 conditions, when a surprise was made contingent upon remaining seated during the bus ride, the number of seconds of standing behavior decreased (averaging 0 and 4, respectively). Furthermore, the number of reprimands also decreased (averaging 0 and .4 for each condition).

DISCUSSION

Throughout two years of work with this child, it was found that positive reinforcement procedures, such as described above, were effective in increasing appropriate behavior and decreasing inappropriate behavior. The use of contingent teacher attention and tokens which were later exchanged for privileges and treats increased attending to work materials. The use of contingent teacher attention (praise, hugs, smiles, and individual instruction) and immediate correction of work (big, red C's by correct responses) increased the number of class periods that P_{22} worked appropriately.

Disruptive and aggressive behaviors occurring in the classroom were decreased through contingent teacher attention for appropriate behavior in conjunction with immediate "time out from reinforcement" whenever aggressive behavior occurred. The procedure implemented by the teacher aide is an example of the use of contingent events (tootsie rolls) for the desired behavior

(remaining in seat) and the resulting decrease in undesired behavior (standing on the bus).

As can be seen by the high incidence of standing up behavior during baseline and scientific verification, P_{22} would have continued to behave inappropriately had the aide not introduced contingency procedures. The future educational growth of this child will depend on the continued use of precise and systematic arrangement of contingencies.

Behavioral objective.

To have the student read from Palo Alto Book 1 at 100% accuracy.

Baseline.

Using pages 11 to 21, the student read to the tutor. Number of correct lines was recorded. A percentage correct was obtained by dividing number of correct lines by total number of lines read, multiplied by 100.

Flashcard condition.

Each word appearing on pages 11 to 21 was printed on a 3 x 5 flashcard. Each card was presented to the pupil until he correctly named the word. Each correct response was praised. When all flashcards from a page were correctly named, he read that page.

Postcheck.

Eight class days after the close of this study, the student read to the tutor on page 55.

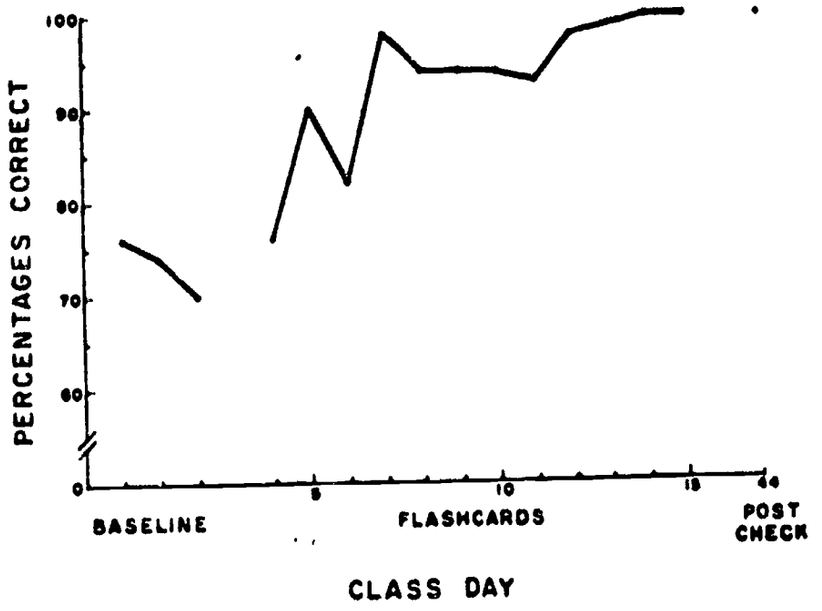

Fig. 4. Daily percentages correct on lines read orally during each condition.

Results.

During baseline (see Figure 4), the percentage correct ranged from 70 to 76, with an average of 73. During flashcard conditions, the percentage correct ranged from 76 to 100, with an average of 93. The postcheck indicated that the pupil maintained his high accuracy as he progressed through the reading book.

The mother of a six year old boy was concerned about his frequent bedwetting. Each morning, she noted on a kitchen calendar whether his bed was dry (D) or wet (W). During a six day interval, the bed was dry on only two mornings (or 33% of the time).

For the next ten days, on every morning the bed was dry, the mother gave her son a gold star to paste on a large poster, and praised him for being "grown up". On mornings the bed was wet, she did not give a star and made no comments. During this interval, the bed was dry on seven occasions (or 70% of the time).

The mother felt that this procedure was very effective. She planned to use a similar procedure to toilet train a two year old son.