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ABSTRACT

A study involving 7 multiply handicapped students (6-13 years old) was conducted to shape appropriate classroom social behaviors and to maintain them with little social approval, to examine what effects reprimands had on student behavior, and to see if combination of reprimands and praise could result in good classroom behavior when reprimands were faded in. A group learning situation was set up wherein the teaching procedures were faded from "praise and ignore" to "praise and reprimand", while maintaining high levels of social and academic behavior. Following training, six Ss were placed in more advanced programs; and follow-up contacts indicated that all six children were progressing according to their teachers' satisfaction and maintaining appropriate social behavior. (Author/SBH)

SUCCESS IN NEW CLASSROOMS: DETERMINED BY TEACHER PRAISE AND REPRIMANDS

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Educational methods have gone through some major changes since the early days of forced schooling. Teachers are no longer maintaining an abundant supply of hickory sticks in their "learning" corners. Partially due to the development of educational centers and journals (which teachers have used to share their knowledge, experiences, and ideas), new techniques are constantly being explored and presented; and education has continued to mature.

Behavior modifiers have been instrumental in identifying and manipulating the variables that control classroom behavior. They have identified inattention, disruptive behavior, and poor academic performance as being major problems within the classroom. Then, they developed and shared several different methods for the classroom teacher to use in order to ameliorate those problems. Research on the contingent use of teacher attention in a normal classroom setting has provided us with some fundamental aspects of classroom control (Hall, Lund & Jackson, 1968; Kennedy & Willcut, 1964; Madsen, Becker & Thomas, 1968; Thomas, Becker & Armstrong, 1968). All of these investigators have shown us the importance of teacher attention and its influence on student behavior when used contingent on that behavior. Other investigators found the principles to hold for "special" classroom situations as well as regular classrooms (Broden, Bruce, Mitchell, Carter & Hall,

1970; O'Leary, Kaufman, Kass, & Drabman, 1970). Again, these investigators found the contingent use of teacher attention to be a very powerful tool in classroom management.

Simultaneously, other investigators were experimenting with and using token economies to shape classroom academic behaviors in groups of retarded students (Birnbrauer, Wolf, Kidder, & Tague, 1965; Zimmerman, Zimmerman, & Russell, 1969), academic and social behaviors in groups of retarded students (Ackerman, 1972; Kaufman & O'Leary, 1972), and academic and social behavior in groups of normal students (Iwata & Bailey, 1974; O'Leary & Drabman, 1971). All these investigators found tokens to be strong tools for shaping and maintaining classroom academic and social behaviors. Group contingencies were also being used to control classroom behaviors--some in the form of games (Barrish, Saunders, & Wolf, 1969; Harris & Sherman, 1973), others in the form of group consequences (Bushell, Wrobel, & Michaelis, 1968; Packard, 1970; Schmidt & Ulrich, 1969). These researchers found classroom behavior could also be controlled using these methods.

All of this research has been instrumental in understanding and developing the variables which control classroom behavior. However, when dealing with groups of retarded students, researchers have relied heavily upon tokens and backup reinforcers. As Iwata and Bailey (1974) pointed out, "... the teacher must continuously rely on the token system for control in the absence of a system of social reinforcers toward which she can fade" (p. 575). The present study is an attempt

to shape appropriate social behaviors in retarded students without tokens or backup reinforcers, only teacher attention. The children in the present study were students at the Kalamazoo Valley Multihandicap Center. The Center is designed for children whose severity and multiplicity of handicaps preclude them from adequate functioning in other special educational settings. The Center's primary objective is to teach the children the skills necessary to gain entry into the public school's special education sequence. A majority of therapy is conducted on an one-to-one basis followed by fading to group teaching. This technique is used to prepare the children for the small group teaching tactic used in a majority of the special education classrooms. Prior to the study, two children had been screened out of the program into other programs. However, after the follow-up was discontinued, the new teachers reported that the children were very disruptive and inattentive in the classroom. Follow-up was reinstated, and the data showed that the teachers reprimanded inappropriate social behavior at a much higher rate than praising appropriate social behavior (approximately 80% reprimands to 20% praise). These data are consistent with those reported by Madsen and Madsen (1973) who found that 2500 teachers sampled in the Southeastern United States had an approval ratio of 23.3% for social behavior. (Approval ratio equals the number of praises for appropriate social behavior divided by the number of both reprimands and mistaken reinforcement for inappropriate social behavior.) White (1975) also found that for social behavior teacher verbal

disapproval far exceeded verbal approval in 16 classrooms sampled. It was concluded that the switch from the high approval rate at the Center (above 90% praise) to the high disapproval rate was responsible for the high rates of inappropriate behavior in the new classrooms.

Thus, the purpose of this study was threefold: first and foremost, to shape appropriate classroom social behaviors by the children and to maintain them with very little social approval; second, to examine what effects reprimands had on student behavior; and third, to see if a combination of reprimands and praise (common to many classrooms) could result in good classroom behavior when reprimands were faded in.

Method

Students

Seven students were selected from the Elementary Components at the Kalamazoo Valley Multihandicap Center, six males and one female. The Center is part of the Kalamazoo Valley Intermediate School District and serves multiply impaired children up to 25 years of age. The criteria for choosing the subjects were that they would soon be assessed for possible placement in a new classroom and when moved from an one-to-one to a group learning situation they showed an increase in inappropriate social behaviors. All of the children had well developed verbal repertoires and two or more of the following handicaps: mental retardation, emotional disturbance, cerebral palsy, hearing impairment, vision impairment, speech impairment, or physical impairment. Some of the students had other medically based problems including congenital

brain disease, kidney transplant, and agammaglobulinemea. The students ranged in age from 6 years to 13 years, with a mean age of 10.3 years.

The teacher was a graduate student in psychology and had worked part time at the Center for two years prior to the start of the study. He was selected as teacher because of his experience and participation in pilot studies for the study. He received his regular pay for conducting therapy and three graduate credits in psychology for participation in the study.

Setting

The study took place outside the regular classroom in a carpeted room that was 8.13m x 5.26m x 2.82m with a small observation room in the back. There was a Panasonic zoom camera in the back right corner of the classroom which was connected to a Roberts video tape recorder and T.V. receiver. Inside the observation room, the observers collected the appropriate data as they viewed the classroom over the monitor.

Materials

The stimulus cards from the Peabody Language Kit Level #1 were used. These were selected because pilot studies indicated that all the children could and would respond to the cards. There were a total of 440 pictures covering the following areas: activities, animals, clothing, colors, fruits, vegetables, foods, household items, people, toys, and transportation. The cards used were randomly selected each day by the teacher.

Student Behaviors

There were three dependent variables: attending, disruptive behavior, and correct answers. Attending was defined as looking at or having face and body oriented toward the teacher or the student called upon by the teacher. Disruptive behavior was broken down into two categories: major and minor disruptives. The response definitions were similar to those used by Thomas, Becker & Armstrong (1968). Briefly, major disruptives were defined as any of the following: Gross Motor, e.g., getting out of seat, walking around, rocking, moving chair; Verbalizations, e.g., talking out, screaming, yelling, whistling, laughing; Aggression, e.g., hitting, pushing, shoving, slapping, pinching, striking with objects, throwing objects. Minor disruptives were defined as any of the following: Self Stimulation, which was defined in a way similar to that of Lovaas, Koegal, Simmons, and Long (1973), e.g., rocking, sucking thumb or fingers, rubbing crotch, legs, or head repeatedly, hitting or slapping self; Noise, kicking or slapping chair, tapping feet, clapping hands, etc. A Correct Answer was defined as giving the response that appropriately answered the question asked by the teacher (e.g., Q: "What is this?" A: "Sailboat.").

Teacher Behaviors

The behaviors of the teacher were divided into two general classes: reprimands for disruptive behavior and praise for nondisruptive behavior. Reprimands consisted of statements, such as, "Sit down," "Be quiet,"

"Sit still," "Turn around," and physical prompts, such as escorting a child back to his seat and sitting him down. Praise consisted of comments, such as, "You're sitting very nicely," or "... looks really good," and physical contact, such as touching, hand slapping, rubbing, tickling, etc.

Observation Procedure

Observers. The observers used were selected because of their experience in operant psychology and participation in pilot studies. They received their regular pay for conducting therapy if a paid staff member or college credit if they were a nonpaid staff member. The observers were trained in a prebaseline period which consisted of 20 sessions. All the observers were given descriptions of all the behaviors they would be recording. There were three primary observers and two reliability observers. The primary observers recorded student attending, disruptive behaviors, and (during the fading procedure) number of teacher praises and reprimands. The reliability observers checked these behaviors as well as the teacher's own recording of correct and incorrect answers and his use of instructions versus questions.

The sessions occurred at approximately 9:10 each school morning and lasted from 8 to 15 minutes during all phases with the exception of the first 80% reprimand phase. Each session consisted of 24 trials. A trial started when the teacher began asking the question and ended upon consequation of a student's response. Each observer had a data

sheet which contained seven rows, one for each child, with columns arranged to produce 24 boxes. At the beginning of each trial, the observers began recording the behaviors as they occurred. For example, an observer recording nonattending behavior would slash (/) the appropriate box if a nonattending behavior occurred for a particular child. Only one instance of the behavior was recorded each trial. Therefore, a behavior could occur several times during a trial but be recorded only once, resulting in a total of 24 possible occurrences of a behavior per student during a session. This method enabled the observers to immediately record obvious behaviors and time to carefully watch for less obvious ones. The teacher consequated student answers equally throughout the study. Correct answers were followed by teacher praise, such as, "That's right," "Very nice anser," etc. Incorrect answers were followed by teacher reprimands, such as, "No," "That's wrong," etc., or verbal prompts that consisted of statements, such as, "Almost, look again," "Not exactly," etc. The teacher recorded all student answers and the consequences delivered on a data sheet similar to the sheets used by the observers. When prompts were required, answers were scored as incorrect. Students were required to raise their hands in order to be called on. In the middle of the study (Session 43), a change was made in the recording of disruptive behavior. Initially, the data on all disruptive behaviors were recorded in one category. When these data failed to show the obvious differences that were observed, the video tapes of the sessions were rescored in order to

separate major from minor disruptive behaviors. This change was the result of the comments made by a teacher from the public school system who came to observe a student in the group for possible placement in her classroom. After observing the session, she told us the group was one of the best behaved groups she had seen. Thus, it appeared that the procedures being used were effective in producing the type of student behaviors desired by a public school teacher; but this was not indicated by the data. Thus, the change in the recording showed the change in student behaviors that were obvious to the casual observer. Session 12 was the first to be videotaped, and the breakdown begins there. Unfortunately, the data from some of the sessions were unobtainable due to poor video tape quality. Beginning with Session 43, the observers were given the breakdown of the behaviors and began recording them in vivo.

Reliability. Two types of reliability were calculated. The first type was the traditional interval by interval (I-I) method (Bijou, Peterson, & Ault, 1968) in which agreements over agreements plus disagreements resulted in a reliability score. This method was used to obtain scores on student attention, disruption, and correct answers and on teacher questions, instructions, praise, and reprimands. For the second type, not one, but two reliability coefficients were computed: one for occurrence and one for nonoccurrence of the behavior (Bijou, Peterson, & Ault, 1968; Hawkins & Dotson, 1975). For occurrence reliability, all intervals in which neither observer

scored the behavior as occurring were ignored in calculating agreement scores. Only an interval in which both observers recorded the presence of the behavior was counted as an agreement. This score is then divided by the sum of agreements plus disagreements to arrive at a reliability score. The same formula was used for nonoccurrences (intervals in which both observers scored the behavior as occurring were ignored). These reliability measures were obtained for attending, major, minor, and total disruptive behavior. Frequency reliability was obtained on teacher praise and reprimand statements in possible placement sites as well as at the Center. That is, the smaller number of praise or reprimand statements recorded by one observer was divided by the large number recorded by the other observer.

Experimental Procedure and Design

Pilot studies. There were two structured group periods prior to the present study. Briefly, the first consisted of sessions in which the material was randomly changed from day to day. The purpose of this study was two-fold: first, to determine if the students had group skills (hand raising, attending, responding and being nondisruptive); and second, to determine what method of presentation would be desirable and what material should be used. The second pilot study further manipulated variables such as settings, teachers, time intervals, and consequences, all of which generated the present study. The pilot studies covered a total period of four months.

Prebaseline. During these sessions, observers were trained; and

the students were given time to adjust to the room, teacher, and camera. The teacher was instructed to conduct class in his usual manner and not to attend specifically to social behaviors. These sessions were discontinued following several days of consistently high reliability scores (80% or better) and a stable level of student behaviors.

Design. The experimental design used was a reversal (ABACB) design (Baer, Wolf, & Risley, 1968). The two pilot studies and the prebaseline period described above immediately preceded the present study. The phases of the study proceeded in the following order.

Baseline I. During this phase, the teacher consequated only academic behaviors. No specific consequences were delivered for social behavior.

Reprimands. The teacher continued reinforcing academic behavior and also reprimanded inappropriate social behavior at the 80% level.

Baseline II. All conditions were the same as for Baseline I.

Teacher praise for nondisruptive. The conditions remained the same for academic behaviors but again changed for social behaviors. At this point, the teacher was instructed to give social praise for nondisruptive and ignore any disruptive behavior.

The fading in of reprimands. The fading procedure occurred in four steps: 20% reprimands--80% praise; 40% reprimands--60% praise; 60% reprimands--40% praise; and 80% reprimands--20% praise. The teacher consequated social behavior in roughly the following manner:

during 20% reprimands--praise, praise, praise, praise, reprimand; during 40% reprimands--praise, reprimand, praise, reprimand, praise; during 60% reprimands--reprimand, praise, reprimand, praise, reprimand; during 80% reprimands--reprimand, reprimand, reprimand, reprimand, praise. To signal the teacher when to praise or reprimand, an observer was placed outside the room behind the group facing the teacher. For this observer, a wireless F.M. receiver and a F.M. radio were used to monitor the session. The observer recorded the number of praise and reprimand statements made by the teacher. A green and a red card were used to signal the teacher as to which consequence to use. Academic behaviors were continuously consequated with teacher praise, prompts, or reprimands.

Follow-up. The Center maintains a follow-up program for each child placed in a new classroom. Immediately following placement, a staff member from the Center attends class with the child lending support and suggestions to the new teacher. Telephone contact is usually maintained for several months depending on individual need. For all of the children who participated in this study additional follow-up was conducted six to nine months following completion of the study. This additional follow-up consisted of either direct classroom observation or teacher telephone contact depending on location of the new classroom. During the additional follow-up phase, first data was taken; and then, help was given to the teacher if he/she requested it.

Results

Reliability

Two types of reliability were calculated: interval by interval (I-I) and occurrence and nonoccurrence of the behaviors. For attending, the I-I agreement was 81.2%; occurrences, 54.4% and nonoccurrences, 73.5%. For disruptives, the I-I was 79.4%; occurrences, 70.2% and nonoccurrences 58.4%. For major disruptives, occurrences were 52.2%; nonoccurrences, 90.7%. For student answers, I-I was 88.6%. For questions versus instructions, I-I was 97.9%. For the follow-up, the I-I agreement for attending was 85.4%, for disruptives, 86.5%, and for correct answers, 100.0%. For praise and reprimands, the agreement on the frequency counts was 82.3% and 87.5% respectively.

Group Data

Baseline I. For all students' behaviors, a percentage of trials that they occurred in was calculated by dividing the number of trials a given behavior occurred in for a session by the number of trials for the entire session (usually 24 sessions). As can be seen from Figure 1, during baseline, the mean level of attending behavior for the group

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Insert Figure 1 about here

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varied around a mean of 63.2% (range: 45% to 70%). The mean for total disruptive behavior was 57.8% (range: 40.5% to 75%). The breakdown of disruptive behavior into the major/minor categories was possible for

only the last session of this phase and resulted in 34% major disruptives with minor disruptives occurring during 24% of the trials. For correct answers, the mean was 75.8% (range: 58% to 91%). The time required to complete the trials for each session ranged from 8 to 15 minutes.

Reprimands. The introduction of reprimands produced some noticeable changes in the students' behavior. Initially, the reprimands maintained fairly good social behavior (Sessions 13 and 14); but continued use of reprimands resulted in a rapid drop in attending, down to 10% on Session 17. Major disruptives increased to 61.5%, making up the majority of the total disruptives scored (88%). Minor disruptives fell to 26.5%. Correct answers dropped to 56%. The last session of the phase (Session 17) was terminated at Trial 21 due to excessive disruptive behavior (kicking and pushing the teacher, hair pulling, running out of the room, etc.). The whole phase was terminated at this point, feeling the data were an accurate measure of the effects of reprimands. (Anecdotally, the following morning one of the mothers came in and reported that her child was extensively reprimanding her younger brother. She was shown the video tape of the session.) In addition, the length of the sessions required to complete the trials increased to 60 minutes with a mean of approximately 35 minutes for the five sessions.

Baseline II. A return to baseline followed, and social behavior returned to approximately Baseline I levels. Session length also

returned to its Baseline I level and remained there throughout the rest of the study.

Teacher praise for nondisruptive. Praise for nondisruptives produced some unexpected results. Namely, it did not appear to be reducing total disruptive behavior; but attending increased slightly after an initial decrease. Attending rose steadily with a mean of 58% (range: 24% to 80%). Correct answers remained about the same with a mean of 78% (range: 62% to 91%). Disruptives increased slightly and had a mean of 65.5% (range: 58% to 82%). Major disruptives fell considerably during this phase to a mean of 18.7% (range: 4% to 36%). Minor disruptives accounted for the overall increase in total disruptives by increasing to a mean of 46.1% (range: 30% to 62%).

The fading in of reprimands. The fading in of reprimands began at Session 48 and lasted five sessions per step. Attending increased stepwise from a mean of 75.4% during the 20% reprimands step to a mean of 90.4% during the 80% step. Total disruptives dropped from a mean of 58% during the 20% step to 35.8% during the 80% step. Major disruptives fell from a mean of 11.4% during the 20% step to a mean of 8.2% during the 80% step. Minor disruptives dropped from a mean of 45.6% during the 20% step to a mean of 27.2% during the 80% step. Correct answers fell slightly from a mean of 84.4% during the 20% step to a mean of 81.6% during the 80% step.

The group data indicated that a sudden exposure to a high rate of reprimands increased inappropriate social behavior, whereas

exposure to a high rate of praise increased appropriate social behavior. The gradual fading from praise to reprimands actually further increased appropriate social behavior. The actual percentages of reprimands during the 80% reprimand and fading phase never deviated more than 7.9% away from their scheduled occurrences for all days except for the last day of the first 80% reprimand phase where the student behaviors were out of teacher control. Here, reprimands were 95%, deviating 15% from their scheduled occurrence.

Individual Data

The data for all seven of the students are accurately represented by the group means. Two of the students exhibited behavior that differed slightly from the group, and these data are presented in Figures 2 and 3. Student seven's data (Figure 2) differed from the

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Insert Figure 2 about here

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others in that his major disruptive behavior increased during the first three steps of the fading phase and decreased again during the final step of the fading phase. The inital increase was comparable to that observed for this student during the 80% reprimand phase with the decrease during the final step of the fading, bringing this student's major disruptives down to the groups's mean for this step. His increase in major disruptive behavior plus a consistently high level of minor disruptives resulted in his level of total disruptives remaining

above that for the group's mean. However, his level of attending and correct answers roughly matched those of the group's means.

Student one's data are also presented individually (Figure 3). This student was unanimously chosen (by the observers and the data)

Insert Figure 3 about here

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as the most disruptive and inattentive student in the group. The breakdown of major and minor disruptives made this distinction very obvious in his case, as was his increase in attending from the praise phase through the fading phase. He exhibited a high rate of disruptive behavior through Baseline I, even higher during 80% reprimands, with it dropping slightly fack down during Baseline II. The major disruptives began to decrease during the praise phase and continued to decrease throughout the fading phases. Attending was low during Baseline I but dropped even further during reprimands. Baseline II was similar to Baseline I; but during the praise phase, attending began to increase and continued to climb throughout the fading phase. During Baseline I, 80% reprimands, Baseline II, and the first part of the praise phase, major disruptives made up the majority of total disruptive behavior. Major disruptives began to fall during the praise phase and continued to fall throughout the fading phase. Minor disruptives initially increased as majors decreased but then steadily decreased through the fading steps. This student's correct

answers varied widely throughout the study with the lower extremes of the variance increasing slightly during the fading phase.

The overall individual data were very well represented by the group means. All the children's attention dropped, and disruptives rose during the 80% reprimand phase. This reversed during the fading phase, i.e., attending rose and disruptives fell.

Placement and Follow-up

Of the seven students to participate in the group, four were immediately placed in other schools. Two of these students went to classrooms for the educably mentally impaired, one went to a classroom for the trainable mentally impaired, and the other went to a school for the physically impaired. Two other students were adopted and moved to other cities where they were placed in classrooms for the educable mentally impaired. The last student (Student 1) remains at the Center and is scheduled for an educational planning and placement committee meeting in order to evaluate his progress and assess his potential in the special education sequence.

Approximately six to nine months following the completion of the study, telephone contact was made with all of the new teachers. For those students still in the district (three), the same observers went into the new classroom and collected data in the same manner as described previously. One of the students had been in the hospital several months prior to the follow-up, and his data were omitted from the group. Therefore, follow-up data, consisting of two sessions, were collected on two students in new classrooms as well as one student

still enrolled in the Multihandicap Center. For the student still enrolled, an extensive follow-up, which consisted of six sessions, was conducted.

Follow-up group data are presented in Figure 1. These data indicate that performance was maintained for the three students sampled--two of whom went into high teacher disapproval settings (above 80% on all observations) and one who returned to a high teacher approval setting (above 80% on all observations). In fact, as can be seen from Figure 3, this student's performance improved considerably. (Only the first two data points for this student were included when calculating the group means of Figure 1.)

All the teachers verbally reported that the students were progressing to their satisfaction, and only one reported any disruptive behavior in a group setting. This student (Figure 2) had a high rate of self-stimulatory behavior which was being maintained in the new setting by peer attention. Work with that classroom is currently ongoing.

Discussion

The present study demonstrated an effective method for teaching children to behave appropriately in a classroom with minimal reinforcement. The study also demonstrated that a sudden introduction of reprimand increased inappropriate social behavior in a classroom setting. Finally, the study showed that fading in reprimands to a combination of praise and reprimand consequences for social behavior can

be an effective method to maintain appropriate social skills while decreasing the reinforcers.

The data indicated that group skills could be shaped using only the social consequences delivered by the teacher. .The method was economical in that only one teacher was needed and tokens or backup reinforcers were not used. Not utilizing tokens was especially important in that most of the students studied were transferred to classrooms where this method was not used. In this case, to have shaped the students' behavior with the use of tokens would probably have been a mistake.

The use of the ABACB reversal design showed experimental control over the dependent variables. When baseline conditions were reinstated, all behaviors returned to approximately the Baseline I levels. When praise was applied, there was an initial decrease in attending; but it climbed to a steady high level. Also, during the praise phase, a clear split appeared in the major and minor disruptives, with major disruptives dropping to an extremely low level. Each increment of reprimands in the fading phase resulted in an increase in attending and a decrease in minor disruptives while maintaining a low level of major disruptives. It should be noted that attending was a steady level during the last three days of each step, then increased with the introduction of the new step. This showed that this phase employed an effective method to fade out the praise and increase the reprimands without increasing the low levels of major

disruptives obtained with praise. It could be argued that the classroom situation itself was responsible for the skills obtained; however, it would seem that there would have been some behavior change during the pilot studies, prebaseline, and first baseline conditions which consumed approximately 67% of the school year. There was no major change in the social behavior of the students until the 80% reprimand phase.

A modeling effect appeared after the 80% reprimand phase. The students were reprimanding each other for inappropriate behaviors, which resulted in more disruptive behavior during the first few sessions of the praise phase. This behavior by the students further supports the notion of eliminating aversive control from the classroom. The authors do not recommend usage of reprimands as tools of behavioral control. We would much rather see the classroom totally void of any type of "hickory sticks." The data supporting usage of positive methods in the classroom are abundant although slow in reaching their target--the teachers.

There are some supplemental data which warrant comment. First, the amount of time for the duration of the sessions remained approximately the same throughout all phases (8-15 minutes) except for the first 80% reprimand phase. During this phase, the sessions went from 15 minutes to 60 minutes in duration as a result of increases in disruptive classroom behavior (the mean duration for the five sessions was approximately 35 minutes). Session 17 was terminated at Trial 21

after 60 minutes of running, kicking, and total loss of teacher control. The data obtained from the first two days of the 80% reprimand phase indicated that reprimands will suppress behavior initially and possibly become reinforcing for the teacher to use, although continual usage results in poor classroom control because of the attention a child receives from the many threats by the teacher which are never followed up.

Correct answers remained approximately the same throughout the entire study, although attending varied a lot. This is consistent with the results obtained by Ferritor, Buckholdt, Hamblin, and Smith (1972). They found contingencies that increased attention and reduced disruptions did not necessarily increase student performance.

The present study investigated the effect that teachers have on their students and methods which can help the teacher develop instructional control in the classroom. It also has demonstrated that multiply handicapped students can be taught the social skills necessary for a group learning situation without the use of primary reinforcers, tokens, or physical punishment.

It is important to again note that the authors do not recommend the procedure of fading in reprimands as a general teaching tactic. The shift from the high teacher approval group situation to the high teacher disapproval group situations had resulted from some of our clients being referred back to the Center for further training. Since the normative data (Madsen & Madsen, 1973), as well as informal

observations of the classrooms these students would be going to, indicated that most teachers currently use about 80% reprimands and only 20% praise, we decided that training our clients to survive in these classrooms was an immediate problem to be solved for their sake.

One of the services provided by the Center is consultation with classroom teachers who deal with the clients we send them. It is hoped that via this consultation and more behaviorally enlightened teacher training programs we will eventually not be faced with the problem of making sure our clients can handle an 80% level of reprimands from their teachers. Until this becomes a reality, we must continue to functionally analyze the environments to which we send clients and provide them with the kind of training that should maximize their probability of success in those environments.

References

Ackerman, M. J. Group therapy readiness using operant techniques with mental retardates. Paper presented at the AERA Convention, April 7, 1972.

Barrish, H. H., Saunders, M., and Wolf, M. M. Good behavior game: Effects of individual contingencies for group consequences on disruptive behavior in the classroom. Journal of Applied Behavior Analysis, 1969, 2, 119-124.

Baer, D. M., Wolf, M. M., and Risley, T. R. Some current dimensions of applied behavior analysis. Journal of Applied Behavior Analysis, 1968, 1, 91-97.

Bijou, S. W., Peterson, R. F., and Ault, M. H. A method to integrate descriptive and experimental field studies to the level of data and empirical concepts. Journal of Applied Behavior Analysis, 1968, 1, 175-191.

Birnbrauer, J. S., Wolf, M. M., Kidder, J. D., and Tague, C. E. Classroom behavior of retarded pupils with token reinforcement. Journal of Experimental Child Psychology, 1965, 2, 219-235.

Broden, Marcia, Bruce, Carl, Mitchell, M. A., Carter, Virginia, Hall, R. V. Effects of teacher attention on attending behavio· of two boys at adjacent desks. Journal of Applied Behavior Analysis, 1970, 3, 199-203.

Bushell, D. F., Wrobel, P. A., Michaelis, M. L. Applying "group" contingencies to the classroom study behavior of preschool children. Journal of Applied Behavior Analysis, 1968, 1, 55-61.

Ferritor, D. E., Buckholdt, D., Hamblin, R. L., Smith, L. The non-effects of contingent reinforcement for attending behavior on work accomplished. Journal of Applied Behavior Analysis, 1972, 5, 7-17.

Hall, R. V., Lund, D., Jackson, D. Effects of teacher attention on study behavior. Journal of Applied Behavior Analysis, 1968, 1, 1-12.

Harris, V. W., and Sherman, J. A. Use analysis of "good behavior game" to reduce disruptive classroom behavior. Journal of Applied Behavior Analysis, 1973, 6, 405-417.

Hawkins, R. P., and Dotson, V. A. Reliability scores that delude: An Alice in Wonderland trip through the misleading characteristics of interobserver agreement scores in interval recording. In E. Ramp & G. Semb (Eds.), Behavior Analysis: Areas of Research and Application. Englewood Cliffs, N. J.: Prentice Hall, 1975.

Iwata, B. A., and Bailey, J. S. Reward versus cost token systems: an analysis of the effects of students and teacher. Journal of Applied Behavior Analysis, 1974, 7, 567-576.

Kaufman, K. F., and O'Leary, K. D. Reward cost and self evaluation procedures for disruptive adolescents in a psychiatric hospital school. Journal of Applied Behavior Analysis, 1972, 5, 293-309.

Kennedy, W. A., and Willcut, H. C. Praise and blame as incentives. Psychological Bulletin, 1964, 62, 323-332.

Lovaas, D. I., Koegal, R., Simmons, J. Q., and Long, J. S. Some generalization and follow-up measures on autistic children in behavior therapy. Journal of Applied Behavior Analysis, 1973, 6, 131-166.

Madsen, C. H., Jr., Becker, W. C., and Thomas, D. R. Rules, praise and ignoring elements of elementary classroom control. Journal of Applied Behavior Analysis, 1968, 1, 139-150.

Madsen, C. H., Jr., and Madsen, C. K. Teaching/Discipline. Boston: Allyn and Bacon, 1970.

Madsen, C. H., Jr., and Madsen, C. K. Learning and Observational Manual. Boston: Allyn and Bacon, 1973.

O'Leary, K. D., and Drabman, P. Token reinforcement programs in the classroom: A review. Psychological Bulletin, 1971, 75, 379-398.

O'Leary, K. D., Kaufman, K. F., Kass, R. E., and Drabman, R. The effects of loud and soft reprimands on the behavior of disruptive students. Exceptional Children, 1970, 37, 145-155.

Packard, R. G. The control of "classroom attention": A group contingency for complex behavior. Journal of Applied Behavior Analysis, 1970, 3, 13-28.

Schmidt, G. W., and Ulrich, R. E. Effects of group contingent events upon classroom noise. Journal of Applied Behavior Analysis, 1969, 2, 171-179.

Thomas, D. R., Becker, W. C., and Armstrong, M. Production and elimination of disruptive classroom behavior by systematically varying the teacher's behavior. Journal of Applied Behavior Analysis, 1968, 1, 35-45.

White, M. A. Natural rates of teacher approval and disapproval in the classroom. Journal of Applied Behavior Analysis, 1975, 8, 367-372.

Zimmerman, E. H., Zimmerman, J., and Russell, C. D. Differential effects of token reinforcement on instruction following behavior in retarded students instructed as a group. Journal of Applied Behavior Analysis, 1969, 2, 101-112.

Footnotes

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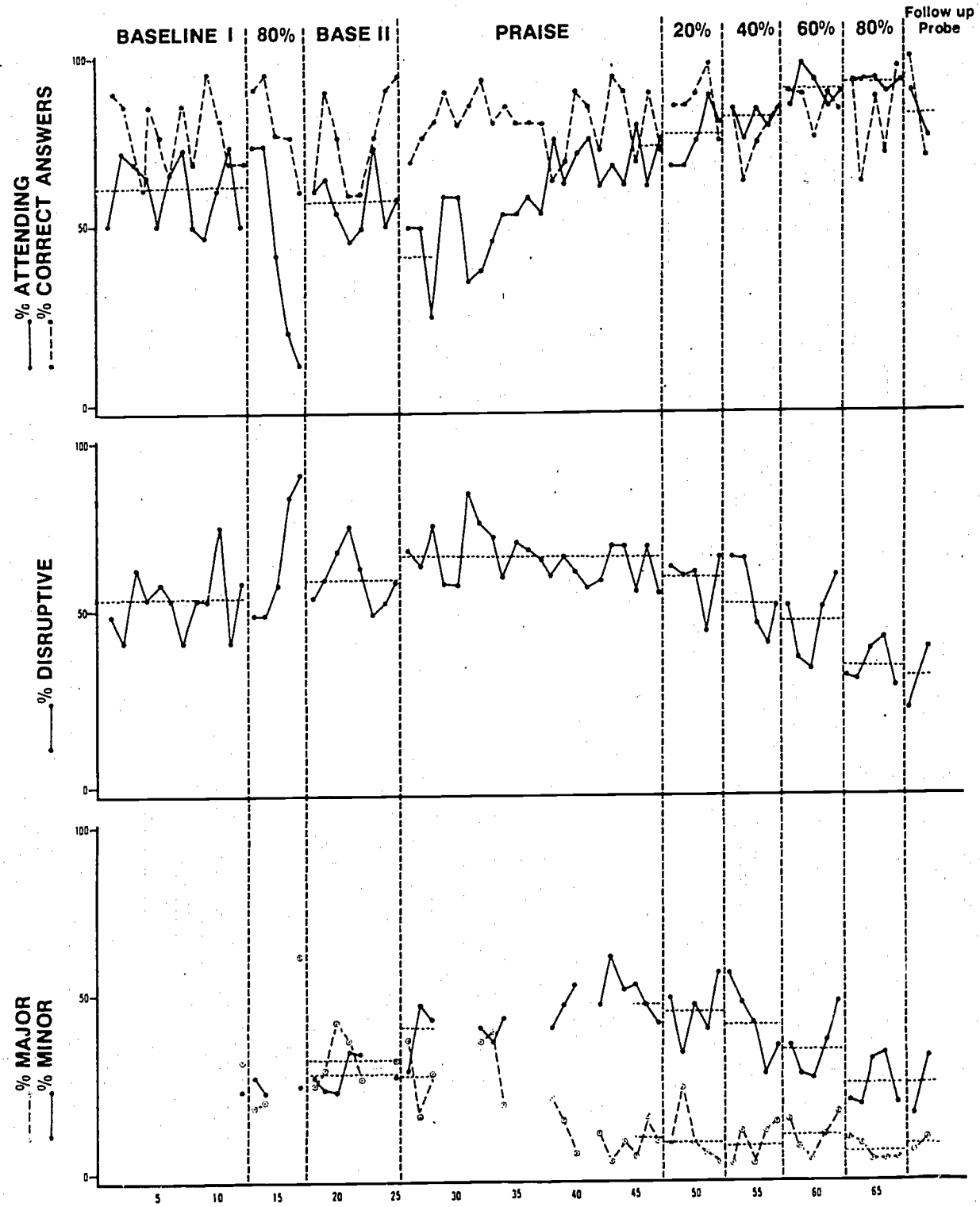
Figure Captions

Figure 1. Group means for attending, correct answers, total disruptives and major and minor disruptives. Horizontal lines indicate phase means.

Figure 2. Individual data for attending, correct answers, total disruptives, and major and minor disruptives for Student 1.

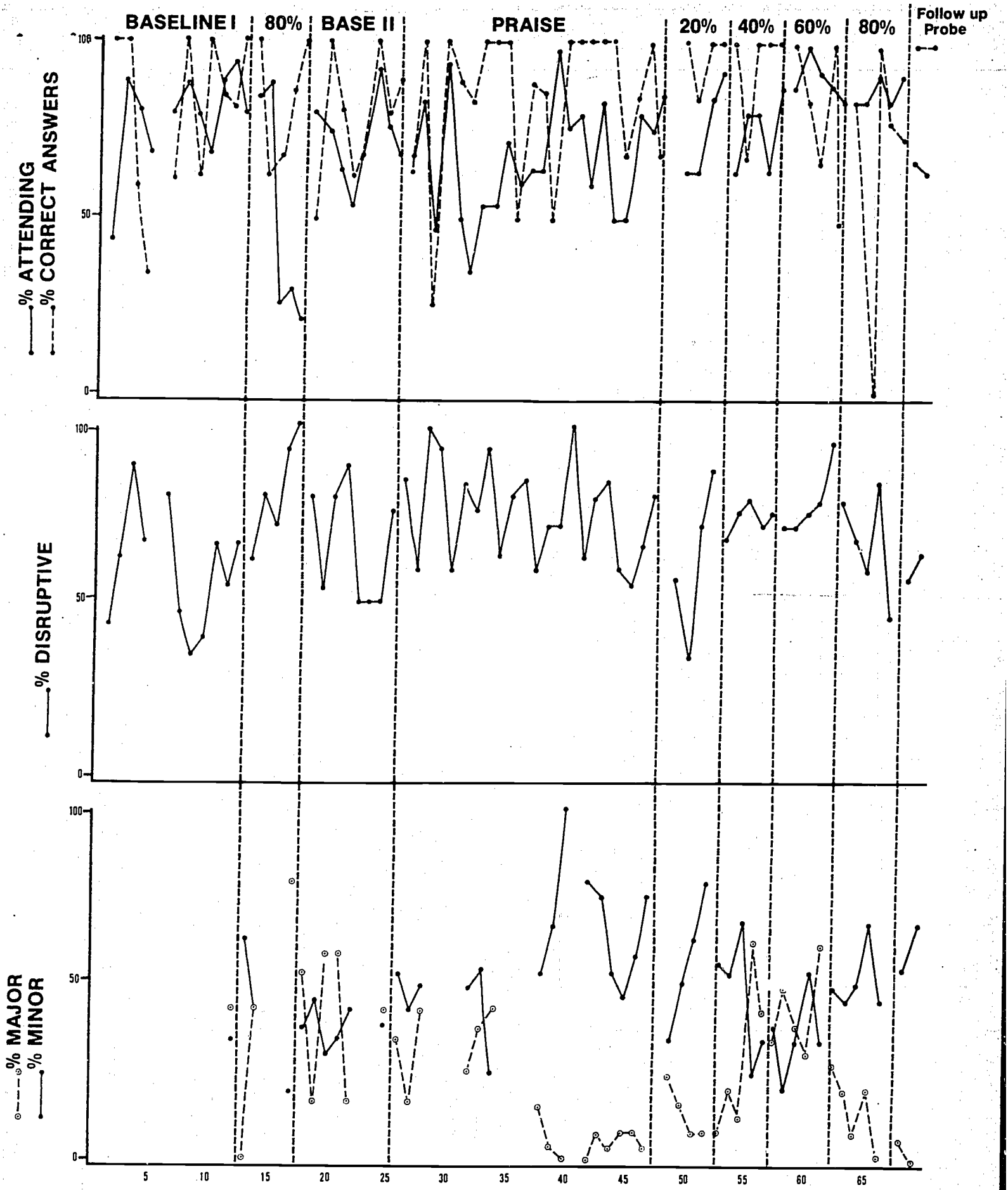
Figure 3. Individual data for attending, correct answers, total disruptives, and major and minor disruptives for Student 7.



GROUP MEANS N=7

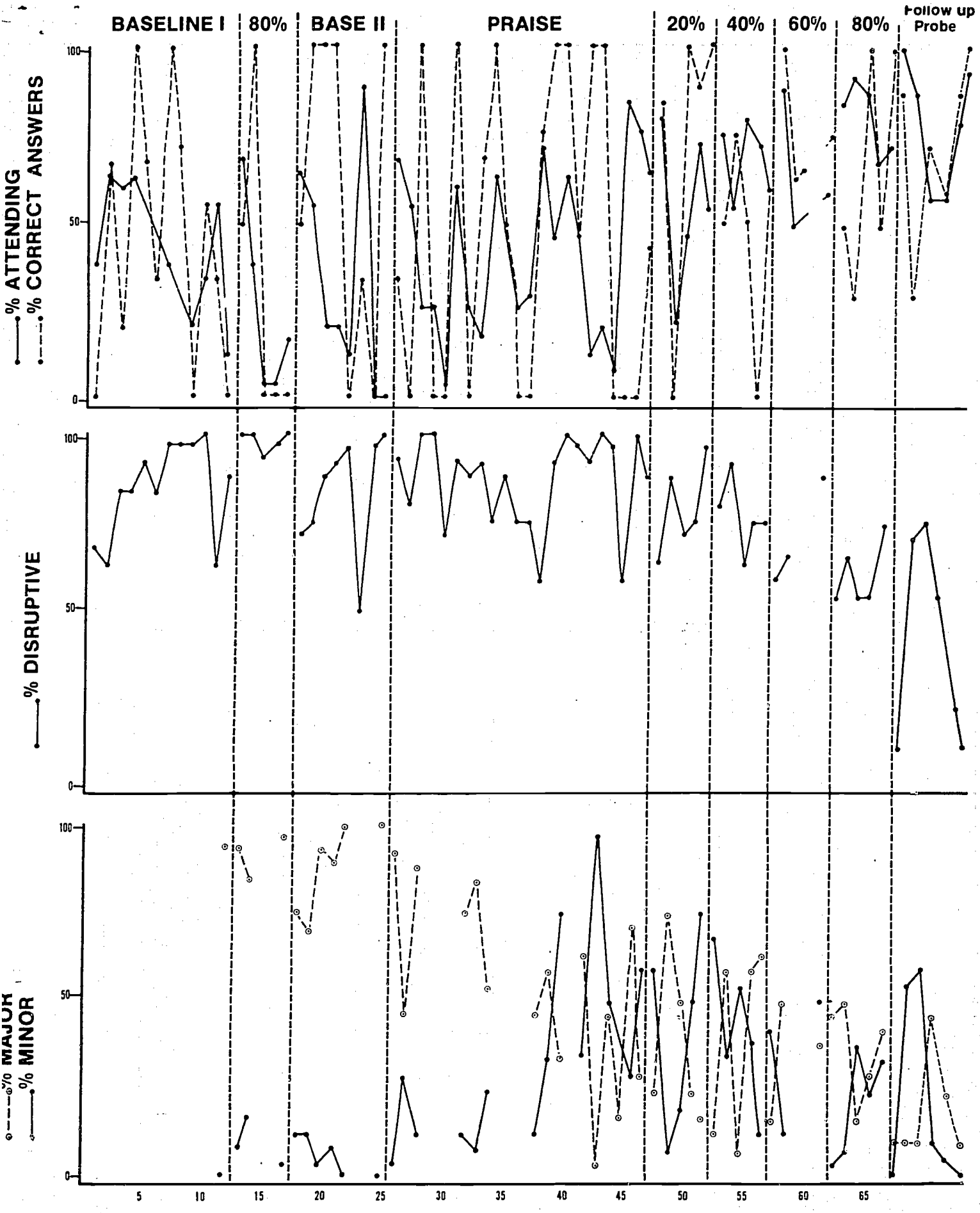
FIGURE 1

-------- PHASE MEANS



STUDENT 7

FIGURE 2



STUDENT I

FIGURE 3