

304
INCORPORATING USAGE OF NONDISABLED PEER MODELING IN TEACHERS'
INTERACTIONS WITH DEVELOPMENTALLY DISABLED PRESCHOOL CHILDREN

by

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A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF ARTS

Department of Speech

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Manhattan, Kansas

1980

Approved by:

A handwritten signature in black ink, reading "Thomas M. Longhurst". The signature is written in a cursive style with a long horizontal stroke at the end.

Major Professor

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A recent trend in education, commonly called mainstreaming, has focused on integrating developmentally disabled children with nondisabled children in the same classroom. A variation sometimes called reverse mainstreaming integrates nondisabled children into classrooms for disabled children. Theoretically, the results of these movements should be improvement in the social and cognitive development of the disabled children and increased normalization of their educational environment.

The basic assumption of these mainstreaming movements is that the disabled children will learn beneficial behaviors, primarily through imitation of the nondisabled children. There is considerable evidence that most retarded children readily imitate (Forehand, Robbins & Brady, 1973; Garcia, Guess & Byrnes, 1973; Lutzker & Sherman, 1974; Martin, 1975).

Imitation in retardates has been explained by Zigler & Yando (1972) as a result of their characteristic "outerdirectedness". Outerdirectedness is defined as a "...style of problem solving characterized by reliance on concrete situational cues rather than by active attempts to deduce abstract relationships" (Zigler & Yando, 1972, p.414). Zigler's theory suggests that retardates are likely to imitate due to a history of failure to adequately perform. They tend to watch others around them for cues on appropriate or accepted problem solving behaviors.

Observational learning, watching and imitating others, is also referred to as modeling. The concept of incorporating modeling techniques in training situations involves systematic structuring of the environment to allow the subject to observe a separate model perform a behavior. Following observation of the model, the subject imitates the model's behavior and receives consequences similar to those which the model received. Modeling as a teaching strategy with retardates has been proven successful using retarded peers as models (Mansdorf, 1977; Talkington, Hall & Altman, 1973) and using normal subjects as models (Peterson, Peterson & Scriven, 1977).

The integration of disabled and nondisabled children provides an environment in which modeling techniques can be employed. The disabled children are exposed to nondisabled children in their daily educational environment through mainstreaming. However, research has shown (Snyder, Apolloni & Cooke, 1977) that mere exposure of nondisabled peers to disabled children will not result in increased cross group imitation and social interaction. Systematic structuring by the teachers is required to incorporate modeling techniques in the mainstreamed classrooms to enhance the social and cognitive development of the disabled children. This requires that the teachers be able to adjust their teaching methods accordingly in order to utilize the nondisabled children as models for the disabled students.

At least two types of adjustments in teaching strategies should be made by teachers in integrated settings to improve the linguistic abilities of their disabled students. The first adjustment is to direct a significant number of requests for verbalizations to the disabled children. Conn and Richardson (1976) found that teachers generally use few requests for verbal responses to disabled children in preschool settings. In order to promote verbal responses, teachers need to actively elicit them. The second adjustment that teachers should make in integrated settings is systematic usage of the nondisabled children as verbal models for the disabled children.

Preliminary observations of a reverse mainstreamed preschool suggested that the teachers seldom used the nondisabled children systematically as models in their teaching. Earlier investigations conducted at the same preschool (Livingston, Note 2; Schraeder, Note 3) indicated that the teachers directed few requests for verbalizations to the disabled children, thus providing them little or no necessity to produce verbal responses.

The present investigation was undertaken to determine how often the teachers in a reverse mainstreamed classroom used nondisabled children as models, how often they requested verbal responses from their students, and how often the students responded with verbalizations to these requests. Further, it was designed to see if 1) the teachers' rate

of peer modeling could be increased as a function of systematic training in peer modeling techniques, 2) the rate of requests for verbal responses could be increased through training in peer modeling techniques and 3) there would be a corresponding increase in the verbalization rates of the students in response to any increase in requests for verbal responses made by the teachers.

Method

Subjects

Four female teachers from a reverse mainstreamed preschool setting served as subjects. Two were full-time developmental specialists, one was a part-time music therapist and one was a student teacher. Their theoretical orientation was quite eclectic, while their approach was experiential rather than direct intervention. All of the teachers conducted group activities integrating disabled and nondisabled children. Groups generally consisted of two nondisabled children and three to six children diagnosed as developmentally disabled.

Procedures

Teachers were observed and tape recorded at the preschool for developmentally disabled children. Recordings were conducted in an open play area designated for each specific group activity. A Wollensack (2516 AV) cassette recorder was placed near the group activity, set as unobtrusively as possible. The teachers and children were conditioned to the tape recorder and observer presence since the current study was part of an ongoing research project.

Following informal observations of several typical morning sessions at the preschool, three specific classroom activities were selected for observation. Each of these activities included structured sessions conducted by a teacher integrating the disabled and nondisabled children.

The following situations were included:

1. Circle. All children and teachers at the center participated in circle. This activity occurred approximately one-half hour after the center opened and consisted of morning greetings and teacher-conducted discussions regarding topics of interest for the week. Topics ranged from identification of animals to awareness of the senses (taste, smell, etc.). Circle generally lasted between 10 and 25 minutes, and was conducted in one end of the room designated for this activity. Two of the teachers (the developmental specialists) alternated days conducting circle. The student teacher occasionally led the group, although not as often as the developmental specialists.

2. Snack. Snack occurred mid-morning at the center, again involving all children and teachers present. Snack generally consisted of a fruit drink and a solid food, which required distribution of cups, spoons, napkins, bowls, etc., depending on the nature of the snack. This activity occurred in the same specially designated area each day. Again, the developmental specialists alternated days in conducting snack. This situation was not as structured as circle. Snack was viewed by the teachers as a break in the day. They handed out cups filled with juice, a napkin and a cookie to each child without requesting the child to name the items. The children and the teachers then ate the snack and the teachers engaged in conversation with each other.

Previous investigation at the same preschool by Elmore (Note 1) suggested that the teachers seldom talked to the children during the snack sessions.

3. Music. Music consisted of smaller group situations. Generally one nondisabled and two disabled children were grouped in music. The music therapist visited the center twice a week and therefore the children did not participate in this situation as frequently as in circle and snack. The music therapist was the only teacher who led music. Group situations in music consisted of learning words and actions to simple songs, familiarization with musical instruments and participation in musical "games" involving gross and fine motor activities.

Baseline Data

Baseline data were obtained in circle, snack and music over a two week period. Teachers' use of models and requests for verbalizations to and responses by both the nondisabled and disabled children were tabulated by the experimenter. Results were graphed by use of models by two-minute segments rather than by daily sessions, as each situation varied in length.

Our preliminary observations were confirmed. The baseline data revealed that little or no systematic usage by the teachers of the nondisabled children as verbal models for the disabled children was employed in the preschool. These data also revealed that relatively few

requests for verbalizations were made to the disabled children.

Intervention

A program for training the teachers to use the non-disabled peers as verbal models was developed. It was hypothesized that this, in turn, would cause an increase in requests for verbalizations to the disabled children. These changes in teacher behavior should then result in changes in the children's verbal behavior.

The first step of intervention was to present the concept of peer modeling to the teachers and instruct them on employing peer modeling techniques in their classroom. A staff meeting with the teachers who were involved in the specific situations (circle, snack and music) was held during the first week of intervention. Explanation of results obtained in baseline, presentation of research findings on the effectiveness of peer modeling with the disabled (Guralnick, 1976), and implicit instructions on how the teachers could apply modeling in their classroom were presented. See Appendix A for an outline of the text presented to the teachers at this meeting. The meeting with the staff lasted approximately 30 minutes and teachers were free to ask questions about procedures to be used in employing peer modeling techniques. Teachers were instructed to utilize peer modeling through an increase in requests for verbal responses to both groups of children

During the second week, a staff meeting was held with the teachers to give more explicit suggestions on employing modeling techniques. See Appendix B for an outline of the presentation to the teachers at this meeting. A review of baseline and the first week of peer modeling data was present to the teachers. Questions from the teachers were answered. Also, an in-class demonstration on day eight of the investigation was conducted by the experimenter during snack period to further demonstrate to the teachers how to employ modeling techniques in their classroom.

A staff meeting held during the third week consisted of listening to a recording of both the experimenter's in-class demonstration and the teachers' classroom sessions. Problem areas and strong points were discussed. Graphs were presented representing the number of requests for verbalizations to the disabled children, and the number and percent of these responded to by the disabled children thus far in the experiment.

During the fourth week of intervention, conferences between the individual teachers and the experimenter were conducted. The teachers were given specific instructions on how they could use modeling techniques with their situations. For example, if a teacher was conducting circle and the goal for the group was to identify ten smells, the teacher and the experimenter discussed words which could

be used as modeled words and methods she could employ with that topic to elicit responses from the disabled children.

Essentially no intervention procedures were conducted during week five, but recordings were continued.

Probes

Two probe recordings were conducted, one four and one six weeks following completion of the intervention. The teachers had no forewarning that these tape recordings were for the current investigation or ongoing research. It was felt that the probes adequately represented the current circumstances in the classroom.

Data Analysis

The tape recordings were timed and segmented into minute samples using a stop watch and transferring the numbers from the counter on the cassette recorder to the data sheet. The data sheet, constructed by the experimenter, consisted of 10 vertical columns with each column representing one minute from the tape. After segmentation, the tape was then replayed and requests for verbalizations to and responses by the children to these requests were coded and tabulated under each minute noted on the data sheet.

Requests for verbalizations were defined according to parameters outlined by Leach (1972) and included any request by the teacher to the children which required a verbal response other than a yes/no response or a behavior response.

If an appropriate response (for example, a correct label of an object) was made to the teacher's request by the children, a plus was marked on the data sheet; a minus was recorded for no response or inappropriate responses. Inappropriate responses were defined as a scream, cry or other verbal response not related to the request from the teacher. Specific types of questions were not recorded, as only the number of requests for verbalizations was analyzed. Specific responses were not recorded either, as the experimenter was only interested in whether or not an appropriate response occurred.

After all requests for verbalizations were recorded, the number of requests for verbalizations made to the disabled children was graphed by situation in two-minute segments, and on the same graph, the number of requests responded to by the disabled children.

Data sheets were constructed for analysis of the use of models. Each request for verbalization was recorded on a separate line of the data sheet if it was different from the previous request from the same teacher. If the same request was made to two different children, those requests were recorded on the same line. This method facilitated analysis for the use of models.

Use of models was defined as a teacher-child verbal routine involving any one of three variations. These variations are defined in Table 1 and examples are presented.

Table 1

Definitions and examples of three variations of use of models

Nondisabled Routine

The nondisabled routine involved a request for a verbalization to a nondisabled child with appropriate response, and then, the same request for verbalization was made to the disabled child.

Teacher: Johnny, what animal is this?
 Nondisabled: It's a dog.
 Teacher: Good, Johnny. Mary, what animal is this?
 Disabled: Dog.
 Teacher: Good Mary.

Group Routine

The group routine involved a request for a verbalization directed to the group with appropriate response by a nondisabled child, and then the same request for verbalization was directed to a disabled child.

Teacher: Who knows what this is?
 Nondisabled: Ball.
 Teacher: That's right, Johnny.
 Mary, what is this?
 Disabled: Ball.
 Teacher: Good Mary.

Disabled Routine

The disabled routine involved a request for a verbalization directed to a disabled child with no response, then the same request for verbalization was directed to a nondisabled child with appropriate response, and then return to the disabled child with the same request for verbalization.

Teacher: Mary, what is this?
 Disabled: (no response)
 Teacher: Johnny, what is this?
 Nondisabled: Shoe.
 Teacher: Good talking, Johnny.
 Mary, what's this?
 Disabled: Shoe.
 Teacher: Good Mary.

Data were analyzed and graphed by situation and number of use of models per two minute segments. No differentiation was made between types of models used by the teachers on the graphs.

Reliability

Reliability for application of all performance measures was established by having a trained graduate student score each of the measures. Three, 4-minute segments from each of three situations were randomly selected from the original tape recordings and recorded on a separate tape. The graduate student was trained by the experimenter on scoring procedures used and examples were presented. The graduate student then independently scored the reliability tape for each of the three behaviors. Percentage of agreement was computed by the following formula:

$$\frac{\text{No. of agreements}}{\text{No. of agreements} + \text{No. of disagreements}} \times 100 = \begin{array}{c} \text{Percentage} \\ \text{of} \\ \text{Agreements} \end{array}$$

The percentage of agreements for the three behaviors (use of models, requests and responses) ranged between 67% and 100%, with an overall mean of 86%.

Results

Use of Models

Analysis was made of the number of use of models per day from tape recordings of each situation. Figure 1 illustrates the average number of use of models per two minutes by situation. Baseline, training and probe conditions are presented.

Analysis of baseline data revealed that the teachers displayed little or no use of modeling in their classroom in all three situations (circle, snack and music) chosen for analysis. The music therapist did use nondisabled children as verbal models at a slightly higher rate than the full-time teachers at the center, but the number of use of models in music was low and inconsistent prior to training procedures.

Data were collected throughout training conditions. In general, the teachers did increase their use of models through instruction. This increase in use of models occurred gradually, requiring several weeks of training before a consistently high rate of use of models was present. A consistent rate occurred around week four of intervention in each of the group situations. A higher rate of use of models was present in music (four to five uses per two minutes) than in snack and in circle (one to two uses of models per two minutes).

When peer modeling was probed at four and six weeks after intervention ended, the training levels were essentially

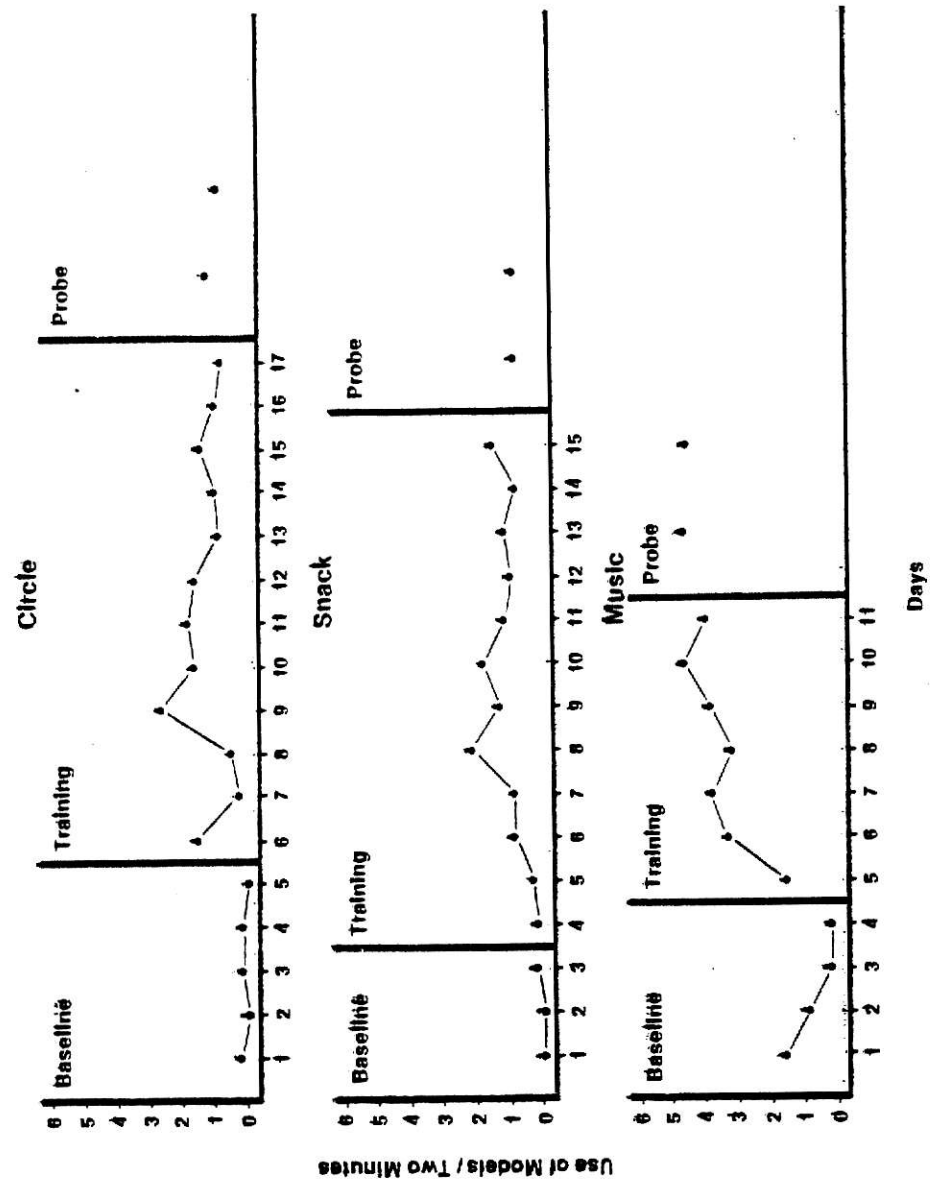
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Figure 1. Teachers' rate of use of models by situation.



maintained in all group situations.

Requests for Verbalizations

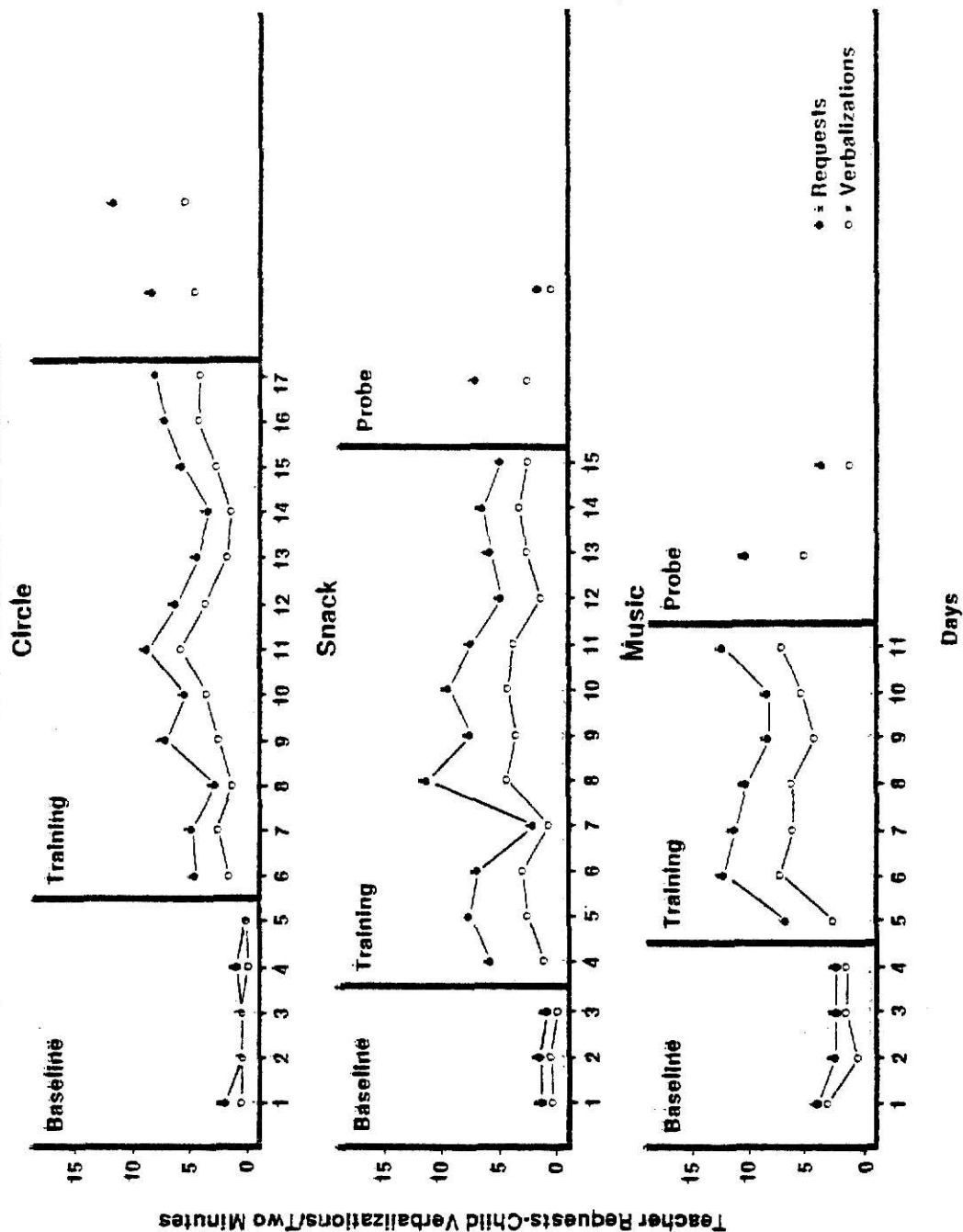
Analysis of baseline data indicated the teachers requested little or no verbalization from the disabled children. This, in turn, resulted in little opportunity for the disabled children to verbally respond to the teachers on command. Figure 2 illustrates the average number of requests for verbalizations per two minutes by situation. Baseline, training and probe conditions are presented.

During intervention, increases in requests for verbalizations were noted in all three situations observed (circle, snack and music). The highest stabilized frequency of requests for verbalizations was noted in music, where about 10 requests for verbalizations per two minutes were observed. Data obtained for circle revealed an average rate of about five requests and snack evidenced an average rate of about six or seven requests per two minutes.

Results obtained in probe conditions for requests for verbalizations indicated generalization of requests in all three situations on the first probe conducted four weeks after intervention. The second probe, conducted six weeks after intervention, revealed an increase in requests in circle, but a rather drastic decrease in requests in snack and music.

As indicated in Figure 2, responses by the disabled children to requests for verbalizations increased proportion-

Figure 2. Teachers' rate of requests for verbalizations, disabled children's rate of responses by situation



ately with the increased requests for verbalizations. The disabled children responded an average of about 50% of the time to the requests by the teachers in all three situations. This rate of responding was maintained in music, even though the number of requests was higher than circle and snack situations. Responses to requests by the disabled children remained porportionate to the requests made by the teachers in the two probe conditions conducted in the fourth and sixth weeks after training.

Discussion

The present investigation shows that four female teachers at a preschool for the developmentally disabled were successfully trained to utilize peer modeling techniques in their classroom with integrated nondisabled peers serving as models. The use of modeling techniques resulted in an increase in requests for verbalizations by the teachers and brought about an increase in verbal responses by the disabled children.

The teachers used virtually no peer modeling in their classroom prior to training. It was observed during the intervention period that very explicit instructions in modeling techniques were needed by the teachers. At the first meeting the experimenter introduced the concept of peer modeling, but after initial intervention data were collected and analyzed it was evident that increased detail in training was necessary.

Consistent with the findings of Conn and Richardson (1976), it was informally observed during the initial stages of intervention that the teachers increased their number of behavioral requests through the use of yes/no questions. This increase in requests for behavioral responses was discussed with the teachers during the second staff meeting. Some of them seemed unaware that they were requesting behavior rather than verbal responses.

Following very specific instructions and observing

the experimenter utilizing modeling techniques in the classroom during a snack session, the teachers did begin to use nondisabled peers as verbal models for the disabled children. As peer modeling was not used by the teachers prior to this investigation, and was a relatively new concept to them, repeated instruction over a period of weeks was necessary before consistent use of models was incorporated into the daily routine. Figure 1 shows that the acquisition was a slow, gradual process.

As a result of the teachers' use of models in group situations, an increase in requests for verbalizations occurred. Baseline data were consistent with Berry and Conn (1976), who found that classroom teachers of developmentally delayed children used few requests for verbal responses. In the present investigation, children's responses to the teachers' requests for verbalizations increased proportionately to the requests. This increase occurred even in music, where more requests were given than in circle and snack. This may suggest that disabled children will verbalize more when specifically required to do so. In this investigation, the disabled children did imitate the responses modeled by the nondisabled children. This agrees with the findings by Peterson, Peterson & Scriven (1977) that disabled children will imitate nondisabled peers.

In examining the graphs of use of models and requests for verbalizations, the number of requests per two minutes

is higher than the corresponding data for use of models. One reason for this is that in using peer modeling, teachers were using requests for verbalizations. One use of model may contain two requests for verbalizations to the disabled child (See Table 1). Therefore, a higher rate of requests can be expected. In addition, the desired result of the use of models was more verbal responses by the disabled children. As the teachers found that the disabled children were able to respond and the children began responding more frequently, modeling was not necessary. The teachers developed a pattern of requesting responses directly to the disabled children on items to which they knew the children would be able to respond.

In this investigation, music showed the highest stabilized rate of use of models of the three situations. Three variables which may have influenced the higher acquisition rate of peer modeling in music are 1) situational differences, 2) differences in the average number of children in each group and 3) individual teacher differences.

All data were analyzed by situation, and therefore it is possible to examine the rate of acquisition of use of models by situation. Music was structured very differently from snack, but similarly to circle. Responses required in music prior to this investigation were primarily motor, as were those in circle. However, it was informally observed prior to intervention that a more active involvement by the

students was required in music than in the other two situations. Perhaps requiring more active involvement prior to intervention influenced the music teacher's ability to incorporate peer modeling at a higher level than the teachers conducting snack and circle.

The number of children in each situation varied. Music groups generally consisted of one nondisabled and two disabled children. Circle and snack included the entire group in each session. It may be that it was easier to incorporate peer modeling in music with the smaller number of children.

The third variable, individual teacher differences, can be examined only to a limited extent, as data were analyzed by situation rather than by teacher. Music was the only situation in which data were collected on the same teacher each day. Data for circle and snack were collected on the two developmental specialists and the student teacher, with no separate analysis made by teacher. Therefore, it was only possible to look at teacher differences by comparing the music therapist with the other three teachers as a group. In this respect, the music therapist incorporated peer modeling in her group sessions at a much higher level than the developmental specialists did in snack and circle. The fact that one teacher was better able to incorporate peer modeling may have been an important aspect influencing the teachers' ability to use peer modeling in their classrooms. Perhaps some teachers were more able to adopt new

techniques than others.

The results of the current investigation support the conclusion that preschool teachers can be trained to use nondisabled peers as models for disabled children, at least in certain situations. As a result, more requests for verbalizations can be directed to the disabled children by the teachers, thus eliciting more verbal responses from them.

Finally, the results of this investigation should provide valuable stimulation for the development of programs to train preschool teachers who work in integrated settings to use peer modeling in their classrooms in order to enhance the linguistic performance of their students. Additional research might be directed to providing a more detailed analysis of the types of verbalizations teachers make in a preschool classroom. This might help to determine if the teachers' requests for verbalizations vary in response to the child addressed, the situation or as a result of specific training. The research also might be directed to determining the effectiveness of different types of models. For example, it may be that certain types of models are more appropriate with given children.

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Appendix A

Outline of First Staff Meeting

- I. Development of the concept of modeling
 - A. Explanation of modeling and peer modeling
 - 1. the use of a model separate from the trainer to establish responses in a subject through observation and imitation of that model (modeling)
 - 2. the use of a person from the subject's age group, in this case from the preschool, to establish the desired responses (peer modeling)
 - B. Presentation of Guralnick (1976) article
 - 1. mere exposure of nondisabled to disabled children does not result in desired behaviors
 - 2. systematically structure the environment to incorporate the nondisabled children as models before the desired behaviors are obtained
- II. Proposal of intervention procedures
 - A. Baseline results
 - 1. examined the use by the teachers of the non-disabled peers as verbal models for the disabled children
 - 2. explanation of the graphs of baseline data to the teachers with the conclusion that peer modeling was not used in the classroom
 - B. Incorporation of peer modeling in the classroom
 - 1. begin using peer modeling in circle, snack and music
 - 2. use the nondisabled children as verbal models for the disabled children
 - 3. increase the amount of requests for verbal responses to the disabled children using the nondisabled children as verbal models for these responses

C. Suggestions for the use of peer models

1. three peer modeling uses
 - a. a request for a verbalization directed to a nondisabled child may also be directed to a disabled child
 - b. a request for verbalization directed to the group and answered by a nondisabled child may then be directed to a nondisabled child
 - c. a request for verbalization directed to a disabled child with no response occurring may be directed to a nondisabled child, after obtaining an answer and reinforcing the nondisabled child return to the original disabled child and repeat the question
2. remember the linguistic level of the disabled child
 - a. not too complex
 - b. within the disabled child's repertoire
3. more questions requiring a verbal response
 - a. eliminate yes/no questions and behavior requests
 - b. for example, "Can you sit down?"
4. snack opportune time to request verbal responses
 - a. food contingent on naming the items
 - b. tangible reinforcements available
5. only one teacher talking at a time
 - a. several conversations at a time distracting
 - b. peer modeling can not be heard by the children
6. typewritten examples of uses of peer modeling
(Tabel 1)

III. Open discussion

A. General comments

B. Questions posed by the teachers

Example: Q: What if the nondisabled children
won't comply?

A: You may want to talk to the nondisabled
children and explain that they will
be asked to help the other children
answer the teachers, and by answer-
ing your questions they will be able
to help the children know what to
answer.

Appendix B

Outline of Second Staff Meeting

- I. Progress from the first week
 - A. Presentation of peer modeling graphs
 - B. Presentation of teacher tape recordings
- II. Further suggestions for peer modeling
 - A. Circle and music
 - 1. structure sessions to elicit verbal responses
 - 2. discuss a specific subject each session
 - Ex., animals
 - choose two to three per day
 - describe the size, name, color, etc.
 - sound it makes, what it eats,
 - where it lives
 - 3. don't worry about being too redundant for the disabled children
 - 4. one teacher leading the group at a time
 - a. generally the situation in music and circle
 - b. teachers keep talking to a minimum
 - 5. questions directed to both groups simple and clear
 - 6. topics simple and clear
 - 7. cover a small number of items each session
 - a. be redundant
 - b. responses for items requested from all children
 - B. Snack
 - 1. one teacher should conduct snack
 - a. too many teachers talking at once
 - b. avoid all teacher conversations

2. have the children request everything
3. begin with one of the nondisabled children, have them name the item, then request the same verbal response from a disabled child

Ex., Teacher: Johnny, what do you want?

Nondisabled: Napkin.

Teacher: Good Johnny. Mary, what do you want?

Disabled: Napkin.

4. keep snack simple and clear
5. provide second or third helpings
 - a. distribute small amounts of food
 - b. elicit verbal responses throughout the session

C. General comments

1. give plenty of praise when you do get verbal responses from both the nondisabled and the disabled children
2. don't accept inappropriate responses from the disabled children
3. don't require verbal responses that are too complex from the disabled children
4. make food, holding a picture, etc., contingent on verbalizing the name of that item

III. Open discussion

IV. In-class demonstration by the experimenter during snack

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by

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B.S., Kansas State University, 1977

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

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A recent trend in education, commonly called mainstreaming, has focused on integrating developmentally disabled children with nondisabled children in the same classroom. A variation, sometimes called reverse mainstreaming integrates nondisabled children into a classroom for disabled children. The assumption of both approaches is that the nondisabled children will provide beneficial models as well as providing a more normalized education for the disabled children. Previous observations of a reverse mainstreamed preschool suggested that disabled children seldom modeled or imitated the nondisabled children. Further, the teachers seldom used the nondisabled children systematically as models in their teaching. In addition, the teachers seldom requested verbal responses from their students, thus providing little or no opportunity for the children to respond to the teachers with verbalizations.

This investigation was undertaken to see if 1) the teachers' rate of peer modeling could be increased as a function of receiving systematic training in peer modeling techniques, 2) if the rate of requests for verbal responses could be increased through training in peer modeling techniques, and 3) if there would be a corresponding increase in the verbalization rates of the students in response to the increase in requests for verbal responses made by the teachers.

Subjects were four teachers in an integrated classroom

of two to three nondisabled preschool children and three to six disabled children. The teacher-child verbal interactions were tape recorded two to three times a week over a twelve week period in three group situations; circle, snack and music. Peer modeling was defined as a teacher-child verbal routine in which the teacher requested a verbal response from a nondisabled child and immediately afterward repeated the request to a disabled child. The first two weeks were used to collect baseline data. Beginning in the third week, after baselines were stabilized, teacher training began. This consisted of weekly staff meetings in which research on the beneficial effects of modeling were reviewed, instructions were given and suggestions while listening to the tape recordings were made. The experimenter also demonstrated the use of peer modeling in the classroom. After four weeks, when the training effect stabilized, the staff meetings were discontinued. After an additional four weeks and again at six weeks, tape recordings constituting probes were obtained. The teachers had no forewarning that these tape recordings were for the current investigation or ongoing research.

Examination of the baseline data suggests that the teachers seldom if ever used the nondisabled children as models in any of the group situations. They also did not request verbal responses from the disabled students in baseline conditions. When training was initiated, the rate

of peer modeling increased to a level of about 1.5 to 2.5 models per two minutes in circle and snack and about 3.5 to 4.5 models in music. Requests for verbalizations increased to 5 to 6 requests per two minutes in circle and snack and about 10 per two minutes in music. Child verbalizations showed a corresponding increase with an average of about 3 per two minutes in circle and snack and about 6 per two minutes in music. When peer modeling was probed at four and six weeks after training ended the training levels were essentially maintained. Probes for circle actually showed a substantial increase in requests and verbalizations at four and six weeks after training. Both snack and music showed rates comparable to training levels at four weeks, but a considerable decrease at the six week probe.