THE EFFECTS OF INCIDENTAL TEACHING ON THE GENERALIZED USE OF SOCIAL AMENITIES AT SCHOOL BY A MILDLY HANDICAPPED ADOLESCENT

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ABSTRACT

Recently, researchers have begun exploring the effects of incidental teaching on the acquisition of socially appropriate behavior by handicapped children and adults. The results of these investigations suggest that incidental teaching may facilitate the generalization of newly trained social skills. This study used incidental teaching procedures to teach a 16-year-old mildly handicapped student to use social amenities in a resource classroom. In addition, generalization was assessed to another resource classroom and to an art classroom. The results of the study indicated that the student increased his use of social amenities in the training setting. Moreover, directions to use thank you and please in other classes were sufficient to produce generalized responding in a second resource classroom and an art classroom. Implications for using incidental teaching to teach social skills are discussed.

Failure of newly acquired social skills to transfer from special education settings where training has taken place to regular classrooms is readily acknowledged by educators (Anderson-Inman, Walker, & Purcell, 1984). In addressing this problem an intervention procedure that can be used in a variety of contexts is needed and might have the potential for promoting generalized responding in other settings. One procedure, known as incidental teaching, has been used for several years in language training (McKee, Krantz, Mason, & McClannahon, 1983; McGee, Krantz, & McClannahon, 1985; Warren & Kaiser, 1986) and social skills training (Stowitschek, McConaughy, Petross, Salzberg, & Lignugaris/Kraft, 1988). A key element that distinguishes an incidental teaching approach from a more traditional approach is that teaching occurs in the contexts in which the skills naturally occur. In incidental teaching, a teacher capitalizes on the occurrence of conditions that naturally call for a desired response by prompting and praising that response (Hart & Risley, 1975, 1982).

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A version of incidental teaching, known as the “teaching interaction,” has been used successfully to teach a wide variety of social and academic-related skills in school and home settings (Bailey, Timbers, Phillips, & Wolf, 1971; Bailey, Wolf, & Phillips, 1970; Kirigin, Phillips, Fixsen, & Wolf, 1971; Phillips, 1968; Phillips, Phillips, Fixsen, & Wolf, 1971). The teaching interaction is typically initiated when a student fails to use a skill correctly. It consists of several different techniques including rationales describing the importance of the desired behaviors and possible natural consequences, modeling of desired behaviors, behavioral rehearsal, consequences linked to token economies, and descriptive praise or detailed corrective feedback (Blase, Fixsen, & Phillips, 1984; Ford, Evans, & Dworkin, 1982; Phillips, Phillips, Fixsen, & Wolf, 1974).

Most of the research on social skills utilizing this approach has focused on the reduction of inappropriate social skills or on the development of academic and academic-related skills. A few studies have investigated the use of teaching interactions to increase the performance of social skills (Braukmann, Maloney, Fixsen, Phillips, & Wolf, 1974; Ford, Evans, & Dworkin, 1982; Minkin et al., 1976). In these studies the teaching interactions increased and maintained important social skills. A common weakness of these studies, however, is the lack of information on the generalization of social skill performance.

In a recent study, Stowitschek et al. (1988) assessed the effects of group incidental training on mentally retarded adults’ use of social amenities at work. It was found that increases in adult clients’ use of social amenities occurred following the use of incidental training during a morning work session. It was also found that after incidental training, several participants’ use of social amenities generalized to an afternoon work session.

In the present study, an incidental teaching procedure was used to teach social amenities to a handicapped adolescent. The specific purposes of this study were: (a) to examine the effects of incidental teaching on the use of social amenities by a mildly handicapped adolescent in a high school resource room and (b) to examine the effects of training procedures used in the resource classroom on the transfer of social amenities to a second resource classroom and to a regular art classroom.

**Method**

**Participant**

A 16-year-old, mildly handicapped, male, high school student participated in the study. The student was selected from a group of eight students receiving remedial math instruction and social skills training in a resource classroom. He was included in this study because: (a) his individual educational plan (IEP) included short-term objectives for developing positive social behaviors; (b) the student achieved a low sociability score (e.g., talks politely—says please, thank you, and excuse me; praises and compliments others; encourages
others) on a parent/school social skills checklist (Young, West, & Smith, 1984); and (c) previous social skills training procedures had resulted in limited generalization of social skills to other settings.

The student’s parents and special education teacher rated the severity of behavior problems using the Burks’ Behavior Rating Scales (Burks, 1977). A number of problem areas emerged. These included excessive anxiety, excessive withdrawal, poor reality contact, and poor sense of identity. Moreover, his parents reported that he had a history of poor peer relationships. The student’s full-scale IQ score on the WAIS-R was 85. His reading grade-level score on the Woodcock Reading Mastery Tests was 7.5 and his arithmetic grade level score on the Wide Range Achievement Test was 3.3.

Setting

This study was conducted in three classrooms in a suburban high school; one classroom where training was conducted and two classrooms where performance generalization was assessed. The school served approximately 1100 students enrolled in grades 10 through 12. We selected classrooms based on the following criteria: (a) the teacher agreed to collect daily data on the performance of social amenities and (b) a sufficient number of opportunities were available for the teacher to provide help on assignments.

Incidental teaching of social skills occurred in a resource classroom in which the student was placed for instruction in math and for social skills training. Math assignments, selected for the student’s skill level, were given in the form of worksheets and workbook exercises. The resource-math classroom was approximately 8m × 12m, with 10 student desks arranged in two semicircles facing the front of the classroom where the teacher’s desk was located. There were eight students in the classroom during training. Incidental teaching occurred either at the teacher’s desk or at the student’s desk.

Two other classrooms were used for assessing the generalization of treatment gains. These classrooms were located in a different section of the school. In one, the student received reading instruction; in the other, the student received art instruction. There were seven students in the resource-reading class and 20 students enrolled in the art class. Observations were conducted daily in both the resource-reading and art classrooms.

Measures

Two dependent measures were included in the study. The first measure was the number of times that teacher assistance was followed by the student saying “thank you.” The second measure was the number of times that the student said “please” when requesting help on an assignment during a 50-minute observation period. “Thank you” or “thanks” was counted if it occurred before the teacher moved away from the student. “Please” was counted if it occurred before assistance was given. Observers recorded a slash (/) each time assistance was provided. A (T) was recorded after the slash if the student said “thank you.” A (P) was recorded before the slash if the student said “please” before assistance was given. The number of
occurrences of each response was divided by the total number of opportunities for emitting the response, producing a percentage score for each observation period.

**Opportunities for saying “thank you” and “please.”** Instances of teacher assistance and requests by the student for assistance constituted opportunities for the student to say “thank you” and “please” respectively. An opportunity to say “thank you” occurred if help was provided to the student when: (a) the teacher asked the student if he needed help; (b) the student raised his hand from his desk and asked the teacher for help on an assignment; or (c) the student approached the teacher’s desk and requested help on an assignment.

An opportunity to say “please” occurred when the student approached the teacher to request help on an assignment or when the student raised his hand to request help on an assignment.

**Observers.** Three teachers served as participant observers. The resource-math teacher carried out the training procedures and recorded the student’s performance while the student was in the resource-math classroom. In the resource-reading classroom and in the art classroom the teachers arranged opportunities for the student to use social amenities, responded to the student’s requests, and recorded the student’s behavior. The resource-reading teacher and the art teacher were not informed of the training procedure until after the study, although they were told of the purpose of the study.

Two additional observers were recruited to conduct weekly interobserver agreement checks. The first observer conducted weekly agreement checks in the training setting and the second observer checked observational agreement in each of the two other settings. Agreement observers and teacher observers met individually with the first author prior to initiating the study. The observation recording form and observation codes were explained and examples and nonexamples of opportunities for providing assistance and of acceptable student responses were discussed and demonstrated.

Prior to initiating the study, participating teachers collected data each day on the number of times they provided help to the students on an assignment and on the number of times “please” and “thank you” were said before and after assistance was given. The student’s use of social amenities was then examined over a seven-week period.

**Interobserver Agreement**

Interobserver agreement estimates were obtained by having a second observer independently record student responses and the occurrence of opportunities for emitting each response one day each week in each of the three classrooms. Agreement indices were estimated by dividing the smaller number of observed occurrences by the larger number of observed occurrences and multiplying the quotient by 100%. Mean agreement indices for response opportunities and student responses in each classroom are presented in Table 1.
**Table 1**

<table>
<thead>
<tr>
<th></th>
<th>% Opportunity (Mean [Range])</th>
<th>% Student Response (Mean [Range])</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“Thank you” and “Please”</td>
<td>“Thank you”</td>
</tr>
<tr>
<td>Resource-math</td>
<td>100%</td>
<td>89% [67% - 100%]</td>
</tr>
<tr>
<td>Resource-reading</td>
<td>96% [88% - 100%]</td>
<td>98% [86% - 100%]</td>
</tr>
<tr>
<td>Art</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

In the resource-math class interobserver agreement ratings were taken across 25% of the experimental sessions. In the resource-reading and art classes interobserver agreement ratings were taken across 21% and 22% of the class sessions respectively. These agreement estimates should be treated cautiously, however, because instance-by-instance correspondence was not possible between agreement observers and teacher observers.

**Procedures**

Incidental teaching occurred only in the resource-math class; generalization was assessed in the other classes. “Thank you” was the first social amenity taught, followed by “please.”

**Training procedures.** Incidental teaching included reminders to use the social amenities in the resource-math classroom and discussion and demonstration of how, when, and why to use the social amenities. For example, the teacher reminded and initiated discussion about “thank you” by saying: “From now on I want you to say ‘thank you’ whenever you receive help on an assignment. Your teacher may walk up to your desk and provide help on an assignment without being asked to do so, or you may ask the teacher for help by raising your hand and getting the teacher to help you at your desk or by going to the teacher’s desk and requesting help. In each case, I want you to say ‘thank you’ each time your teacher helps you with an assignment.” In addition, the student was praised for practicing the social amenities at appropriate times during the math class or corrective feedback was provided if the student responded incorrectly or failed to respond to an opportunity to use the social amenity. The first three intervention sessions for each social amenity included reminders, a discussion and demonstration, and practice using the social amenity. In subsequent classes the student was reminded to use the skill (e.g., “From now on I want you to say ‘thank you’ whenever you receive help on an assignment.”) and practiced the targeted social amenity; however, the teacher did not engage in a lengthy discussion about how and why to use the skill. Finally, the student was told that computer time might be available if he practiced the skill.

**Generalization cue.** Directions to use the social amenities in the other two classrooms were given after the student demonstrated use of the social
amenities in the resource-math class. At the end of the resource-math class the teacher told the student to use the social amenity in other classes and discussed how and why to use it in those classes. For example, the student was given the following direction to say “thank you” in other classes: “You have been doing a very good job at saying ‘thank you’ today. I want you to begin saying ‘thank you’ whenever you receive help on assignments in your other classes. From now on, I want you to say ‘thank you’ to your resource teacher, Mrs. Jones, and your art teacher, Mr. Hill, each time they help you on an assignment.”

Experimental Design

A multiple baseline experimental design across behaviors (“please” and “thank you”) was used to examine the effects of the incidental training package on the student’s use of social amenities in the resource-math class and in the two other classroom settings. Initially training was implemented for saying “thank you.” Training began for saying “please” after the student responded correctly on more than 50% of the opportunities for saying “thank you” in the resource-reading class and in the art class.

Results

In general, there were fewer opportunities for the student to use “please” than “thank you.” This occurred because saying “please” depended on the student initiating the interaction with the teacher. In contrast, “thank you” could be used in both teacher initiated and student initiated interactions. In addition, there were fewer opportunities to use “thank you” and “please” in the art classroom (26 opportunities to use “thank you” and 14 opportunities to use “please”) than in the resource-math (123 opportunities to use “thank you” and 70 opportunities to use “please”) and resource-reading classrooms (123 opportunities to use “thank you” and 45 opportunities to use “please”). This may have been due to the large number of students in the art class (20 students). In the resource-math and resource-reading classes, there were only 8 students and 7 students respectively.

Student Performance in the Training Classroom

The effects of incidental teaching can be seen clearly on the participant’s use of “thank you” and “please” in the resource-math class in Figure 1. Baseline performance for both behaviors was consistently at zero. For three sessions following the introduction of incidental teaching, performance of “thank you” remained at zero. Beginning with the fourth session, performance increased considerably. With the fifth session, performance reached 100% of opportunities and remained at nearly that level for the duration of the study, with only occasional drops to lower levels (5 of 16 sessions were less than 100%, with the lowest being 75%). Performance increases for “please” were immediate following the introduction of incidental teaching, with a per-
Thank you Resource Math
Baseline Incidental Teaching

Please Resource Math

Figure 1. Percent of opportunities that the student said “thank you” and “please” in a resource math classroom.

Performance of 100% of opportunities during the first treatment session. In four of seven treatment sessions, performance of “please” was 100% of opportunities. Performance throughout the phase was relatively stable with no significant trends. Therefore, treatment effects for both responses were considerable, quite rapid, and were sustained throughout the treatment phases. Variability in performance during the treatment phases increased considerably over baseline, but this is to be expected since neither behavior was observed during baseline.

Student Performance in New Settings

The data representing the generalized use of “thank you” and “please” in the other classes (resource-reading and art) are presented in Figure 2. The directions to use these social amenities were not delivered in these classes, only in the resource-math class. The data clearly reflect immediate and sustained increases in the use of both “thank you” and “please” in both classes once the student was directed to use them there.

Neither “thank you” nor “please” were observed during baseline in either generalization setting. Average performance levels during the generalization phases for “thank you” were 70% and 68% of opportunities in resource-reading and art class, respectively. Average performance levels for “please” in the generalization settings were 65% and 70% in the resource-reading and
Thank you
- Resource Reading
- Art

Please
- Resource Reading
- Art

Directions to "Use in other classes."

Figure 2. Percent of opportunities that the student said "thank you" and "please" in resource reading and art classes.

art classes. The data from the art class were not collected in every session, but only in 27% of the class sessions due to fewer number of opportunities for responding. Therefore, the trend of data in treatment sessions is based upon considerably fewer data points. In fact, there is only one data point for "please" in the art class following the introduction of directions to say "please" in that class and, therefore, only a change in performance level can be noted.

Discussion

Previous research related to incidental teaching has identified a number of useful techniques designed to reduce inappropriate social behavior and develop academic-related skills (Blase et al., 1984; Ford et al., 1982; Phillips et al., 1974). Several studies have focused on using teaching interactions to increase the performance of social skills (Braukmann et al., 1974; Ford et al., 1982; Minkin et al., 1976). However, generalization of social skills has been demonstrated in few studies. In this study, incidental teaching that included reminders, discussion, demonstration, praise, and corrective feedback was used to teach two social amenities to a mildly handicapped student
in the resource-math classroom. The addition of directions to use the skills in other settings resulted in the generalized use of the social amenities in two other classroom settings. During the first half of the study, there were only a limited number of opportunities to say “please,” due to the limited number of times the student made a request for assistance. However, opportunities for saying “please” increased in all three classrooms during the course of the study. Despite the increase in opportunities for saying “please,” the student did not say “please” until after incidental teaching was initiated in the resource-math class and until after he was directed to say “please” in the other two classroom settings.

An important result of the present study is that generalization was promoted to other classrooms using a set of intervention procedures only in the training setting. Training procedures that facilitate generalization and maintenance of treatment gains from special education classrooms to mainstream environments, and that do not require extensive regular teacher involvement, have widespread practical applications in most secondary schools due to the numerous time constraints placed upon regular education teachers (Seymour & Stokes, 1976). Moreover, in this study, several anecdotes suggest that the student generalized his use of social amenities to other settings and situations not specifically trained. For example, near the end of the study, the student was observed in an empty classroom with a friend who was helping him with an assignment. The student said “thank you” on two separate occasions after receiving help from his friend. In addition, the resource-reading teacher indicated that the student used social amenities appropriately in a resource-science class.

Social skills training within an incidental teaching structure may present a side effect that should be carefully considered. Targeting a single student for social skills training without including his peers can set the stage for teasing or other negative peer interactions. For instance, in the present study the student was teased by several students for saying “please” and “thank you” to the teacher on one occasion in the training setting. The student was noticeably embarrassed. Following a discussion with the teacher the student continued the training program. It is interesting to note, however, that in the settings in which incidental teaching did not occur the teachers did not report adverse peer interactions following the student’s use of social amenities. Additional research is necessary to examine the effects on peer interactions of using incidental teaching to teach social skills to adolescents.

In previous research, attempts to teach social skills separately from other activities resulted in limited generalization of treatment gains. An incidental teaching approach, in which teaching occurs in the context of other activities, may facilitate the generalized use of targeted skills to other situations and settings. These skills are then likely to be maintained by the contextual and environmental conditions in which they occur. While the results of the study are encouraging, they should be examined cautiously since only one student participated in the study and only one social skill was addressed. Moreover,
issues surrounding long-term maintenance were not addressed due to the end of the school year. Finally, the student’s use of social amenities was not examined during a period in which the entire treatment package was withdrawn. Additional research might examine the maintenance of trained social amenities when the incidental teaching procedure is removed.

References


