EFFECTIVENESS OF COGNITIVE PROCESS APPROACHED SOCIAL SKILLS TRAINING PROGRAM FOR PEOPLE WITH MENTAL RETARDATION

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The purpose of this study was to determine whether cognitive-process approach based social skills program was effective on learning and generalizing three social skills (apologizing, coping with teasing and avoiding inappropriate touching) of the nine students with mental retardation. Social skills program covered dimensions of the cognitive process approach which are social coding skills, social decision skills, social performance skills and social evaluation skills to teach targeted social skills. Stories and hand drawn pictures were used during teaching sessions. Social skills training sessions were implemented individually, three times a week. After each training session, generalization sessions were conducted. Training effectiveness was assessed by using one of the single case design approach called multiple probe model with probe condition across subjects. The results of the study indicated the target social skills program based on cognitive process approach was effective for the nine students with mental retardation to acquire targeted social skills and to generalize them.

The aim of training for individuals with mental retardation is to prepare them for social life and to help them the skills necessary to lead independent or least dependent lives (Dever & Knapczyk, 1997). In recent years, particular emphasis has been put on the necessity to help these individuals to acquire certain social skills in order to prepare them for social life. Social skills are those verbal and nonverbal skills acquired mainly through learning (Michelson, Sugai, Wood & Kazdin, 1983) that help individuals receive positive feedback in social environments, preventing the negative ones and facilitating interpersonal relationships (Warger & Rutherford, 1996). The efficacy of these skills increases along with social rewards received from the environment and the skills take on a shape through being affected by the age, sex, and status of the individual and the characteristics of the environment (Cited by: Elliott & Gresham, 1993).

Inadequacy in social skills, accepted to be the basic inadequacy of the individuals with mental retardation, is ascribed to many reasons, the first and foremost of which is behavioral and cognitive limitations (Sargent, 1991). Limitations in terms of attention, memory, distinction, generalization (Sargent, 1991; Warger & Rutherford, 1996) and coincidental learning skills may cause inadequacies in social skills. Also, the fact that their environment perceives mentally retarded children negatively and that they are rejected by the society brings about their isolation and distance from the society (Huang & Cuvo, 1997). This sets even a further limit to the learning of the social skills through observation and modeling of the environment (Farmer & Van Acker, 1996).

Individuals inadequate in social skills face various problems in interpersonal relationships, in their careers, academic studies and affective-behavioral areas (Hollin & Trower, 1988; Sargent, 1991; Chadsey-Rusch, 1992; Korinek & Pollaway, 1993; Huang & Cuvo, 1997; Zirpoli & Melloy, 1997; Merrell & Gimpel, 1998). Limitations in social skills such as listening, following the instructions, waiting for one’s turn and asking for help, which are among some of the basic ones, make it difficult for the students to acquire academic skills (Warger & Rutherford, 1996), thus, influencing their academic success in a negative way (Sargent, 1991; Chadsey-Rusch, 1992; Zirpoli & Melloy, 1997). Skills such as helping one another, sharing and exchanging greetings, on the other hand, promotes
one’s social acceptance in the school and class environment. Individuals with mental retardation who have inadequacies in these skills (Sargent, 1991) cannot establish positive social relationships with their peers and therefore they can exhibit problematic behaviors (Warger & Rutherford, 1996). Inadequacies of mentally retarded individuals are viewed to be an obstructive factor in terms of the benefit these individuals are to get from the inclusive programs. The fact that limitations in social skills not only make it hard to place them in a job but also cause them to quit the jobs they have within a short time (Agran, Salzberg & Stowitschek, 1987). It is important that these individuals learn and use the social skills in order to be able to benefit from the inclusive settings, to find a job, to sustain their work, to be successful, to live independently in the society and to adapt themselves to the society.

Based on various approaches, certain programs are designed and certain techniques are utilized to teach social skills. Sargent (1991) put forth that social skills training could be conducted through the direct teaching, the cooperative learning, the peer tutoring and the cognitive-process approaches. Social skills training programs based on the direct teaching approach are really efficient in learning the mentally retarded individuals the targeted social skills, yet, skills acquired through methods based on this approach are difficult to transfer and generalize (McGinnis and Goldstein, 1984; Gresham, 1988; Sargent, 1991; Serna, 1993; Warger & Rutherford, 1996; Huang & Cuvo, 1997; Simpson, Myles, Sasso, Kamps, 1997; Zirpoli & Melloy, 1997).

In recent years, the cognitive-process approach, in other words, the problem solving approach, has been met with much acceptance in social skills training. With this approach directing the individual to thinking, social skills acquired are easier to generalize and the individual is more actively encouraged to learn, compared with the direct teaching approach. In the training of social skills based on cognitive process approach, the phases of social decoding, social decision, social performance and social evaluation are followed. The techniques in the direct training approach such as modeling, role-playing, rehearsing are also utilized (Park & Gaylord-Ross, 1989; Argan & Wehmeyer, 1999). Instead of teaching the individuals social skills separately, effort is made, in this approach, to teach them problem solving skills regarding social situations and to gain them social problem solving skills so that they can handle various social situations (McFall, 1982; Ladd & Mize, 1983; Spence, 1983; Hughes & Rusch, 1989; Christopher, Nangle & Hansen, 1993; Serna, 1993; Huang & Cuvo, 1997; Argan & Wehmeyer, 1999; Webster-Stratton, 1999). Having been assumed to be more effective in individuals who have receptive and expressive language skills, the cognitive-process approach has not widely been applied to individuals with mental retardation. However, some studies have indicated that it can be an appropriate approach, also, for the people with mental retardation and proven that advantages of the method are valid, also, for them (Park & Gaylord-Ross, 1989; Collet-Klingenberg & Chadsay-Rusch, 1991; O’ Reilly & Chadsay-Rusch, 1992; O’ Reilly and Glynn, 1995).

The number of studies concerning social skills training has increased in our country in recent years. Alongside with studies laying emphasis on the importance of social skills training (Akkök, 1999; Bacanlı, 1999), there are, also, some studying the effectiveness of the social skills training program both for the students without mental retardation (Aydın, 1985; Akkök and Sucuoğlu, 1990; Yüksel, 1996; Altınoğlu-Dikme, 1996; Çakil, 1998; Akkök, 1999; Sümü-Hatipoğlu, 1999; Şahin, 1999) and for the students with mental retardation (İpek, 1998; Poyraz-Tüy, 1999; Sucuoğlu & Çifçi, 2001). In these studies, effort was made to provide individuals with different characteristics with a training of communicational skills and various social skills along with training of assertiveness.

The purpose of this study is to determine whether social skills training program based on the cognitive process approach is effective in the students with mental retardation in terms of acquisition and generalization of apologizing, coping with teasing and avoiding inappropriate touching skills.

Method

Participants

Nine individuals with mental retardation attending a vocational training centre fulltime participated in this study. While selecting the individuals, the ability to read, following two or three-steps instructions, responding to questions verbally and being inadequate in one of the targeted social skills were accepted as prerequisites for the study. The characteristics of the group are given in Table-1. As shown at table 1, the participants were grouped in according to which social skill they need to learn and each group is consisted of three participants. Each group was taught one social skill during the study.
Materials and setting
24 small stories developed relating to the 3 targeted social skills with hand-drawn colored pictures were used as the training materials of this study. Of the stories, 15 were used in the training sessions and 9 in the generalization sessions. 8 stories were developed for each skill (5 stories for the training and 3 for the generalization sessions) in such a way as to depict the social situations where the subjects need the each targeted skill.

The appropriateness of the stories and the pictures to the targeted social skills were evaluated by the specialists studying in special education. A total number of ten specialists were asked to read each of the stories, examine each picture belonging to a particular story and to rate them according to the 5-scale Assessment in the Social Validity Form in terms of clarity (1: unclear, 5: clear), and, if any, to write their suggestions. It was seen, as a result, that the stories and the pictures in the social skills training program were found to be clear and easy to be understood by the specialists.

The social skills training program was carried out in a separate room with two chairs and a table. Students with mental retardation participated in 35-40 minutes sessions three times in a week and all sessions were carried out in a 1:1 instructional format.

Procedure
Selection of Target Behaviors
In this research, target social skills were determined step by step as follows:

a. Firstly, observations were made for a week in various environments such as in the classroom, in the workshop, in the art room, during the break times and also lunch times in the Centre so as to decide upon what social skills the students needed most. A 32 items Social Skills Control List was developed based on the observation results and was given to the teachers. All teachers were asked to evaluate their students according to the social skills in the list with (+) for the social skills that the students acquired and used appropriately, and with (-) those they couldn’t acquire or use appropriately at school or in the classroom with a (-).

b. Five social skills at which most students were inadequate (using the expressions ‘please and thank you’, avoiding inappropriate touching, coping with teasing, apologizing and giving positive feedback to others) were listed again in the new control list.

c. The teachers were asked to put three out of the five social skills in an order of importance that are necessary for the students in the first place. Though, the teachers gave priority to different skills that the students with mental retardation needed, apologizing, coping with teasing and avoiding inappropriate touching were deemed important by all of the teachers.

Target skills determined by the teachers as those skills that they believe the students with mental retardation need and must acquire, based on these, the research is accepted to have a social validity.

Experimental Design
This research was conducted according to the multiple probe models with probe conditions across subjects. In this model, the effectiveness of a method over a targeted behavior is examined on more than one subjects present in the same environment (Kırcaali İftar & Tekin, 1997). Participants were randomly assigned to each leg of the design. The intervention was introduced sequentially across participants.

The independent variable of the research is the Social Skills Training Program, which aims to teach apologizing, coping with teasing and avoiding inappropriate touching, based on the cognitive process
approach. The dependent variable of the research, on the other hand, is the students’ level of learning these three skills.

Training Procedures

a. Developing of Training Program: The training plan was developed based on the program implemented by Collet-Klingenberg & Chadsey-Rusch (1991). According to this program, there are four steps in the social skills training based on the Cognitive-Process Approach. These are; the social decoding, social decision, social performance and social evaluation steps.

In the social decoding step, the individual is asked to discriminate or decode what is going on in the social interaction in the story (and the picture presented to him/her), to describe the social setting, to ask himself/herself the question, ‘What happened?’ and answer it. In the social decision step, discussions are held as to the possible ways of reacting in the previous social situations. Alternative solutions and results of these solutions are elaborated on and discussions are held as to what the most proper social response is and what its possible consequences are. In this case, the individual is expected to ask himself/herself the question, ‘What can I do?’ and answer and determine the alternative responses for social situation. In the social performance step, he/she is expected to choose the most appropriate behavior out of alternative responses he/she himself/herself has determined. Here, the individual is expected to ask himself/herself the question, ‘Which one must I do?’ and give the answer. In the social evaluation step, discussions are held as to whether the individual has chosen the best response or not. Here, it is discussed with the individual what happens when he/she exhibits that particular behavior and whether the behavior results in a positive feedback. The purpose is for the individual to ask himself/herself the question, ‘What will happen if I ……?’ and give the answer (Park & Gaylord-Ross, 1989; Collet-Klingenberg & Chadsey-Rusch, 1991).

Training program based on cognitive process approach was developed for teaching apologizing, coping with teasing and avoiding inappropriate touching skills. For each skill, stories depicting the problematic situations were told to each participant in the training program in the first place. Later, the social situations in the stories were analyzed according to the four basic steps (social decoding, social decision, social performance and social evaluation) of the cognitive process approach (Table-2).

b. Data collection: The study included the baseline, training, probe and generalization sessions. The social skills of the participants were assessed in all sessions.

1. Baseline Sessions: While collecting the baseline data, the subject was shown the picture relating to the first story and then the story was read. Next, he/she was asked the questions in the Baseline Data Collection Form. The form is consisted of six questions related with the cognitive-processed approach. Since it was assumed that the subjects did not have the skill to ask these questions by themselves, unlike the training sessions, the researcher asked the questions while collecting data and waited for the students to give answers.

It was observed in the recent research (Park & Gaylord-Ross, 1989; Collet-Klingeneng & Chadsey-Rusch, 1991) that the baseline data were not collected in the first and second steps of the cognitive process approach, but only in the third step (the social performance step), only after the relevant question was asked. On having asked all the questions in the form, the researcher recorded the answers as correct (+), or incorrect (-) depending on whether the student gave the expected answer or not, respectively. The percentage of answers was calculated by dividing the total number of the student’s correct answers for the six questions in the form for each story by the total number of questions. Five stories related with one skill were read to the students one after the other, and percentage of answers of a particular student at the end of a session was calculated by determining the mean of the percentage of answers computed separately for a total of five stories in one session (Collet-Klingeneng & Chadsey-Rusch, 1991). When stability of the data were attained with the first, second and third subjects in the baseline session, the training sessions of the three stories were started with the first subjects of the groups that participated in the training program.

2. Training Sessions: Training was carried out three times a week by the first author in 35-40 minute sessions. The social decoding, social decision, social performance and social evaluation steps of the cognitive-process approach were followed when teaching each one of the skills.

When starting to each training session, a brief explanation was made to the students with mental retardation as to why he/she had to learn the targeted social skill. And then, he/she was shown the
picture drawn for the first story and the story was told. Following the training steps of each and every skill, the researcher asked herself the questions in these stages loudly and gave the expected answers loudly (modeling). Next, the researcher said to the student, ‘Now, it is your turn,’ and asked him/her to ask himself/herself of the training steps questions and to exhibit (rehearsing) the behaviors he/she had observed. In the first sessions, the subjects received verbal prompts to remember the questions and the questions expressed through verbal help were recorded (-) in the evaluation. The researcher recorded the student’s answers to each story in the Training Session Data Collection Form. After the first story, the student was given verbal rewards such as Very well, You got it right, Well done and then they proceeded onto the second story and picture. The steps followed in the first story were also followed in the other stories. When the predetermined 100% success criterion for the first subject was met, the social skills training program was concluded for that particular subject. Probe data were collected from three subjects participating in the training program in three sessions, one coming right after another.

3. Probe data: When collecting the probe data, steps followed in the process of baseline data collection were pursued with the subjects to whom the training program was not applied. As for those who completed the training program, the stages followed during the data collection of training sessions were applied, when collecting the probe data. The probe data thus collected were recorded in the data record forms.

4. Generalization Probe: The purpose for the generalization sessions is to see whether the student can exhibit the appropriate social skill in various settings and environments by asking himself/herself the questions (What happened? What can I do? Which one must I do? What will come out of this?), based on the cognitive process approach, which he is supposed to have learned at the end of the training sessions. As regards the data collection for generalization sessions, the trainer did not model to the students during the four stages of the cognitive process approach, unlike during the training sessions. Only, the pictures were presented, the stories were read out, and the instruction was given, “What would you do if you were the person in the picture?” The subject was then expected to ask himself/herself the questions and give the answers following the steps he/she had previously learned. Three new stories and pictures were used in the generalization sessions, which were not used in the training sessions. After the last probe data were collected, the generalization data were collected in three subsequent sessions for all the subjects. The data thus collected were recorded in the Generalization Sessions Data Record Forms.

Table 2: Example from Training Protocol*

<table>
<thead>
<tr>
<th>The trainer says:</th>
<th>The youth with mental retardation</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Ahmet and Arzu, whom you see in this picture, go to school like you. One day, after class, Ahmet dropped Arzu’s coat on the floor while taking his off the hanger. Arzu called out to him, ‘You dropped my coat’. Ahmet left the classroom without any reply.”</td>
<td>(Data are collected here)</td>
</tr>
<tr>
<td>“What would you do if you were in Ahmet’s place?”</td>
<td>Social Decoding Skills</td>
</tr>
<tr>
<td>1.0 “What happened?” I would ask.</td>
<td>1.1 “I dropped Arzu’s coat, and then, I left the classroom.”</td>
</tr>
<tr>
<td>The first rule is to understand what is going on.</td>
<td>Social Decision Skills</td>
</tr>
<tr>
<td>2.0 “What can I do?” I would ask.</td>
<td>2.1 “I can say ‘I am sorry’.”</td>
</tr>
<tr>
<td>The second rule is to decide what to do.</td>
<td>2.2 “I will go home without saying anything.”</td>
</tr>
<tr>
<td>3.0 “Which one must I do?” I would ask.</td>
<td>Social Performance Skills</td>
</tr>
<tr>
<td>The third rule is to do what I had decided to do.</td>
<td>4.0 “What will come out of this?” I would ask.</td>
</tr>
<tr>
<td>3.1 “I say ‘I am sorry’ to her.”</td>
<td>The fourth rule is to evaluate what happened when he apologized.</td>
</tr>
<tr>
<td>(Social Evaluation Skills)</td>
<td>4.1 “I’ll feel happy when I apologize.”</td>
</tr>
<tr>
<td>4.0 “What will come out of this?” I would ask.</td>
<td>4.2 “And, Arzu won’t be upset.”</td>
</tr>
</tbody>
</table>

*Table 2: Example from Training Protocol*

Reliability Analysis
The question as to whether the data collected in the research were reliable or not was handled through the calculation of percents of inter-observer reliability. The second observer, a research assistant, watched the 30% of the randomly selected training sessions of each subject on the video records. The means of inter-observer reliabilities is as follows: The mean percent of agreement for the students who participated in the skill to apologize was 94% (range 88% -100%) for Hasan, 91% (range 84% - 98%) for Ayşe and 98% (range 96% -100%) for Ismail. It was 98% (96% - 100%) for Taner who participated in the training for the coping with teasing skill, 96% (92% - 100%) for Hülya and 100% for Ufuk. As for the avoiding inappropriate touching skill, it was 94% (88% - 100%) for Burcu, 100% for Emin and 92% (90% - 94%) for Ayla. The data recorded by the second observer were compared to the records of the first observer and the percent of inter-observer reliability were found to be high.

In order to correct for the procedural reliability data of the research, 20% of all the training sessions held with each and every one of the subjects were randomly selected. According to the results of the analysis, the procedural reliability was found to be 100% for all skills. Since the procedural reliability percentages are high, this indicates that the training program developed for three different social skills was implemented as planned before the research.

Results
Training and generalization data for apologizing
A study of Figure 1 reveals that Hasan, Ayşe and Ismail, who participated in the training program for the skill to apologize, did not adequately have this skill at the baseline level. A total of eight training sessions were held with Hasan after the baseline data were collected. The percentage of Hasan’s correct response was 36% at the beginning of the training sessions whereas it was 100% at the end of the training sessions. The percentage of Ayşe’s correct response was 18% at the beginning of the training sessions whereas it was 100% in the last training session. Altogether nine training sessions were held for Ayşe. Ismail, who acquired the skill to apologize, raised his percentage of correct responses from 26% at the beginning to 100% in the last training session after a total of five sessions. After the completion of the training sessions for these three students participated in the research, the generalization data were collected and the percentages of correct responses during the generalization sessions were found out to be 100%, 90.6% and 52% for Hasan, Ayşe and Ismail, respectively.

Training and generalization data for coping with teasing
Figure 2 shows the beginning levels of Taner, Hülya and Ufuk, the data collected in their training and their generalization sessions. It is seen that after the training sessions with Taner, consisting of seven sessions on the whole, his percentage of correct responses increased from 32% to 100%. Altogether five training sessions were held with Hülya and the percentage of Hülya’s correct responses was 38% at the beginning of the training sessions whereas it was 100% in the last training session. The number of the training sessions of Ufuk, who acquired this skill, was four and while the percentage of his correct responses was 54% at the beginning, it increased to 100% in the last training session. After the completion of the training sessions for these three students that participated in the research, the generalization data were collected and the percentages of correct reactions during the generalization sessions were found out to be 100%, 90.6% and 100% for Taner, Hülya and Ufuk, respectively.
Figure 1.
Baseline (B), probe (P), training (T) and generalization (G) data regarding Hasan, Ayşe and İsmail’s level of acquisition of the skill to apologize.
Figure 2.
Baseline (B), probe (P), training (T) and generalization (G) data regarding Taner, Hülya and Ufuk’s level of acquisition of the skill to cope with teasing.

Training and generalization data for avoiding inappropriate touching
It is seen that Burcu, Emin and Ayla, who participated in the training program for the skill to avoid inappropriate touching, did not have this skill adequately at the beginning in Figure 3. After the collection of the baseline data, altogether six training sessions were held with Burcu. The percentage of Burcu’s correct responses was 32% at the beginning of the training sessions, and 100% at the end of the training sessions. Altogether six training sessions were held for Emin during the study and the percentage of Emin’s correct responses was 58% at the beginning of the training sessions, 100% in the last training session. It is seen that the percentage of Ayla’s correct responses increased from 12% to 100% after six training sessions. After the completion of the training sessions for these three students participated in the research, the generalization data were collected and the percentages of correct
responses during the generalization sessions were found out to be 100%, 100% and 86.6% for Burcu, Emin and Ayla, respectively.

Discussion

The results of this research have shown that nine students with mental retardation benefited from the cognitive-process approached social skills training program, that they learned the skills to apologize, cope with teasing and avoid inappropriate touching and they could generalize what they learned. These results are in consistent with the results of other research which indicate that various social skills could be acquired by the individuals with mental retardation with the help of the cognitive process approach social skills training program (Castles and Glass, 1986; Agran et al., 1987; Hughes & Rusch, 1989;

It has been considered that the social skills training program was effective for various reasons. First of all, the targeted skills of the program were determined through making observations in the Centre and obtaining information from the teachers. Thus, effort was made to gain each and every student social skills that would bring positive consequences to him/her in the setting of the Centre. It is for this reason that the social skills program is believed to have been effective.

Students with mental retardation aged between 15-19 who have attended the vocational school participated in the research. That the participants could read and follow the instructions is thought to have been another reason for the efficacy of the social skills program. It has been observed that subjects that participated in similar research in the literature (Park & Gaylord-Ross, 1989; Collet-Klingenberg & Chadsey-Rusch, 1991; O’Reilly & Glynn, 1995) had much in common with those that participated in this research in terms of age and cognitive characteristics.

Though, as shown at Table 1 the IQs of the nine students that participated in the research are similar, some of the subjects had more training sessions than others. This is mainly attributed to the individuals’ personality traits and motivation for the study as well as the evaluation of their cognitive skills. In addition, researchers observed that some of the students performed higher than expected from their IQs and the fact that some students with low IQs could read and write led the researchers thought the IQ evaluation results were not reliable. Therefore, the differing number of the training sessions per student in this study could be attributed to individuals’ differing levels of cognitive skills, as stated in the literature.

In the study, generalization sessions were held for each skill after the completion of the training sessions. When the generalization data were studied, it was observed that the subjects could use the stages of cognitive process when faced with new stories and pictures other than those used in the training sessions; in other words, it was observed that they could generalize what they had learned. It became clear in the research except for Ismail, the third subject who participated in the training program for the skill to apologize, other students were successful in the generalization data collected after the training sessions, and that they could use the stages of the cognitive process approach in the correct order. These results in line with the previous research Park & Gaylord-Ross (1989) revealed in their study, that all three subjects could sustain the social skills they acquired, in the generalization and follow-up period. O’Reilly & Glynn (1995) stated that students with mental retardation could generalize the skills they acquired to different social settings. O’Reilly & Chadsey-Rusch (1992) declared that subjects could learn the problem solving skills and generalize them to different settings and individuals.

In this study, since the students learned the target skill fast in the training sessions and their success in the generalization period were high, these results can be considered to be possibly due to the decrease in number of the questions asked in the cognitive process stages, as suggested as a result of a previous research (Collet-Klingenberg & Chadsey-Rusch, 1991). It is possible that the decrease in number of the questions and answers in the steps of social decoding and social decision increased the success of the students with mental retardation during the training and generalization sessions of this research and their motivation too, for learning, thus facilitating the acquisition of the skills.

In this research, it has been observed that the students who participated in the training program could generalize the skills they learned to different stories and pictures. However, research has not been done on the question as to whether they could generalize these skills to real life settings and situations or not. This can be deemed as the limitation of the research. In the research to be carried out in the future, the study on whether individuals can generalize the social skills they acquired to real life settings or not shall reveal more detailed information about the functionality of the social skills training program that was developed.

References


