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IMPACT OF SOCIAL SKILLS INSTRUCTION ON PROBLEM SOLVING SKILLS OF STUDENTS WITH LEARNING DISABILITIES

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IMPACT OF SOCIAL SKILLS INSTRUCTION ON PROBLEM SOLVING SKILLS OF STUDENTS WITH LEARNING DISABITILIES

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Dedication

Dedicated to my parents for their limitless support, love, and care.

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The Impact of Social Skills Intervention with Adolescent Students with Learning Disabilities

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The study analyzed the impact of a social skills intervention pogram with adolescent students with learning disabilities attending a school for dyslexia in central Texas. Participants of the study were 8 students aged 11 through 13. Participants were equally assigned to the intervention and control groups based on their schedules. A six-session social skills intervention program was provided to students in the intervention condition during their enrichment hours, while the control students continued to attend their regular classroom activities during this period. Non-parametric test statistics (Wilcoxon signed-rank Test and Mann Whitney U) were utilized to assess within group differences from pre- to post-test and between group differences, respectively. The results of the study suggested that even though no statistically significant differences between control and intervention groups were observed at the pre-test, scores on the Social Problem Solving Inventory-Adolescent, at post-test indicated that the intervention group significantly outperformed the control group. Neither the control nor the intervention group demonstrated any significant improvement from pre- to post-test.

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INTRODUCTION

Chapter 1

Current demands in education require supporting more than just academic needs of students; they also demand supporting the whole development of students in areas such as social, emotional, and personal skills (Muller, 2002). Among the non-academic needs of students, social skills development has received considerable attention, because social skills problems, especially in problem solving skills, are strongly related to the occurrence of some problems (Frosh, 1983; Gresham, 1987; Matson & Swiezy, 1994) such as aggressiveness, delinquency, **(**Gaffney & McFall, 1981; Sarlie, Hagen & Ogden, 2008; Swenson, 2004**)** and mental health problems **(**L. Elksnin & Elksnin, 2000; Sacco & Graves, 1984; Smith & Gillies, 2003*)*.

ADOLESCENTS WITH LEARNING DISABILITIES

According to Spence (1983), many students do not have the prerequisite skills necessary to establish and maintain satisfactory relationships with peers and adults. This is due to their difficulties in interpersonal domains such as interacting with others, making friends, dealing with bullying, asking for help, and coping with criticism (Spence, 1983).

Among the student population, students with learning disabilities (LD) are known to experience extensive difficulties in various dimensions of social skills. For example, students with LD are known to have few friends (Kavale & Forness, 1996a; Pavri &

Monda-Amaya 2000; Warden & Mackinnon, 2003), and are withdrawn and rejected in social interactions (Kavale & Forness, 1996a). They also have low self esteem (Kavale & Forness, 1996a) and are at significantly higher risk of bullying others and being bullied by their peers in comparison to their typically developing peers (Kaukiainen, Salmivalli, Lagerspetz, Tamminen et al., 2002; Mishna, 2003; Nabuzoka, 2003). Students with LD may exhibit behavior problems (Haager & Vaughn, 1995; Vaughn, Zaragoza, Hogan, & Walker, 1993) and may show high levels of anxiety (Al-Yogan & Mikulincer, 2004; Kavale & Forness, 1996a). Studies have also highlighted the risk of adolescent students with LD experiencing loneliness and isolation from peers (Margalit, 1995; Margalit & Levin-Alyagon, 1995; Pavri & Monda-Amaya, 2000). Even though the roots of these difficulties are still unknown, studies show the persistent nature of social problems of students with LD.

In general, adolescent students with LD experience double jeopardy due to their lack of interpersonal skills and the developmental demands in adolescence (Weiner, 2004). Unless developmentally appropriate, preventive and remedial social skills interventions (SSI) corresponding to these students' specific social needs are provided, it is very difficult for students with LD to meet the social demands that occur during adolescence.

SOCIAL SKILLS INTERVENTIONS (SSI)

Social skills intervention (SSI) programs are highly recommended for students with LD. The goal for providing SSI is to remediate dysfunctional social behavior or to prevent the long-term negative impact of early social skills problems (Oglivy, 1994).

Social skills interventions can focus on increasing peer acceptance, fostering interpersonal skills, or promoting positive social outcomes in interpersonal settings (McIntosh, Vaughn, & Zaragoza, 1991; Swanson, 2000).

Research on the effectiveness of SSI with students with LD has received much attention from researchers. To investigate the effectiveness of SSI with adolescent students with LD, two research syntheses (McIntosh et al., 1991; Olmeda & Trent, 2003) and two meta-analyses (Kavale & Forness, 1996b; Swanson 2000) were conducted with a focus on students with LD in Grades K to12. The results of the two syntheses (McIntosh et al., 1991; Olmeda & Trent, 2003) and two meta-analytic studies (Kavale & Forness, 1996b; Swanson, 2000) suggested that SSI has positive results on teaching social skills to students with LD. However, these positive results were limited in changing students' social skills in their natural environment (Kavale & Forness, 1996b; McIntosh et al., 1991) and level of peer acceptance (McIntosh et al., 1991). Continuing the line of synthesis work, the present researcher synthesized the SSI literature using more stringent study selection criteria. Only experimental and quasi-experimental studies that reported both pre and post test scores and used assessment devices with reported validity and/or reliability were included. Further, the effectiveness of SSI was investigated based on different intervention types. The synthesis showed that SSI has positive outcomes for students with LD (Kurt, 2007). Findings revealed that use of coaching/role playing and information sharing (CIS) were highly effective for adolescent students with LD, especially for maintenance and generalization of learned skills to natural settings.

Students with LD experience chronic problems in social skills and benefit from SSI programs that result in positive short term effects, however, with questionable generalization and long term effect.

Among the various SSI programs with varying content, teaching social problem solving received attention for many reasons (Weiner & Harris, 1997). First, problem solving skills are higher order skills regulating the coordination of many other social skills (Cartledge & Milburn, 1996; D'Zurilla, Nezu, Maydeu-Olivares, 2004) and they are a prerequisite for the application of other higher order social skills such as conflict resolution (Johnson, Johnson, Dudley, Michell, & Fredrickson, 1997). Second, problem solving skills focus on transformable meta-cognitive skills that are generalizable rather than being situation specific skills (Cardledge & Milburn, 1996). Because students with LD demonstrate specific difficulties in generalization of social skills to novel settings or natural environments (Kavale & Forness, 1996b; McIntosh et al., 1991), teaching social problem solving content to students with LD is highly prudent. Finally, a large body of studies (Hazel, Schumaker, Sherman, and Sheldon, 1982b; Kavale & Forness, 1996a; Swanson & Malone 1992) indicates that students with LD are experiencing social problem solving deficits and therefore can benefit from SSI with a problem solving content. The ASSET: A Social Skills Program for Adolescents (Hazel, Schumaker, Sherman, & Sheldon, 1995), is a well-known research based social skills program with problem solving focus. Previous studies (Hazel et al., 1982a; Hazel et al., 1982b; Prater, Bruhl, & Serna 1998; Prater, Serna, & NaKamura, 1999; Schumaker & Ellis, 1982) demonstrated that this curriculum lead to positive outcomes for students with LD and E/BD. Another well known social problem solving intervention program is Social

Decision Making/Social Problem Solving; it is research-based program focusing on teaching social competency skills and decision making/social problem solving skills. The program was tested with typically developing 41 fifth-grade students and the results suggested a significant treatment gain for the intervention group (Elias & Butler, 2005).

The purpose of this study was to investigate the effectiveness of a social skills program derived from a combination of the two aforementioned SSI programs, namely ASSET: A Social Skills Program for Adolescents (Hazel et al., 1995) and the Social Decision Making/Social Problem Solving: A Curriculum for Academic, Social, and Emotional Learning (Grades 4-5) (Elias, 2005). The study investigated the effect of this SSI program in improving the social problem solving skills of students aged 11 to 13 who are attending a school for students with dyslexia. The research questions to be addressed were:

1. What effect does the SSI program have on the problem solving abilities of adolescent students with reading disabilities/difficulties who are 11 to 13 years-old and who are attending a school for dyslexia in Central Texas?
2. Did students, parents and teachers who received the SSI find it socially valid?

The results of the study provide important information for SSI programs that are aimed at facilitating interpersonal skill development of youth who may experience challenge to develop interpersonal skills naturally in their environment.

REVIEW OF THE LITERATURE

Chapter 2

ADOLESCENCE

Adolescence is a transitional developmental period between childhood and adulthood covering the ages 10 to 20 (Elliott & Feldman, 1990). During this time adolescents go through many physical, emotional, and social changes that will help prepare them for adult life (Elliott & Feldman, 1990; Weiner, 2004). Changes in social life especially require extensive adaptation (Elliott & Feldman, 1990). During this period, the meaning of peer relationships as well as the demand it brings to students' lives are significant (Weiner, 2004). Specifically, due to the developmental process, students develop higher expectations from their social lives compared with earlier stages (Erikson, 1965). At this time, peers become the main agency for receiving advice, support, and defining social norms (Savin-Williams & Berndt, 1990). Peer relationships in adolescence also mediate many important developmental processes such as gaining autonomy, establishing intimacy, and forming an identity (Tur-Kaspa, 2002). Therefore, peer relationships are known as a source of joy and frustration for an adolescent. Parallel to the changes in the meaning of friendship for youths, the patterns of friendship interactions change as well. During this period, students' social interactions occur in larger groups and friendship cliques emerge (Reardon, 1995). This type of social interaction pattern calls for more sophisticated social skills and increases social demands for adolescents (Liu & Chen, 2003). Examples of these new social demands in

adolescence may include understanding more implicit social norms, dealing with peer pressure, and being adaptable in order to get along with larger groups of people with different interaction styles and personality characteristics (Lui & Chen, 2003). Moreover, due to the identity formation process in adolescence, typically developing peers may show a lack of tolerance of those peers with differences (Reardon, 1995). This may create further risk for students with LD such as peer rejection, isolation, and bullying (Reardon, 1995).

SOCIAL SKILLS AND SOCIAL COMPETENCE

According to Schneider (2000) defining social competence is a very elaborate process, since there are many dimensions that influence the way social competence is conceptualized. Schneider (2000) suggested that the first dimension is whether to conceptualize social competence as a trait or situation-specific behavior. While the trait approach views social competence as an overall capacity for social behavior in various contexts, the situation-specific behavior approach conceptualizes it as an individual's isolated response depending on the specific demands of the environment (Schneider, 2000). The specific way that social competence is defined (e.g. specific target behaviors or a person's overall capacity) has a direct influence on selection of target skills while teaching social skills (Schneider, 2000). Schneider (2000) suggested that the definition changes based different social context and target groups. The definition shows a large variation even when a specific group of adolescents (e.g. typically developing adolescents) is concerned. For example, some researchers define social competence based on peer acceptance (Gresham & Elliott, 1987), others on task readiness (Synder &

Bambara, 1997), self-awareness (Omizo & Omizo, 1987), cooperating with peers (Putnam, Markovchick, Johnson, & Johnson, 1996), social perspective coordination (Selman, 1980), or solving social problems (Conte, Andrews, Loomer, & Hutton, 1995; Larson & Gerber, 1987). All these aforementioned distinctions have implications for what will be the best teaching practices for social competence and how the outcomes will be evaluated (Matson & Swiezy 1994; Ogilvy, 1994).

Haager and Vaughn (1995) defined social competence as "a broad term, often used to describe social behavior, understanding and use of social skills and social acceptance" (p. 205). Social competence also involves judgment of a person's ability to initiate and develop social roles and relationships (Shepherd, 1983).

Gresham and Elliot (1984) defined social skills as "those behaviors which, within a given situation, predict important outcomes such as (a) peer acceptance and popularity, (b) significant others' judgments of behaviors, or (c) other social behaviors known to correlate consistently with peer acceptance or significant others' judgment" (p. 292-293). As it can be seen both definitions focus on the general and higher order skills in creating competent behaviors in interpersonal settings.

SOCIAL SKILLS PROBLEMS OF ADOLESCENTS WITH LEARNING DISABILITIES

Students with LD are known to experience extensive difficulties in various dimensions of social skills (Kavale & Forness, 1996a; Nowicki, 2003; Swanson, 1996; Vaughn et al., 1993). For example, they have few friends (Kavale & Forness, 1996a; Pavri & Monda-Amaya 2000; Warden & Mackinnon, 2003), and are withdrawn and rejected in social interactions (Kavale & Forness, 1996a). They also have low self esteem

(Kavale & Forness, 1996a) and are at significantly higher risk of bullying others and being bullied by their peers in comparison to their typically developing peers (Kaukiainen et al., 2002; Mishna, 2003; Nabuzoka, 2003). They may exhibit behavior problems (Haager & Vaughn, 1995; Vaughn et. al, 1993). In addition, they may show high levels of anxiety (Al-Yogan & Mikulincer, 2004; Kavale & Forness, 1996a).

The underpinnings of these problems could relate to difficulties with social comprehension, that is, difficulties in perceiving and interpreting verbal or non-verbal social information accurately (Kavale & Forness, 1996a; Pearl & Cosden, 1982; Mesch, Lew, D.V. Johnson, & Johnson, 1986), and social problem solving (Bauminger, Edelsztein, & Marashi, 2005; Tur-Kaspa, 2004). Another explanation of the social skills difficulties of adolescents with LD can be their difficulties in managing emotions such as anxiety or irritability (Kavale & Forness, 1996a). Even though the roots of these difficulties are still unknown, studies show the persistent nature of social problems of students with LD. More specifically, there is a persistent difference in social performance of students with and without LD, and this difference does not disappear by the natural maturational process (Jackson, Enright, & Murdock, 1987; La Greca & Mesibov, 1979). Rather, the difference between these two groups persists as they mature (Jackson et al., 1987; La Greca & Mesibov, 1979; Vaughn et al., 1993). This difference indicates a social skills deficit for students with LD in areas such as social perception (Jackson et al., 1987), that is, an ability to be aware of social cues in the environment and processing those social personal cues for higher level social understanding, or initiation / outgoing dimensions of social skills (Margalit, 1995; Vaughn et al., 1993).

Some studies have also highlighted the risk of adolescent students with LD experiencing loneliness and isolation from peers (Margalit, 1995; Margalit & Levin-Alyagon, 1995; Pavri & Monda-Amaya, 2000). On the contrary, findings from the Vaughn and Elbaum study (1996) indicated that in Grades 2 to 4 students with LD have few, but reciprocal friends that protect them from being lonely. Yet, the nature of the friendship in adolescence is group friendship rather than friendship dyads. Starting in Grade 5, students are involved in more demanding social skills such as interacting with more students in their friendship circles and establishing peer networks (Liu & Chen, 2003; Pavri & Monda-Amaya, 2000). Liu and Chen's study (2003) shed light on the complexities of adolescents' social worlds. Their study indicated that being involved in a peer network is significantly different from being either in friendship dyads or being alone in adolescence. Specifically, membership in a peer network is a significant predictor of many adjustment variables such as students' level of reported loneliness, social competence, and academic adjustment (Lui & Chen, 2003). Adolescents who are out of the peer network regard themselves as being lonely even when they have a few reciprocal friends (Lui & Chen, 2003).

As a summary adolescent with LD experience consistent and persistent social skills difficulties that put them in a disadvantaged condition to enjoy fully their friendship experience and develop their social skills. The problem is even more significant for students with LD during adolescence.

SOCIAL PROBLEM SOLVING

According to D'Zurilla and Goldfried (1971) problem solving refers to: "(a) behavioral process whether overt or cognitive in nature, which (b) makes available a variety of potentially effective response alternatives for dealing with the problematic situation and (c) increases the probability of selecting the most effective response from among these various alternatives" (p. 108).

D'Zurilla and Goldfried postulated that problem solving skills are different from simply emitting an effective response. The latter is explained by the demonstration of a specific response occurring as the only possible action in a specific situation (D'Zurilla & Goldfried, 1971). According to the researchers the behavior will not be a result of problem solving process but rather it will be based on the common response type of the person based on individual's learning history and personality characteristics such as anxiety, motivation, or behavioral deficit. On the other hand, they suggested that problem solving involves a flexible pattern of behavior that will be decided based on a given situation rather than what is a typical/frequent behavior pattern for an individual. According to D'Zurilla and Goldfried (1971) the distinguishing factor between the two is the fact that while emitting an effective response can be predicted in advance, problem solving cannot since a person will integrate "previously acquired responses in a novel way so as to produce a new response" (p 109). Therefore, social problem solving is a highly advocated social skill since teaching a setting-specific behavior may not lead to generalized, independent problem solving skills applicable across different settings (D'Zurilla & Goldfried, 1971). However, the main skill behind problem solving skills is the meta-cognitive understanding of self and the other (Larson & Gerber, 1987) and self

discovery leading to an optimum solution in a given setting (D'Zurilla & Goldfried, 1971). Problem solving involves five main steps: general orientation that involves attitudinal factors, problem definition and formulation, generation of alternative, decision making (evaluation and selection among the alternatives), and verification (D'Zurilla & Goldfried, 1971).

Even though most researchers have agreed upon the aforementioned general problem solving stages, some researchers expand this five stage process. For example, being able to select pro-social goals in interpersonal relationships and selecting appropriate strategies to reach those goals have also been regarded as preconditions determining the effectiveness of problem solving (Elias & Tobias, 1996).

Crick and Dodge (1994) proposed social information processing theory to describe the cognitive processes occurring during solving interpersonal problems. This model postulates that social behaviors arise as a results of six step social information process: encoding social information, interpreting cues, selecting goals, constructing response alternatives, evaluating alternatives based on expectancies, behavioral performance, and checking the effect of applied behavior on others (Crick & Dodge, 1994). According to Tur-Kaspa (2004) social information theory successfully integrated what previous researchers looked upon as isolated components of social processing, such as problem solving, social perception, and social comprehension. Crick and Dodge (1994) suggested that social information processing is mainly accountable for the difference between adjusted and maladjusted behavior (Crick & Dodge, 1994).

SOCIAL PROBLEM SOLVING AND STUDENTS WITH LEARNING DISABILITIES

Few studies (Agaliotis & Goudiras 2004; Bauminger et al., 2005; Carlson, 1987; Tur-Kapsa, 2004) empirically tested information processing models with students with LD in various age groups. Up to now, many studies focused on various problems of students with LD in different areas of cognitive processing such as problem solving difficulties (Hazel et al., 1982b; Kavale & Forness, 1996a), social perception deficit (Jackson et al., 1987; Most & Greenbank, 2000), and social comprehension (Kavale & Forness, 1996a; Pearl & Cosden, 1982). These studies successfully present the difficulties of students with LD in specific areas of social skills. To illustrate:

Bauminger et al., (2005) conducted a study to compare the social information processing and emotional understanding of children with and without LD. Participants were 100 students selected from Grades 4 to 6 in two elementary schools in Israel. The participants' ages were ranged from 9.4 to 12.7. Students with and without LD were equally represented in the participant population and were matched on gender and intellectual abilities. They used the Social Information Skills and Emotional Understanding Measures to assess social information processing and emotional understanding, respectively. These assessment devices included social video vignettes and asking questions about the episodes in these vignettes. The result of the study yielded many significant differences between students with and without LD: First, children with LD encoded social information less often compared to the students without LD. Secondly, they recall less information related to social vignettes they had observed. Third, they added more irrelevant information to the episodes compare to students without LD. Fourth, they were not as accurate as their NLD peers in terms of

understanding causes of the behaviors in a given social context. Fifth, their answers covered fewer social goals compared to their NLD peers. Furthermore, they did not choose responses related to their specified social goals. Additionally, while they were explaining the situations, they neither took social context nor internal cues into consideration. They experienced more problems in recognizing and defining complex emotions such as embarrassment, guilt, and pride. Finally, they had fewer social behavior responses in their behavior repertoire compared to their NLD peers. The study of Bauminger et al. (2005) provided strong evidence to indicate the unique differences of students with LD in terms of information processing and emotional understanding compared to their NLD counterparts.

Carlson (1987) investigated whether or not students with LD and NLD differed in their selection of social goals and strategies in a given hypothetical interpersonal conflict situation by utilizing Selman's interpersonal development framework. The participants of the study were 24 LD and 24 NLD children in Grades 2 through 5. The results revealed the students in the LD and NLD groups demonstrated significant differences in terms of the strategies they used under the condition of no explicit social goal. Specifically while students with NLD preferred positive, outgoing, assertive, or rule-oriented strategies, students with LD preferred more egocentric-demanding or accommodation type of strategies. Moreover, the strategies selected by LD students showed more of a unilateral approach that indicated a win-lose type resolution of conflicts. In addition to this, students with LD created significantly less alternative responses in the given interpersonal situations under no explicit goal condition compared to their NLD peers. The strategies they selected indicated lower levels of interpersonal development and

maturity. Interestingly, when students were provided with explicit social goals, no group differences occurred between students with LD and NLD in their selections of interpersonal strategies. They selected compromise more often, contrary to their initial selections. This final observation indicated that students with LD do possess mature strategies in resolving conflicts in their behavioral repertoire, but they preferred not to use them due to their personal goals rather than their lack of social cognitive ability. In general the study revealed that students with LD selected less assertive goals such as accommodation, avoidance or rule-orientation type of goals rather than selecting compromise-oriented goals as their NLD counterparts did. In summary, the study showed that students with LD and NLD differed based on the strategies applied to resolve interpersonal conflicts, the social goals selected, the behavior alternatives they produced, and the quality of their selected behaviors in given hypothetical conditions. The study also confirmed the existence of a socially resilient group of students among students with LD and the presence of heterogeneity of category of LD in terms of social skills (Carlson, 1987).

Following up on the aforementioned study of Carlson (1987), Agaliotis and Goudiras (2004) conducted a study to investigate the conflict resolution patterns of 30 fifth and sixth-grade students with LD and NLD. They interviewed each child for 45 minutes to understand the conflict resolution strategies of these students. The results showed that students with LD experienced significantly more problems in understanding objectives and feelings of the parties involved in interpersonal conflicts. Additionally, students with LD experienced more problems in creating alternative solutions to interpersonal problems. Furthermore, a significant difference was found between students

with LD and NLD in the ability to anticipate the consequences of their selected alternatives. For example, in one of three given conflict scenarios the students showed significant differences in their conflict resolution strategies; while students with LD used a hostile strategy as their first and a positive outgoing-assertive strategy as their second response, NLD students chose a positive outgoing-assertive strategy as their first and an avoidance strategy as their second option. The results of the study were very similar to the study of Carlson (1987) that students with LD demonstrated more difficulties in understanding environmental cues, creating alternative solutions to interpersonal problems, and envisioning their consequences. The results of the study empirically validated social information processing theory as well as the results of the previous study of Carlson (1987).

Mullet (2001) investigated the conflict resolution patterns of three groups of students: students with LD, their grade matched (GM) and the language aged (LA) matched peers. Students with LD and GM were in Grade 8 while LA students were much younger. They investigated students' conflict strategy choices, the rationales behind their utilized strategies, the level of accuracy in their problem descriptions, the extent to which they utilize alternative perspectives during problem analysis, and the level of alternative conflict resolution strategies they utilized. They analyzed these aspects in both contrived and real life situations. The results suggested that there is no significant difference between students with LD and GM in their conflict resolution styles. The main distinguishing factor appeared to be friendship status of the other person involved in the conflict rather than the students' status as LD, GM, or LA. More specifically, for students in each group the most significant factor influencing the conflict strategy choice was

whether the person in conflict was identified as a friend or acquaintance. Yet, the descriptive analysis suggested that students with LD to use passive/withdrawal type of strategies more frequently compared to their both GM and LA peers. In addition, they appear to utilize higher order conflict resolution skills such as collaboration and compromises less frequently compared to the other two groups**.** When the rationale behind their choice is concerned, students with LD performed as well as their GM peers, outperforming their younger, LA peers.

To summarize the significance of social skills on people's lives is highly established, yet agreed upon definitions of social skills or competence is not (Ogilvy, 1994). Among various social skills, social problem solving skill has been strongly advocated as a highly critical, higher-order social skill. The skill involves a lot of flexible, novel ways of orchestrating social information so as to perform the most adaptive behavior in a specific context (D'Zurilla & Goldstein, 1974). Students with LD seemed to be experiencing difficulties mainly in performing this skill effectively and appeared to have social information processing deficits. Studies highlighted similar social information processing problems of pre-adolescent and adolescent students with LD in social goal selection (Agaliotis & Goudiras 2004; Bauminger et al., 2005; Carlson, 1987), generating socially adaptable strategies (Agaliotis & Goudiras 2004; Bauminger et al., 2005; Carlson, 1987), foreseeing the consequences of their behavior (Agaliotis & Goudiras 2004; Bauminger et al., 2005; Carlson, 1987), and taking context into consideration (Bauminger et al., 2005). The study by Mullet (2001) which was conducted with older students with LD demonstrated the existence of similar trends for student with LD to choose less mature social strategies, yet the results were not significant. In line

with the Carlson 1997 study, the Mullet 2001 study also indicated that students with LD in fact are aware of the higher order strategies. However, they fail to utilize those when needed.

SOCIAL SKILLS INTERVENTION (SSI)

Social skills intervention is an intervention that focuses on increasing a child's socially competent behaviors while decreasing or replacing the problem behaviors with more competent ones (Frosh, 1983). The underlying assumption is since social skills are learned behaviors, they could be taught through the systematic application of social skills curricula (Smith & Gilles, 2003).

Social skills interventions are defined as interventions that focus on increasing peer acceptance, fostering interpersonal skills, or promoting positive social outcomes in interpersonal settings (Gresham & Elliot 1984; McIntosh et al., 1991; Swanson, 2000). Goldstein (1981) defines social skills intervention as "planned systematic teaching of the specific behaviors needed and consciously desired by the individual in order to function in an effective and satisfying manner, over an extended period of time, in broad array of positive, negative, and neutral interpersonal contexts p. 3". Social skills intervention can be provided through a wide variety of curriculum content, group size, intervention features, and theoretical approaches.

GROUP SIZE IN SOCIAL SKILLS STUDIES

Social skills interventions with adolescents exhibit variation in terms of group size, ranging from on 1-to-1 (Blackburn, 1989) to as many as 1-to-15 (Larson & Gerber,

1987). Even though there are strong rationales for individual treatment (Kavale & Forness, 1996b), group interventions are highly advocated for adolescents, especially to facilitate peer relationship skills (American School Counselor Association, 1984; Minsha & Muscat, 2004). Group interventions match perfectly with the typical style of friendships occurring in adolescence, that is, establishing large peer groups (Reardon, 1995; Mishna, Kaiman, Little, & Tarshis, 1991; Lui & Chen, 2003). Group interventions are even further recommended with students with LD since they tend to have extensive problems in peer relationship and are not frequently exposed to positive role models and rewarding interpersonal experience in their interactions with peers (Brown & Papagno, 1991; Kish, 1991; Malekoff & Laser, 1999; Mishna & Muscat, 2004). Possible exposure to more rewarding types of peer interactions may change some interpersonal schemata that adolescents may have built through years of unrewarding social experiences (Rosenthal, 1992). Being in a group can create a safe simulation of a real life interpersonal setting for youth and help them generalize new interpersonal skills (Malekoff & Laser, 1999; Mishna & Muscat, 2004; Rosenthal, 1992). By participating in a group, they can develop an awareness of how they typically react in interpersonal settings and learn different patterns of interactions through hearing one another (Mishna & Muscat, 2004). As part of a group, adolescents can also learn how to give and receive constructive feedback and how to constructively respond to rising emotions in a here-and-now setting (Mishna & Muscat, 2004; Rosenthal, 1992; Yalom, 1985). Giving and receiving feedback, either positive or negative, is one of the main social skills in which many students with LD are known to experience difficulty **(**Prater et al., 1999**)**. In addition, they can enjoy the friendship, support, and understanding of common

difficulties shared by other group members (Mishna & Muscat, 2004). The validating experience and the opportunity for peer interaction and reinforcement may be highly likely to contribute to students' practicing and generalizing learned social skills (Rosenthal, 1992).

DIFFERENT THEORETICAL APPROACHES TO SOCIAL SKILLS TRAINING

According to Matson and Swiezy, 1994 three of the most commonly used approaches to Social Skills Training (SST) are behavioral, cognitive-behavioral, and social learning appraoches. Even though each technique shows some distinct teaching style, they overlap to a great extend and have been used in combination. The next section discusses these approaches individually.

Cognitive Behavioral Approach

According to Cartledge and Milburn (1996), SST with the cognitive approach helps students gain self-control, develop problem-solving skills, and develop more adaptive ways to cope with problems. The cognitive approach emphasizes internal control and therefore has been strongly advocated for maintenance and generalization of acquired social skills (Matson & Swiezy, 1994). The approach comprises self-regulation techniques such as self-instruction and self-reinforcement (Cartledge & Milburn 1996; Matson & Swiezy, 1994). Self-instructional training emphasizes restructuring of students' thoughts in more positive ways using constructive self-talk (Cartledge & Milburn 1996).

Cartledge and Milburn (1996) highlighted significance of teaching SST through feelings so as to help them understand and accept feelings in themselves and in others. Through this approach children can learn to detect antecedent events that trigger specific emotions, the behaviors that lead to the emotion, and model the appropriate response while experiencing these emotions (Cartledge & Milburn, 1996). Cartledge and Milburn (1996) suggested that SST should also encourage students to understand their personal values, to be sensitive and tolerant of others, and develop ethical understanding (Cartledge & Milburn, 1996).

The cognitive approach is known to be effective for students with both externalizing (Arbuthnot, & Gordon, 1986; Cartledge & Milburn 1996) as well as internalizing disorders (David-Ferdon, & Kaslow, 2008). Since this approach focuses heavily on thinking and language skills, students with language and attention deficits may need initial supportive instruction before learning social skills with the cognitive approach (Cartledge & Milburn 1996).

Behavioral Approach

According to Ellis and Wittington (1981) the behaviorist approach focuses only on observable events, such as observable behavioral change. SST originated with this perspective, and many of the current perspectives on SST are still based on this approach. This approach is utilized extensively especially when students are in the skills acquisition phase of their learning (Ellis & Wittington, 1981). The basics of this approach are defining and operationalizing target behaviors by observations, dividing skills to be

taught into the sub-skills, identifying antecedents and consequences, and rewarding expected responses (Ellis & Wittington, 1981; Matson & Swiezy, 1994).

Social Learning Approach

Being originated from Social Learning Theory (Bandura, 1977), Social Learning approach to social skills training emphasizes the significance of modeling (Matson & Swiezy, 1994). The underlying assumption is that social skills can be enhanced by observing models using socially skillful behaviors and practicing them (Matson & Swiezy, 1994). Using Social Learning Theory, Goldstein & Pentz (1984) later developed a model of SST, Structural Learning Theory, that involves modeling, role playing, performance feedback, and transfer training. Today many social skills intervention programs use a sequence of similar instructional features such as direct instruction and modeling in the acquisition phase of SST and role playing, reinforcement, homework, and cooperative learning techniques in the maintenance and generalization phases (Cartledge & Milburn, 1996; Deshler et al. 1996; Gresham, 1986; 1987; Matson & Swiezy, 1994).

SOCIAL SKILLS INTERVENTION FEATURES

Even though SSI studies show a lot of variation in terms of the intervention technique, most of them use techniques such as modeling, role playing, coaching, cognitive restructuring, and cooperative learning.

Modeling

Modeling involves demonstrating of the skills needed for performing that skill (Matson & Swiezy, 1994). Modeling shows the students "what the skill is and what its variation looks like as well as learning about the conditions under which the social skill should not be used (i.e., critical rule)" (Sugai & Lewis, 1996, p. 1). The technique involves not only showing the students exactly how to perform the skill competently but also showing them the appropriate context of the behavior (Sugai & Lewis, 1996). The teacher should model not only the skills but each step and component of the skill (Prater et al., 1998; Swanson, 2000). Modeling is an effective intervention to teach social skills, especially for students with LD (Swanson, 2000), who can be overly challenged with the abstract nature of the language used in social skills instructions, as in the case of teaching social problem solving skills (Cartledge & Milburn, 1996).

Due to the significance of modeling, many studies (Hess, Wagner, & Dewald, 1993; Margalit, 1995; Roessler & Johnson, 1987; Wanat, 1983) used the extended version of the technique, called video modeling, by adding video vignettes. In this intervention, the teacher can provide students with a variety of examples and non-examples of target behaviors in a wide range of interpersonal settings (Hess et al., 1993). Thus, the teacher and students can observe and discuss variations of behaviors in various social settings (Margalit, 1995; Roessler & Johnson, 1987). Studies conducted with these interventions showed that it was promising for students with LD (Margalit, 1995; Roessler & Johnson, 1987; Wanat, 1983).

Coaching

Coaching provides the child with a behavioral role through a deductive method of teaching (Ogilvy, 1994). This gives the student a chance to practice and receive continuous feedback so that the student can master the expected social skills (Frosh, 1983; Shepherd, 1983). This technique has been highly advocated for promoting generalization of learned skills since it provides continuous correction of the students' mistakes in his/her natural environment (Cartledge & Milburn, 1996).

Cognitive Restructuring

Cognitive restructuring is an intervention technique used mostly in Cognitive Behavioral Interventions. The technique is aimed at teaching students to recognize and become aware of their own thought processes, identifying thoughts that are disruptive to their interpersonal goals (Omizo et al., 1986; Omizo & Cubberly, 1983; Omizo & Omizo, 1987; Stark, 1990). This technique depends on the assumption that if a person can recognize the underlying thought process that impede his/her action towards the goal oriented behavior, and if he/she could replace those thoughts with more productive ones, a person may acquire a better quality interpersonal and socio-emotional life (Cartledge & Milburn, 1996). Some studies have been conducted to test the effectiveness of the cognitive restructuring technique with students with LD. The results suggested that while the technique was effective with older students, some modification was needed to adapt this technique for younger children with LD (Omizo & Cubberly, 1983; Omizo et al., 1986; Omizo & Omizo, 1987).

Peer Modeling

Peer modeling is a technique utilizing peers as an agent for providing various interventions. Due to feasibility related reasons and due to the fact that studies consistently demonstrated the effectiveness of peer modeling, many studies utilize peers as role models or agents for teaching specific content (Christopher, Hansen, MacMillan, 1991; Davies & Witte, 2000; Gable & Arllen, 1994). Examples of peer modeling are using peers as tutors (Prater et al., 1999), counselors (Carthy, Rosenbaum, Lafreniere, & Sutton, 2000), as conflict mediators (D.V. Johnson, Johnson, Dudley, Michell, & Fredrickson, 1997) or an agent for behavior management (Gable & Arllen, 1994). Studies consistently indicated that peers are very effective agents for interventions (Carthy et al., 2000; Christopher et al., 1991; Davies & Witte, 2000; Gable & Arllen, 1994; Johnson et al., 1997; Prater et al., 1999).

Role-plays (Behavioral Rehearsal)

After students acquire skills through direct instruction and modeling, students can act short plays taken from real life situations (Wilkinson & Canter, 1982). The effectiveness of this technique increases if students' own examples are enacted during role-playing activities by creating a pool of classroom problems (McIntosh et al., 1995). It is very important for the teacher to monitor the students' mistakes and to give them frequent corrective feedback during the initial phase of learning (Deshler, Ellis, & Lenz, 1996) to make sure students acquire the skills.

Cooperative Learning

Cooperative learning is an instructional technique that aims at creating a group environment defined by mutual group goals, small group learning that fosters the interaction among the members and interdependency of actions through shared resources and rewards to reach this common goal (Bryant & Bryant, 1998; Johnson, Johnson, & Holubee, 1993; Mesch, Lew, Johnson, & Johson, 1986). For cooperative learning to be effective, students should be initially taught the social skills required in a cooperative learning environment (Deshler et al., 1996; Mesch et al., 1986). According to Deshler et al. (1996) after the social skills are learned, the teacher may create a cooperative environment that fosters interaction among the students to allow them to practice the target skills.

Two studies (Bryan et al., 1982; Mesch et al., 1986) empirically tested the effectiveness of cooperative learning in terms of supporting the integration of students with disabilities. The first study provided video segments of the cooperative model as well as reinforcement for working together. The second study provided cooperative learning activities after teaching social skills to students. In addition, students were provided with academic and social incentives for working together. The first study (Bryan et al., 1982) reported that students in the intervention group outperformed students in the control condition in both academic and non-academic assessment. The results of the second study (Mesch et al., 1986) showed that when both academic and social incentives were present, achievement and social interaction of the students increased. In both studies the use of cooperative learning activities increased students' interactions and pro-social behaviors.

As a summary implementation of social skills involve a lot of rich techniques and theoretical approaches. Among the theoretical approaches the cognitive behavioral approach gained extensive popularity. Teaching social skills using direct teaching, followed by role playing, coaching/information sharing, and reinforcement are highly effective (Goldstein & Pentz, 1984), especially for students who may have difficulties in learning abstract concepts of social skills such as learning disabilities.

The ultimate goal of any SSI is for students to transfer the skills into their natural environments. For transfer to occur, interventions should provide specific instruction on general principals, enriched examples involving both familiar and novel learning components, opportunity to elicit variety of responses (Goldstein & Pentz, 1984). It should also involve planned reinforcements (Goldstein & Pentz, 1984).

SSI AND CULTURAL SENSITIVITY

According to Rivera and Rogers-Atkinson (1997), providing an effective SSI is only possible by understanding culturally based behaviors. Therefore, an effective SSI should match the cultural-situational context, the developmental level of the students, and the gender role expectations in students' culture (Rivera & Rogers-Atkinson, 1997). To investigate the current research progress related to SSI with a culturally sensitive perspective, Glomb (2003) studied 11 commercially available SST programs designed for adolescents. She investigated the extent to which these curriculums used culturally sensitive approaches to SST. The results showed that only one curriculum, the curriculum Tribes, contained most of the criteria for a culturally sensitive approach to SSI.

Finally, the synthesis of 13 studies conducted by Olmeda and Trent (2003) investigated the cultural sensitivity aspects of SSI with students with LD. Two hundred eighty-six students with LD, aged 6 through 18, were included in the study. The study found that most of the present studies did not have the components that culturally sensitive SSIs require. Rather, most of the studies conducted with diverse students with LD failed to use the strategies and techniques recommended by culturally sensitive SSI literature such as reporting ethnic and cultural characteristics of the participants, and adjusting SSI based on cultural backgrounds of the participants and trainers, using culturally relevant curriculum and pedagogy, and multicultural competencies of their trainers. Yet, they concluded that SST conducted with diverse students with LD was still effective (Olmeda & Trent, 2003).

In summary SSI programs do not seem to be prepared for the demands of applying socially sensitive curriculum, though it is highly advocated for program effectiveness (Glomb 2003; Olmeda & Trent, 2003).

EFFECTIVENESS OF SOCIAL SKILLS INTERVENTIONS WITH STUDENTS WITH LD

A body of SSI programs have been implemented to support students with LD due to the importance of social skills in students' lives and the fact that students with LD have problems attaining these skills as compared to their non-LD (NLD) peers (Larson & Gerber, 1987). For example, the placement of students with LD in fully inclusive settings is one intervention that supports social functioning of the students (Pavri & Lufting, 2000). Yet, empirical studies do not suggest the positive impact of full inclusion unless supportive services with emphasis on either social development (Bryan et al., 1982) or

peer acceptance are provided (Elbaum & Vaughn, 2003). Full inclusion without providing supportive services may even increase the psychosocial demands on students with LD (Bryan, 1998; Conte et al., 1995). On the other hand, providing planned and systematic SSI to increase social competence of students to support full inclusion is strongly advocated by many researchers (Bryan, 1998; Conte et al., 1995; Gresham, Sugai, & Horner, 2001).

In response to the specific needs of adolescent students with LD, many studies have investigated the effectiveness of SSI (Hepler, 1997; Hess et al., 1993; Larson & Gerber, 1987; Margalit, 1995; McIntosh, Vaughn, & Bennerson, 1995; Mesch et al., 1986; Prater et al., 1998; Prater et al., 1999). However, most of these studies focused on different content, utilized different designs, and attained various results that are difficult to synthesize (Kavale & Forness 1996b; McIntosh et al., 1991; Swanson, 2000). Although some of these studies utilized group designs (Hepler, 1997; Larson & Gerber, 1987; Margalit, 1995), others (Blackburn 1989; Whang, Fawcett, & Matthews, 1984) used single subject designs to treat social skills deficits of students with LD. This variety in applications created as much confusion (Ogilvy, 1994) as richness and creativity to the field of LD studies.

To resolve the inconsistencies in the literature and to provide a global understanding on the effectiveness of SSI, two research syntheses (McIntosh et al., 1991; Olmeda & Trent, 2003) and two meta-analyses (Kavale & Forness, 1996b; Swanson 2000) were conducted with a focus on students with LD in Grades K to 12.

In their examination of 53 studies and 2,113 students from kindergarten through Grade 12, Kavale and Forness (1996b) studied the effectiveness of SSI on students with LD. In the study, 74 percent of the participants were male, and the mean age of the participants was 11.5 years. The average training provided to the student with LD was no more than 30 hours. Self-assessment, teacher and peer assessments, and teacher interviews were employed as assessment tools. The greatest amount of change occurred when self-reports were used as instruments while the use of teacher or peer ratings showed only a slight change (Kavale & Forness; 1996b). This meta-analysis further analyzed the strength of the results by providing effect sizes (ES) before and after the age of 12. The results showed weak ES of .183 and .244, respectively for students under 12 and for those who were 12 and older. In addition, a surprising 22 percent of the control group performed better than the intervention group. The authors found no significant difference based on length of the intervention, treatment validity, or age of the participants. The comparison of the three types of assessment scores, namely, teacher, target student, and peer evaluations showed that the effect size of target students' self-evaluations was higher than those of the other two. Based on the results, although the target students felt that their social status had changed after the intervention, their typically developing peers indicated much less difference in this respect. Thus, teachers and peers did not recognize the behavior change in students with LD. Among the target students, at least 6 out of 10 students indicated an improvement in areas such as self-concept, social problem solving, and social competence. However, a few indicated a change in social interaction and locus of control. Based on these syntheses, few studies reported a long-term change that was recognizable by peers and impacted students'

acceptance by their peers (Kavale & Forness; 1996b). Kavale and Forness (1996b) proposed various reasons for the low ES for social skills interventions with students with LD. First, the definition of socially competent behaviors and suggested methods to teach them are too varied, without any shared definition among the professionals on what clearly constitutes socially competent behavior. Second, the nature of the problem of students with LD goes deeper than the intensity of the proposed programs for remediating social skills deficits. Third, assessment results were not effectively utilized. Fourth, the quality and content of the programs were not strong enough to create the expected change. Fifth, measurement tools were not sensitive enough to capture change, especially long-term change. In addition, the lack of clarity about the origin of social problems, especially whether the problems are academically or socially rooted, added more challenges to the success of the interventions with students with LD. Finally, most of the interventions started at Grade 6, a time when social problems are starting to stabilize for students and a time when making a change for students is more difficult (Kavale & Forness, 1996b). To summarize, the results showed a modest improvement using SSI (Kavale & Forness, 1996b).

McIntosh et al. (1991) conducted a synthesis of 22 studies to investigate the effect of SSI. The synthesis included 572 students in Grades 1 through 12, who ranged in age from 5 through 19. Students were in either full-time special education programs or a combination of resource and a mainstream setting. Out of the 22 studies, 14 showed intervention effects. Among the studies, the intervention programs conducted in a part-time mainstreaming environment had a larger effect than the ones conducted in more segregated settings. Specifically, all seven studies conducted in regular education settings

indicated a significant intervention effect. Yet, the severity of the disabling condition of students in full-time special education or a lack of typically developing peers as role models may account for the differences as well as the different effects of intervention in other settings. Another finding was the presence of a statistically significant effect based on the length of the intervention. The studies that demonstrated the intervention effect were three times as long as the studies that did not report significant results. Related to subject selection, the studies whose participants were selected mainly based on their social skills problems showed stronger effects. Another important observation was that the level of the impact also appeared to be influenced by the group size. For example, among the 10 studies with less than 10 participants, 8 reported an intervention effect. Similarly, all four of the studies conducted with a single subject design reported a significant treatment effect. These single subject studies also used interventions matching the needs of the group to support them to gain peer acceptance. In general, most of the SST studies showing effective results used cognitive behavior modification components such as coaching, modeling, role-playing, feedback, or mnemonics for structuring and practicing social skills. The study also investigated the effectiveness of SSI with students with LD based on age and found that the interventions were effective with high school students. Six out of seven studies conducted in high schools reported positive impact of the interventions. The results for middle school were somewhat controversial, with three out of seven studies reporting positive results for the interventions.

Among the 22 studies, only 7 reported measuring a follow-up effect, and 5 reported a significant long-term effect of the intervention. The 14 studies investigated the generalization of the learned skills into another setting, and 10 out of 14 reported a

significant positive effect of the intervention in a new controlled setting. Only six studies reported an increase in the use of target behaviors in the natural environment of the students. Among the 22 studies, only 5 investigated the impact of the intervention on peer acceptance, and only 2 found a significant change in this area. Similarly most interventions failed to show a significant change in self, peer, and parent observation checklists. However, creating only a short-term change, without creating a change applicable to students' natural environments cannot be sufficient for considering SSI as effective. Therefore, the study highlighted a need for future studies to identify the specific components that lead to successful social skills intervention for students with disabilities. The study also recommended that the effect of other variables should also be considered, such as academic achievement, athletic abilities, and attractiveness of the participants (McIntosh et al., 1991).

Swanson and his colleagues (Swanson, 2000; Swanson & Carson, 1996; Swanson & Hoskyn, 1998) conducted a meta-analysis to investigate the effectiveness of all the interventions conducted with students with LD covering 913 articles in various categorical domains of research as well as the components leading to effective instruction. The mean age of the participants in these 913 studies was 11.16 (Swanson & Hoskyn, 1998). The study also covered social skills, which was one of the 17 domains of dependent variables. In this section, 13 social skills studies that used a total of 36 participants were synthesized. The results indicated that SST intervention produced only a modest weighted ES of .41 (Swanson, 2000; Swanson & Hoskyn, 1998). The outcome of these 913 conducted with LD indicated that the studies with higher ES were not necessarily the ones with higher research quality (Swanson, 2000). Cross-domain

investigation indicated that the studies with higher ES were more prone to methodological mistakes than the ones with lower ES (Swanson, 2000). When it was compared to the other interventions conducted with students with LD, social skills interventions were among the ones with lowest ES similar to the ones in spelling, math, attitude, intelligence, perceptual processes and language processes (Swanson, 2000; Swanson & Hoskyn, 1998). Thus, social skills seemed to be one of the areas in which students with LD experienced consistent problems and seemed to be a competency in which it was hard to intervene.

Finally, the synthesis of 13 studies conducted by Olmeda and Trent (2003) investigated specifically the cultural sensitivity aspects of SSI with students with LD. Two hundred eighty-six students with LD, aged 6 through 18, were included in the study. The study found out that most of the present studies did not have the components that culturally sensitive SSIs require. Rather, most of the studies conducted with diverse students with LD failed to use the strategies and techniques recommended by culturally sensitive SSI literature such as reporting ethnic and cultural characteristics of the participants, adjusting SSI based on cultural backgrounds of the participants and trainers, using culturally relevant curriculum and pedagogy, and involving trainers with multicultural competencies. Yet, they concluded that SST conducted with diverse students with LD was still effective (Olmeda & Trent, 2003).

In summary, the two meta-analytic studies (Kavale & Forness, 1996b; Swanson, 2000) and three syntheses (Kurt, 2007; McIntosh et al., 1991; Olmeda & Trent, 2003) suggested that SSIs have some positive results supporting the effectiveness of SSI for students with LD. However, these positive results were limited in changing students'

social skills in their natural environments (Kavale & Forness, 1996b; McIntosh et al., 1991), level of peer acceptance (McIntosh et al., 1991), and intensity (Kavale & Forness, 1996b; Swanson, 2000). The studies that reported a significant change based on the intervention had the following common characteristics. First, the selection of the participants was based on their difficulties in social skills (McIntosh et al., 1991). Second, they had a smaller teacher-to-student ratio (McIntosh et al., 1991). Third, they utilized opportunities to interact with typically developing peers (McIntosh et al., 1991). Fourth, they individualized the instruction based on the skills as well as the difficulties of the students (Kavale & Forness, 1996b; McIntosh et al., 1991). Finally, they used skills such as coaching, modeling, role-play, and feedback (McIntosh et al., 1991; Swanson, 2000). To sum up the three studies, one synthesis (McIntosch et al., 1991) concluded that SSI programs are effective for students with LD, but no ES for treatment was provided. The results of two meta-analytic studies (Kavale & Forness, 1996b; Swanson, 2000) suggested that SSI produced only a weak ES ranging from Q=.21 to Q=.41 for students with a mean age of 11 or above. Swanson (2000) also indicated that the general gain in the affective domain, which is highly related to social skills, resulted in a higher ES, which was around Q=.61.

SOCIAL SKILLS TRAINING INTERVENTION CONDUCTED WITH THE ASSET SSI PROGRAM

Schumaker, Hazel, Sherman, and Sheldon (1982a) conducted a SSI study with three groups of adolescents to investigate the comparable effectiveness of a social skills program. ASSET: A social skills program for adolescents. The participants were 60

typically developing students and 119 students with LD in Grades 10, 11, and 12. The study also included 57 court-adjudicated youth aged 13 to 17 years, 8 months. A two hour social skill and problem solving intervention program, ASSET, was provided to participants by classroom teachers once a week for 10 weeks. Contents of the instruction were resisting peer pressure, negotiation, giving and receiving positive or negative feedback, and problem solving. Multiple-baseline across skills was the design of the study. Students were evaluated on eight target social skills such as accepting negative feedback, conversation, following instructions, giving negative feedback, giving positive feedback, negotiation, problem solving, resisting peer pressure, and overall skills based on the skills steps checklist utilized during the role plays. The results suggested that the typically developing students performed significantly better compared to both LD and delinquent students in all of the assessment measures except following instructions. On the other hand, LD youth and delinquent youth did not perform significantly different on any measure except peer pressure measures. Students with LD performed significantly better on the peer pressure assessment. They also investigated which social skills facilitated correct classification across groups by utilizing a stepwise discriminant function analysis. Among the eight target skills resisting peer pressure, giving negative feedback, negotiation, and social problem solving measures facilitated the most accurate classification for each three groups. The study demonstrated a significant gender effect on accepting negative feedback, conversation, and total skills. In all of the three skills females performed better. The study highlighted the similarities between students with LD and delinquency on social skills and strengthened the argument that there is a link between the conditions of LD and delinquency. The study supported the effectiveness of

social skills training for students with LD and highlighted the risk situations for students with LD due to unremediated skills deficiencies. The study suggested more in-depth analysis of the skills deficiency of adolescents with LD, considering the specific difficulties in performing the various components of social skills.

Hazel et al. (1982b) conducted a study with three groups of students. Seven male students with LD attending an alternative high school for students who need a remediation for their dysfunctional behaviors such as chronic truancy and noncompliance with teachers and parents were the first group. The second group of students was the group of the seven females students who were in the same school but separated from the LD group based on the exclusion procedures. The last group involved seven youths (five males and two females), who were on probation due to committing offenses with a wide range of severity from status offenses to assault or burglary. The mean ages of the last group ranged from 14.9 to 16.1 years. They were not screened for LD and were not enrolled in the school and voluntarily participated in this study. The students received SSI in three different groups. The first group consisted of LD and NLD students randomly assigned to these two groups. The third group of students who were on probation also met with probation officers once a week. All three groups received two hour weekly training for 10 weeks. Multiple-baseline across skills was the design of the study. The results of the study showed that all three of the groups mastered the target skills in a way that was possible to generalize into a new role playing setting. Students with LD performed comparably with the others in all five of the six skills. However, they demonstrated consistent difficulties in problem solving skills. Meanwhile, the students with and without LD acquired the other skills in comparable amounts of time. The fact that LD

students were unable to perform problem solving skills as well as the other two groups suggested the presence of cognitive deficits for students with LD and therefore the development of cognitive skill deficiency programs was recommended. The differences between students with and without LD were more observable in terms of quality of their relationships rather than the quantity of them.

Prater et al. (1998) investigated the impact of a SSI that involved cooperative learning and direct instruction of social skills with 13 students selected from 6th and 7th grade special education classes. All students were reported to have deficit interpersonal skills. The participants were mostly students with LD (9/13) and the remaining participants were E/BD and TBI, and visual impairment. A multiple baseline across skills design was utilized. Participants were matched on disability status, gender, ethnicity, and full IQ. They applied a brief intervention that included three 50 minute sessions within three different groups: the ASSET social skills program, a structural natural approach, and cooperative rules. A short version of the ASSET program was utilized using three skills: listening, problem solving, and negotiation. Before each cooperative learning activity, the teacher reviewed the skill steps. Following the activity, the class discussed how the skills were used and if necessary what the students could do better next time. The second group received the structural natural approach that involved the same content without utilizing any direct instruction. In this group, the content was provided to the students indirectly through a social skills center setting, choosing a skill of the week. They also developed gambits that involve brainstorming on the characteristics of people when they demonstrated the target skill. In addition, structuring the skill, modeling and reinforcing the skill, reflecting on the skill were utilized. Prior to cooperative learning activities, the

teacher reminded students about the skills chart, and the class reviewed the components of the skill and how it could be used in a group. In the third group, students generated rules, generated a list of skills needed to work together cooperatively, and defined the behaviors of each skill. The teacher began with three skills, which were listening, problem solving, and negotiation. Students briefly defined each skill and were encouraged to use them while working on their cooperative learning projects. Before the cooperative learning project began, students were reminded to use the chart and skills needed. During the role playing observations, both students in direct instruction and in the structural learning groups had a recognizable gain in listening, while students in the generated rules condition demonstrated a decline from pre to post-test. The teacher directed groups showed the most remarkable gain among the three groups on problem solving. The teacher report of students' social skills suggested that while students in direct teaching and in the structural natural approach groups increased in listening, students in the student generated rules group did not demonstrate any change. With respect to problem solving, students in direct teaching and in the structural learning groups showed improvement both on higher quality and frequency of problem solving behaviors. On the other hand, the students in the student generated rules group demonstrated a decline. For negotiation skills, students in both direct teaching and in the structural natural approach groups showed improvement in both quality and frequency of negotiating behavior while students in the student generated rule group showed improvement only on frequency of their negotiation behavior. Regarding listening skills, student self reports indicated that students in both direct instruction and in the structural natural approach improved on quality but not on frequency of listening skills. The

students in direct teaching showed improvement in quality but not frequency of problem solving. Students in the structural natural approach group showed no change in either frequency or quality. Finally and surprisingly, students in the student generated rules group were reported to change in both frequency and quality of their problem solving. More variability was observed in negotiation such that the direct teaching and structural natural approach groups were reported to use the skill more often, and students in the students generated rules group were reported to use it less. Regarding sociometric measures, students in class A consistently increased their scores while class B demonstrated an unclear pattern. The pattern of class C was the one that showed a decline from pre to post test. In summary the greatest gain occurred in the direct teaching group during individual role plays in all three skill areas. Direct teaching was very influential in terms of socio-metric results as well as teacher observations. The student self reports showed a large variation in the data, which created some concern about the accuracy of the assessment. However, across different measures, negotiation skill was observed as a skill in which it was hard to intervene for all three groups.

Prater et al. (1999) conducted a study with 17 students with LD and E/BD. They provided three different types of trainings: seven students received teacher directed instruction, five received teacher directed instruction and further training to teach their classmates, and the other five students received peer based social skills training. Group one received two 20 to 30 sessions on giving positive feedback, two 20 to 30 minute session on contributing to discussion, and five sessions of instruction on giving negative feedback. The content of the training was developed by combining three different programs. The researchers used ASSET (Hazel et al., 1981b) for giving positive feedback

and accepting negative feedback, Skill streaming the Elementary School Child (McGinnis, Goldstein, Sprafkin, & Gershaw, 1984, cited in Prater et al., 1999) for contributing to discussions. The final intervention component, teaching interactions, was developed by the authors through integrating research on parents training models. Group one received a total of four hours of training while group two received five sessions lasting twenty five minutes on peer modeling of skills. They used score sheets ranging in 0 (indicating nonoccurrence of behavior) to 2 (indicating exact match of defined behavior) to observe and assess students' during role-playing activities. The results suggested that the peer mediated group showed comparable performance with the teacher directed group, even though the former received a shorter intervention. However, they could not retain the skills as well as the teacher directed group during the follow-up assessment. The peer trainers learned and retained the skills more than the direct instruction group in all of the skills, especially the skill called "teaching interactions". In both two groups accepting negative feedback was the hardest skill to master among the ones being taught.

Schumaker and Ellis (1982) conducted a study to investigate the impact of ASSET on three secondary students with LD. The results were contradictory across different skills: giving negative feedback was increased in two students while no change was demonstrated in one student. Two students demonstrated improvement on asking questions. One student showed improvement on accepting negative feedback, another one in following instruction, another in resisting peer pressure, and another in negotiation. Only one student was presented with problem solving skills, and she showed a slight decrease from pre to post test in the role playing setting, but she was able to demonstrate

an improvement in problem solving in the natural setting. In general all subjects showed improvement in performance in the natural environment in at least one skill. The students showed more improvement in novel role playing situations than in the natural environment. The results showed that receiving high scores in one setting did not necessitate a successful transfer of skills from one to the other. The study also suggested that students with LD demonstrated a problem with generalizing social skills into their natural environments and generalization should be systematically taught to them.

To summarize, social skill development is highly a critical development area for students with LD. A research based the ASSET SSI program responds to this highly critical need by focusing on problem solving skills and some other skills of high relevance for the adolescent population. The research literature focusing on the application of ASSET program demonstrated consistent success with various groups of student populations such as adolescents with LD (Hazel et al., 1982b; Schumaker et al., 1982a; Schumaker et al., 1982b; Prater et al., 1998; Prater et al., 1999), with E/BD (Prater et al., 1998), with delinquent adolescents (Schumaker et al., 1982a; Schumaker et al., 1982b), and typically developing adolescents (Schumaker et al., 1982b). They used various combinations of eight skills; peer pressure, negotiation, giving and receiving positive or negative feedback, problem solving, and following instruction. The studies suggested that the various combinations of eight skills were effective for improving social skills of adolescents with LD (Hazel et al., 1982b; Schumaker et al., 1982a; Schumaker et al., 1982b; Prater et al., 1998; Prater et al., 1999), E/BD (Prater et al., 1998), delinquent adolescents (Schumaker et al., 1982a; Schumaker et al., 1982b), and typically developing adolescents (Schumaker et al., 1982a). At the same time one study

highlighted specific difficulties of students with LD in problem solving skills (Schumaker et al., 1982b). Yet, two studies conducted with the ASSET program indicated that students with LD were able to increase their scores on social problem solving skill measures (Prater et al., 1998; Schumaker and Ellis, 1982) and were able to generalize this new skill into their natural setting (Schumaker and Ellis, 1982).

METHOD

Chapter 3

PURPOSE OF THE PROPOSED STUDY

The purpose of this study was to evaluate the effectiveness of social skills intervention (SSI) program on the social problem solving skills development of adolescent students with reading disabilities/disorders who are 11 to 13 years old and attending a school for dyslexia.

PROPOSED RESEARCH STUDY

The study is aimed at testing the effectiveness of the SSI program on students' social problem solving skills. The skills to be taught through the SSI program were giving positive feedback, following instruction, and problem solving, though the latter was the main focus of the study.

Null Hypothesis 1 (a)

Students' problem solving skills, as indicated by their scores on the Social Problem Solving for Adolescents (SPSI-A; Franuenknecht & Black, 1995), will not show any statistically significant change when compared to their pretest scores after completing the SSI program.

Alternative Hypothesis 1 (a)

Students' problem solving skills, as indicated by their scores on the Social Problem Solving for Adolescents ([SPSI-A]; Franuenknecht & Black, 1995), will show a statistically significant increase when compared to their pretest scores after completing the SSI program.

Null Hypothesis 1 (b)

SPSI-A (Franuenknecht & Black, 1995) scores of students in the intervention and the comparison group will not show any statistically significant difference during the post test.

Alternative Hypothesis 1 (b)

SPSI-A (Franuenknecht & Black, 1995) scores of students in the intervention group will outperform the students in the comparison group during the post test.

Hypothesis 2

The program will be evaluated by students, and parents and teachers of students who participated in the program as socially valid based on their scores on A Participant Satisfaction Questionnaire, and Pre- and Post-Training Participant Questionnaire and Referral Satisfaction Questionnaire by Hazel et al., (1995).

PARTICIPANTS

Participants of this study were sixth-grade students enrolled in a small private school for students with dyslexia in Central Texas. In order to attend the school, students were required to meet the criteria for dyslexia in the State of Texas. The definition of dyslexia and related disorders by the Texas Education Code (1995), §38.003 as follows:

> (1) "Dyslexia" means a disorder of constitutional origin manifested by a difficulty in learning to read, write, or spell, despite conventional instruction, adequate intelligence, and sociocultural opportunity.
>
> (2) "Related disorders" includes disorders similar to or related to dyslexia, such as developmental auditory imperception, dysphasia, specific developmental dyslexia, developmental dysgraphia, and developmental spelling disability

It was not possible to get access to student folders because of confidentiality regulations and therefore it was not possible to report identification and diagnosis of the students (e.g., learning disabilities, and/or attention deficit) or any mental health condition (e.g. depression, anxiety). All students speak English as their native language. The school atmosphere was marked by family like warm environment, and highly interested teachers and parents. The school does not have a counseling center that specializes in delivering socio-emotional curriculum.

Sample Selection

All sixth, seventh, eighth-grade students were provided with parent consent and student assent forms. To participate in the study, students needed to provide parent release forms. Only eight sixth graders returned parent consent and student assent forms and participated in the study. The sixth-grade teachers had divided students randomly

into three groups, distributing male and female students evenly across classes and dividing close friends for social purposes before the study. These three groups were selected from the three different sixth-grade classes that were designed to complement student enrichment activities.

In order not to disrupt students' enrichment schedules, the enrichment group with the largest number of students, three girls and two boys, was selected as the intervention group. Since it was difficult to combine the remaining three students into a single group due to scheduling conflicts, they were assigned to the control condition. To balance the numbers, one female student from the intervention group was transferred to the control group by random selection. The final composition of the intervention group was two girls and two boys and the control group three girls and one boy.

INSTRUMENTS

The following instruments were presented to students: Demograhic Questionaire, Social Problem Solving Inventory-Adolescent ([SPSI-A] Franuenknecht & Black, 1995), and the social validity assessments of the Social Skills Program for Adolescents (ASSET; Hazel et al., 1995), namely the Pre- and Post-Training Participant Questionnaire, the Participant Satisfaction Questionnaire, and Referral Satisfaction Questionnaire.

Demographic Questionnaire

In the demographic questionnaire the participants were asked to fill out basic demographic information including birthdays, the name of their school, the diagnosis regarding the need for special education, and parents' occupations. The only usable

information from the survey involved birth date and gender since there were many errors in recording other demographic information (for the demographic questionnaire, see Appendix I).

Problem Solving Skills Assessment

The assessment of problem solving skills was conducted by utilizing the SPSI-A (Franuenknecht & Black, 1995), adolescent version of the Social Problem Solving Inventory [SPSI]; D'Zurilla & Nezu, 1990). The SPSI is a 70 item self-evaluation assessment inventory. Each of the items consist of a five-point Likert scale ranging from 0 (*not at all true of me)* to 4 (*extremely true of me)*. The inventory focuses on assessing two main components: problem orientation skills that are assessed by the Problem Orientation Scale (POS) and problem solving skills assessed by the Problem Solving Skills Scale (PSSS). These two main components were assessed through seven subscales. Three of the subscales compose the POS, the Cognition Subscale (CS), the Emotion Subscale (ES), and the Behavior Subscale (BS), and are intended to assess cognitive, emotional, and behavioral responses that indicate how a person approaches interpersonal problems. The second major component of the SPSI, the PSSS, comprises four subscales: the Problem Definition and Formulation Subscale (PDFS), the Generation of Alternative Solution Subscale (PDFS), the Decision Making Subscale (DMS), and the Solution Implementation and Verification Subscale (SIVS). The items are also intended to evaluate the response style of the subjects, such as indicating positive or negative attitudes and beliefs on social problem solving in cognitive, behavioral, and affective domains. The negative and positive items are distributed evenly, and the order of the

items is arranged randomly. Higher scores in the SPSI always indicate higher levels of problem solving ability. Before the application of the administration of SPSI, the following instruction was given to participants (D'Zurilla & Nezu, 1990):

> Below are a series of statements that describe the way some people might think, feel, and behave when faced with problems in everyday living. We are talking about the important problems that could have a significant effect on your well-being or the well-being of important loved ones, such as a health-related problem, a dispute with a family member, or a problem with your performance at work or in school. Please read each statement and carefully select one of the numbers below which indicates the extent to which the statement is true of you. Consider yourself as you typically think, feel, and behave when you are faced with problems in living these days and place appropriate number () next to the number of the statement (p.158).

Frauenknecht and Black (1995) developed the adolescent version of the SPSI [SPSI-A]; Franuenknecht & Black, 1995) (see Appendix III) and investigated the preliminary psychometric qualities of the inventory with 1062 nonclinical adolescents with a mean age ranging from 14 to 15. They retained most of the original items from the adult version of the SPSI but eliminated some items. To eliminate the items not accurately measuring the intended construct, the researchers investigated the correlation of each item with its corresponding subscale. The researchers kept items that correlated at a level of .40 or above with their corresponding subscales, and they deleted items with a correlation lower than .40. They further modified the adult version by lowering the reading level and adding additional items to measure automatic processes. The final version of the SPSI-A included 70 items, 62 adjusted and 8 new items (Franuenknecht & Black, 1995). They later investigated the psychometric qualities of the instrument including eight different reference groups in Grades 6, 7, 8, 9, 10, and college. The

composition of Grade 6 included students with a mean age of 11.6 (sd=.53) 80% of them were white, and approximately equal gender distribution (Franuenknecht & Black, 2003). They utilized short version of the SPSI-A for this age group.

Internal consistency

Total, scale, subscale, and item reliability coefficients were calculated, and the results demonstrated a high degree of internal consistency. The coefficient alpha for total scale reliability was found to be greater than .93, while the alpha for the three scales, Automatic Process (APS), and Problem Orientation (POS), Problem Solving Skills (PSSS) were all found to be greater than .81. Since the APS had no subscales, the subscale internal consistencies were calculated only for POS and PSSS. The reliability coefficients of the three subscales of the POS, namely, Cognition, Emotion, and Behavior, also demonstrated high internal consistency, ranging from .70 (Cognition) to .90 (Emotion). The reliability coefficients of the PSSS subscales, namely, Problem Identification, Alternative Generation, Consequence Prediction, Implementation/Evaluation/Re-organization were between .78 (Consequence Prediction) and .92 (Problem Identification). The test-retest correlations over a two week period were .67, .77, .78, and .83 for the APS, POS, PSSS, SPSI total scale, respectively ($p < 0.001$). The correlation coefficients for the seven subscales (Cognition, Emotion, Behavior, Problem Identification, Alternative Generating, Consequence Prediction, Implementation and Evaluation/Reorganization**)** ranged from .63 to .74. ($p < 0.001$) (Franuenknecht & Black, 1995). The reliability for middle school students was tested using the short version with 67 students. For this study the Cronbach's Alpha coefficient was reported to be .94

for SPSI-A total scale. Cronbach's Alpha for the problem orientation scale was .73, and the coefficients for the subscales were .76, .54, and .51 for Behavior, Emotion, and Cognitive scales, respectively. The Problem-Solving Skills scale yielded a high score of .95, and its subscale coefficients were .89, .82, .80, .77, .72, and .67 for Reorganization, Consequence Prediction, Alternative Generation, Evaluation, Implementation, and Problem Identification, respectively.

Construct validity

A construct validity study was conducted by looking at the correlation between the SPSI-A and the Problem Solving Inventory ([PSI]; Heppner & Peterson, 1982 cited in Franuenknecht & Black, 1995) after adjusting the PSI reading level to be equivalent to the SPSI-A. The correlation between the SPSI-A total score and the PSI total score was .82 ($p < 0.001$). The correlation between the SPSI-A and subscales of the PSI ranged from .52 (APS) to .73 (PSSS). Construct validity was also investigated by looking at the correlation between grade point average (GPA) and the SPSI-A scales, as well as the SPSI-A subscales. The results suggested a low correlation between GPA and the SPSI-A scales POS and PSSS, .24 and .34, respectively. The correlation coefficient among GPA and the seven SPSI-A subscales (Cognition, Emotion, Behavior, Problem Identification, Alternative Generating, Consequence Prediction, and Implementation/ Evaluation/ Reorganization) yielded even lower levels of association, ranging from .17 (Cognition) to .33 (Implementation/Evaluation/Reorganization) (Franuenknecht & Black, 1995).

Multidimensionality

The average correlation between POS and its respective subscales (Cognition, Emotion, and Behavior) was .86, while the Problem Solving Steps and POS were .23. The average inter-correlation between SPSS and respective subscales of Problem Identification, Alternative Generation, Consequence Prediction, and Implementation/Evaluation/Reorganization was .86, whereas the average inter-correlation between the PSSS and divergent subscale (Cognition, Emotion, and Behavior) was .25 (Franuenknecht & Black, 1995).

Concurrent criterion validity

This was investigated by looking at the correlations between the SPSI-A and the Personal Problems Checklist for Adolescents (PPC-A). A significant negative correlation, -.32, was found between the PPS-A and the SPSI-A, which indicated that when problem solving skills increased, behavior problems decreased for adolescents (Franuenknecht & Black, 1995).

Social Validity Measures

Three instruments were utilized to assess social validity: Pre- and Post-Training Participant Questionnaire (Hazel et al., 1995), Participant Satisfaction Questionnaire (Hazel et al., 1995), and Referral Satisfaction Questionnaire (Hazel et al., 1995).

Pre- and Post-Training Participant Questionnaire (Hazel et al., 1995) consists of a five-point Likert scale items, ranging from *very good* to *very poor* to assess students'

self-evaluation of their skills during pre- and post test. This self-evaluation instrument was provided to students in the intervention group.

Participant Satisfaction Survey consists of a seven-point Likert scale items developed to assess social validity (Hazel et al., 1995). Each of the items consist of a seven-point Likert scale ranging from *completely satisfied* to *completely dissatisfied*. The questions involved the extent to which students enjoy the activities, and find the intervention supportive of improving their relationships with teachers/school officers, parents, and peers [Attachment III (a) and (b)]. In addition, teachers and parents were provided with the Referral Satisfaction Questionnaire, which as a slightly adapted version of the participant satisfaction survey.

PROCEDURES

The study lasted six weeks, including the pre-test, six sessions of intervention, and a post- test session. The pre-test was administered on April 14 to all participating students who brought the parent consent and student assent form. Similarly, the post-test was administered on May 20 again to all participating (See Table 3.1 for Study Time Table). During both the pre- and post-test assessments the test items were read to the students item by item.

Table 3.1 Study Time Table

Week	Date	Activity
Week 0	March 26-April 13	Distributing/collecting consent and assent forms
Week 1	April 14	Group Assignments
		Pretest Application to all participants
Week 2	April 17	Intervention Session 1
	April 22	Intervention Session 2
Week 3	April 27	Intervention Session 3
	April 30	Intervention Session 4
Week 4	May 5	Intervention Session 5
Week 5	May 11	Intervention Session 6
Week 6	May 20	Post test Application to all participants

Design

Pre and post test quasi-experimental design was utilized. The independent variable of the study was six-session Social Problem Solving Intervention and the dependent variable was social problems solving skills assessed by utilizing the SPSI-A (Franuenknecht & Black, 1995)

Intervention

A combination of selected activities from two research-based SSI programs ASSET: A Social Skills Program for Adolescents (Hazel et al., 1995) and Social

Decision Making/Social Problem Solving: A Curriculum for Academic, Social, and Emotional Learning (Grades 4-5) (Elias & Butler, 2005) were utilized in the study. The researcher, who was a doctoral student in the department of special education and who had six years of school counseling experience, administered the intervention and assessment to the students in the classroom setting.

During the first three sessions of the intervention, three selected skills from the ASSET program were provided to students once or twice a week, during their enrichment classes. The three skills were giving positive feedback, following instructions, and problem solving skills. These skills were selected based on the developmental level of the students and students' needs. While the first two modules were fully presented to the students, only the first episode of problem solving module (a student making a decision on her summer job) was presented. Even though the ASSET program suggests sessions to last 1 to 1.5 hours, due to the school schedule, sessions were adjusted to last approximately 40 minutes. The ASSET program also suggested 9 to 10 session application of ASSET program. In this study, six 40 minute sessions were utilized once or twice a week. Thus, although the suggested application of the intervention was 10 hours and above, a total of 6 hours of training was utilized within a month in this study.

Regarding sessions, the first 10 minutes of each session was allocated to review, and the remaining 30 was for following the protocol of the ASSET program, which included watching and discussing ASSET vignettes, role playing, and a wrapping-up session. Sessions four, five and six were conducted based on the activities from the text book, Social Decision Making/Social Problem Solving: A Curriculum for Academic, Social,

and Emotional Learning (Grades 4-5) (Elias & Butler, 2005). Two activities were used: Eight Steps for Social Decision Making and Social Problem Solving (FIG TESPN) (Elias & Butler, 2005) and the Trigger Journal (Elias & Butler, 2005). The fourth session allocated to the presentation of a problem solving strategy FIG TESPN. FIG TESPN refers to F-Find feelings, I-Identify the problem, G-Guide yourself with the goal, T-Think of many possible solutions, E-Envision consequences, S-Select the best solution, Plan and prepare pitfalls, Notice what happened (Now what)? (Elias & Butler, 2005). The session fifth was allocated to exploring feelings using Trigger Journal by Elias & Butler, 2005. The sessions IV and V also involved role playing of the problem solving skills modeled by the facilitator and students. The problems modeled included being ignored by a friendship group, forgetting homework, being exposed to others' teasing (Elias & Butler, 2005). The final session was designated to summarize the concepts discussed previously and to practice skills used during role play. Participant Satisfaction Questionnaire and Pre- and Post-Training Participant Questionnaire were provided to the students at the end of the sixth session (see attachment IV to see session by session, detailed description of activities).

The ASSET: A Social Skills Program for Adolescents

Three sessions of the research-based curriculum, the ASSET: A Social Skills Program for Adolescents (Hazel et al., 1995) was presented to the students using the suggested order and procedure specified by the researcher. The ASSET program was designed by a group of educational researchers to facilitate adolescent students' positive interactions with parents, teachers, and peers (Wolf, 1995). It was the result of a three-

year research effort with juvenile delinquents that provided the educators with a validated selection of target social skills within a research-based and practical teaching format. Furthermore, the program was proven to be successful based on data collected from juvenile delinquents and probation officers (Wolf, 1995). The program is suitable to implement with students aged 13 through 17 (Wolf, 1995) and can be used for both males and females (Hazel et al., 1995). The program is highly recommended for teenagers with rebellious, aggressive, or shy interaction styles. The program is designed as a small group SSI program, and the recommended group size ranges from five to eight. The program is designed to last nine sessions, with each session lasting one to one and a half hours (Hazel et al., 1995).

The program is implemented using a Leaders Guide, videotapes, and Program Materials. The Leaders Guide includes a Training Manual, Quick-Reference Guides, and an Appendix. The Training Manual provides extensive, step by step information on teaching social skills, group facilitation, behavior management, and program evaluation. The Quick Reference Guides are useful as checklists for the instructional sequences. Each target skill is taught through the same instructional sequence, that is, introduction of the target skill, rationale for using that skill, use of videotaped skill modeling sequences, and use of various research-based instructional techniques such as modeling, verbal rehearsal, role playing, prompting, review sessions, and homework. The videotapes comprise four sequences: 1. The first sequence shows a social situation in which an adolescent does not have the appropriate social skill. The teenagers brainstorm on how to respond to such a situation through prompting questions before being presented with any means of instruction. 2. In the second sequence, the narrator provides examples of

guidelines about the characteristics of the social situation, the definition of the target skill, reasons to use it, and the specific contexts in which the use of that skill will be effective. 3. In the third sequence, a similar situation set in a different context is presented to students. Students watch the key character in the video, the character uses the target skill fairly well, but with a few demonstrated problems. Then, examples of role playing performances of a group of students are presented to provide students guidelines on how to participate in role playing activities. 4. In the final sequence, another teenager performs the skill well but again with a few mistakes to facilitate further discussion (Hazel et al., 1995).

The teaching principles used in the programs are success, successive approximations, mastery, and multiple exemplars. Success indicates a specific emphasis on empowering each and every student who has a history of failing in social skills. A casual, comfortable setting and use of rewards to recognize students' attempts are considered powerful ways to success. Successive approximations is guiding students to do better each time through practice rather than performing the target skill perfectly at first. The program requires 100% accuracy for each target skill. The principle of multiple exemplars is to provide students an enriched opportunity to see the application of the target skills in multiple settings. This principal is critical for facilitating the generalization of skills across different settings (Hazel et al., 1995).

The content of the ASSET curriculum includes eight target skills: giving positive feedback, giving negative feedback, resisting peer pressure, problem solving, negotiation, following instruction, and conversation. Giving negative positive feedback consists of such skills as learning how to encourage others to continue their positive actions by

saying thank you or complimenting them so as to motivate others to continue their pro-social actions. Giving negative feedback entails giving corrective feedback to a person with whom one interacts to change the negative interpersonal situation into a more favorable one. Accepting negative feedback involves being responsive to another person's corrective feedback without becoming emotionally charged. The presence of this skill leads to more mature interpersonal behavior, especially when teenagers deal with adults. Resisting peer pressure involves a step by step strategy to refuse their peers' invitations to participate in activities that may be detrimental to their futures. The skill provides students with some steps such as saying no, giving a rationale for not involving oneself in the activity, and suggesting to peers some alternative actions. Problem solving skills involves understanding the problem, generating a variety of possible solutions, evaluating the alternatives in terms of their possible results, and choosing and applying one based on the assessed consequences. Negotiation is a higher order problem solving skill. It involves joint problem solving among two or more people in a way that the outcome leads to partial satisfaction for each involved party. Following instruction is composed of recognizing, applying, and giving instruction. Conversation skill involves initiation and maintaining conversation through being comfortable in social settings, being a good listener, and asking open ended questions (Hazel et al., 1995).

The program was tested previously by many researchers (Hazel et al., 1982; Prater et al., 1998; Prater et al., 1999) either partially or as a whole utilizing similar research designs and student populations. All three studies indicated that the ASSET program was helpful in improving problem solving skills of students with LD and E/BD

and typically developing students (Hazel et al., 1982; Prater et al., 1998; Prater et al., 1999).

The Social Decision Making/Social Problem Solving (Grades 4-5)

Social Decision Making/Social Problem Solving (Elias & Butler, 2005) is a research-based, developmental cognitive behavioral SSI program aimed at teaching various social skills to fourth and fifth-grade elementary school students. The two broad skills taught in this program are social competency skills and decision making/social problem solving skills. The first skill, social competence skills, involves two sub-skills, self-control and social awareness. Self control skills involve effective listening, memory strategies, following directions, identifying personal triggers, self-monitoring (stress management), self-calming, assertive communication, giving constructive criticism, resisting provocations, role-play for behavioral rehearsal, and self-evaluation. Social awareness skills involves working as part of a team, expressing oneself in a group, perspective taking, choosing and caring for friends, giving and receiving praise, asking for and giving help, conversation skills and joining the group. Decision Making and Problem Solving Skills involves feelings awareness (self and others), articulating feelings, problem definition, realistic goal setting, flexible and creative thinking/generating alternatives, consequential thinking, and decision making (Elias & Butler, 2005).

The program utilized both progressive presentation of broad social skills that are needed for all age groups (e.g., social competence, social decision making) and specific topics of high relevance to this age group (e.g., choosing and caring for friends, giving and receiving praise, asking for and giving help, conversational skills, and joining a

group. It utilizes techniques such as modeling, guided self-talk using the mnemonic "FIG TESPN", building in skills from simple to complex, open-ended questioning, reflective summary at the end of each session, review, repetition and reminders, and extensive practice using hypothetical problem situations. The program was tested with 41 typically developing fifth-grade students (28 in the experimental and 13 in the control group) in Arizona (Elias & Butler, 2005). The results demonstrated that even though there was no significant pretest difference between the groups on the pretest, on the post test the intervention group outperformed the control group in social competence, with a large ES of 1.68 (Elias & Butler, 2005).

SUMMARY OF CHAPTER 3

The purpose of this study was to investigate the effectiveness of the social skills intervention (SSI) program on the social problem solving skills development of adolescent students with LD who are 11 to 13 years old and attending a school for dyslexia. Utilizing a quasi experimental study design, the study investigates two research questions:

1. (a) Will students' problem solving skills, as indicated by their scores on the SPSI-A (Franuenknecht & Black, 1995) show a significant increase at post-test when compared to their pre-test scores?

   (b) Will problem solving skills, as indicated by the SPSI-A (Franuenknecht & Black, 1995) scores show statistically significant difference between the students in the intervention and the comparison group during the post-test.

2. Will the program be evaluated positively by participating students, their parents, and teachers based on the Participant Satisfaction Questionnaire and the Pre- and Post-Training Participant Questionnaire and Referral Satisfaction Questionnaire by Hazel et al. (1995).

The study included 8 students with dyslexia. Participants were assigned to the control and the intervention group using convenience sampling. The SPSI-A (Franuenknecht & Black, 1995) (long version) was used as the main instrument of the study. The instrument was reported to be valid and reliable for adolescents

(Franuenknecht & Black, 2003). Due to students' reading difficulties, the researcher read the test items to the students item by item. The intervention was a six-session social problem solving intervention utilizing the ASSET (Hazel et al., (1995) and The Social Decision Making/Social Problem Solving programs (Grades 4-5) (Elias & Butler, 2005). The content of the training included giving positive feedback, following instruction, and problem solving. Since the main focus of this study was to increase students' social problem solving skills, four out of six sessions were allocated for this skill. The researcher, who was a doctoral student in the department of special education and who had six years of school counseling experience, administered the intervention and assessment to the students in the classroom setting. The sessions lasted one class time. While students in the intervention class received SSI from the researcher, the students in the control group continue to attend their daily scheduled enrichment activities with their classroom teachers. The data was analyzed utilizing a parametric Generalized Linear Modeling and nonparametric tests, Wilcoxon signed-rank and Mann Whitney U tests.

RESULTS

Chapter IV

The study utilized pre- and post-test quasi-experimental design. Descriptive information such as means and standard deviations of each group are presented.

HYPOTHESIS 1

The hypotheses *"students' problem solving skills, as indicated by their scores on the Social Problem Solving for Adolescents ([SPSI-A]; Franuenknecht & Black, 1995), will show a significant increase when compared to their pre-test scores after completing the SSI program"* and "*SPSI-A scores of students in the intervention group will outperform the students in the comparison group during the post test"* were tested utilizing a quasi experimental design. The SPSI-A (Franuenknecht & Black, 1995) was administered two times, once before the intervention and once after the intervention. First general linear modeling (GLM) was used to test the effect of time, group (intervention versus control) and the time by group interaction. Due to the small sample size of 8 students and the non-normality of the data, the following non-parametric tests were used: Mann Whitney U test and Wilcoxon singed-rank test. Non-parametric tests are known to require fewer assumptions, although they are not assumption free (Field, 2005). Non-parametric tests evaluate differences based on ranking data rather than comparing them in raw score form (Field, 2005). In these designs, the lowest score would be given the rank of 1, the next lowest would be given the rank of 2 etc., with the higher scores getting larger ranks (Field, 2005). The most commonly used non-parametric tests are the Mann-

Whitney U test, the Wilcoxon signed-rank test, Friedman's test, and the Kruskal-Wallis Test (Field, 2005). In this analysis, only the Mann Whitney U and Wilcoxon Signed rank test were utilized and discussed because they are appropriate for two sample situations.

General Linear Modeling

General linear modeling was used to test if there was any group, time effect, and/or time by group interaction effect. The results suggested there was neither a significant time effect $F(1,5) = 3.144$, $p > .05$, nor a time by group interaction effect $F(1, 5) = .045$, $p > .05$. However there was a significant group effect $F(1, 5) = 26.776$, $p < 0.05$. (See Table 4.1 Time and Group by Time Effect). The results should be interpreted with caution due to the small sample size and non-normality of the data. Due to the lack of validity of GLM results, nonparametric tests, Wilcoxon signed-rank and Mann Whitney U tests were utilized.

Table 4.1 Time and Group by Time Effect

	F	*Df*	*P*
Group	26.776	(1, 5)	.004 *
Time	3.144	(1, 5)	.136
Time by Group	.045	(1,5)	.840

Wilcoxon signed-rank Test

Wilcoxon sign-rank test is known as the non-parametric version of the dependent samples *t*-test (Field, 2005). The Wilcoxon test was utilized comparing the pre- and post-test differences within the intervention and control groups. The results suggested that neither the intervention (Z=1.095, $p > 0.05$) nor the control group (Z= 1.069, $p > 0.05$) demonstrated significant change from pre- to post-test (see Table 4.2 Wilcoxon signed-rank Test Analyzing Within Group Differences).

Table 4.2 Wilcoxon Signed-rank Test Analyzing Within Group Differences

Group	N	*Z*	Positive Ranks	Negative Ranks	*p*
Intervention	4	1.095	3	1	.273
Control Analysis I	4	0.000	2	2	1.00
Control Analysis II	3	1.069	2	1	.285

Mann Whitney U Test

This test is known to be similar to the independent *t*-test and was used to test between group differences (Field, 2005)**.** When the analysis was conducted with 8 students, the results showed no significant differences on the pre-test results (Z=1.155, *p*

> 0.05). However the post-test results showed significant group differences (Z= 2.309, p < 0.05).

Similarly, when the data were analyzed with 7 students, excluding the outlier student from the control group, the study showed similar results, no significant differences on the pre-test (Z=1.768, p > 0.05) but significant differences on the post-test scores (Z=2.121, p < 0.05) (See Table 4.3 Mann Whitney U Analyzing Between Group Differences).

Table 4.3 Mann Whitney U Analyzing Between Group Differences

Analysis I	Pre-test	Post-test
Z	1.155	2.309
N	8	8
P	.343	.029*
Analysis II		
Z	1.768	2.121
N	7	7
P	.077	.034 *

Descriptive Statistics

The descriptive statistics were provided for the intervention group and the control group. Due to the observation that one student was completing the items without reading them, the descriptive values were computed both including and excluding the student The

results show that intervention group gained from pre- to post-test assessment, even though the gain was not statistically significant. When the outlier student was excluded, a similar change to the intervention was observed in the control group, as well (See Table 4.4 Descriptive Values of the Intervention and Control Groups)

Table 4.4 Descriptive Values of the Intervention and Control Groups

Group	N	Mean	SD	Min	Max
Intervention					
Pre-test	4	2.2545	.31884	1.82	2.52
Post-test	4	2.5337	.20736	2.25	2.71
Control					
Pre-test	4	1.6887	.62128	1.07	2.48
Post-test	4	1.6879	.33082	1.27	2.05
Control					
Pre-test	3	1.4237	.62128	1.07	1.86
Post-test	3	1.6432	.39013	1.27	2.05

SPSI-A Subscale Analysis

In addition to the SPSI-A Total scale, subscale analysis was conducted. The main scales of the SPSI-A, Automatic Process scale (AP), Problem Orientation Scale (POS), and Problem Solving Skills Scale (PSSS) were computed for each student in the

intervention and the control conditions. In addition, POS subscale scores [e.g., Cognition (COG), Emotion (EMO), and Behavior (BEH)] and PSSS subscale scores [i.e., Problem Identification (PID), Alternative Generation (ALT), Consequence Prediction (CON), Implementation (IMP), and Evaluation (EVL), and Reorganization (REO)] scores were computed for each student in the intervention and control condition. Because the Automatic Process scale does not have any subscales, subscale scores were not calculated on this scale. *Student 4 in the intervention group was the outlier student. Due to the lack of validity of this student's scores, his/her scores were presented in respective subscale tables but excluded from discussion of the results (see Tables 4.5, 4.6, and 4.7).

For APS, scores of two students in the intervention group increased (Student 1 and Student 2), while one student's scores decreased (Student 3), and the last student's scores (Student 4) remained almost stable with a minor increase. The observed increase in the first two students was relatively high, from 1.12 to 2.5 for Student 1 and from 2.12 to 2.87 for Student 2 which could suggest clinical significance, while the decrease was small, from 2.87 to 2.5 for Student 3. The scores of Student 4 remained almost the same with a minor increase from 2.62 to 2.75. Regarding APS scores in the control condition, two students (Student 1 and Student 2) increased their scores from pre- to post-test, and Student 3's scores remained stable. Similar to the previous observation, the level of increase in two students were relatively high, from 1.75 to 2.25 (Student 1) and .75 to 1.87 (Student 2).

Regarding POS scale, three students in the intervention increased their scores, from 3.25 to 3.5, from 2.73 to 3.00, from and 3.25 to 3.50. At the same time, no students in the control conditions demonstrated increased scores. In fact two students' scores (Student 1 and Student 2) decreased, .27 (Student 2) to .56 points (Student 1). The POS

scores of Student 3 in the control group remained the same with a very minor decrease of 0.06 points.

Finally, regarding PSSS, two students in the intervention group, Student 1 and Student 2, demonstrated improvement and the observed improvements were from .82 to 1.82 and from 1.43 to 2.36, respectively. One student (Student 3) showed a decrease from 1.549 to 1.28 and the final student's score remained unchanged with a 0.06 point decrease from pre-to post-test. A similar pattern was observed in the control conditions: two students, Student 1 and Student 2, increased their scores from 1.26 to 1.79 and from .423 to 1.20, respectively. The scores of Student 3 showed a minor drop from .242 to .217 (see Table 4.5 SPSI-A Subscales APS, POS, PSSS and SPSI-A Total Scores).

Table 4.5 SPSI-A Subscales, APS, POS, PSSS and SPSI-A Total Scores

	SPSI-A Scales							
	APS		POS		PSSS		SPSI-A Total	
Group								
	Pre-	Post-	Pre-	Post-	Pre-	Post-	Pre-	Post-
Intervention	test	test	test	test	test	test	test	test
Student 1	1.12	2.50	3.25	3.50	.82	1.82	1.82	2.52
Student 2	2.12	2.87	3.11	2.91	1.43	2.36	2.22	2.71
Student 3	2.87	2.5	2.946	2.96	1.549	1.28	2.46	2.25
Student 4	2.62	2.75	2.73	3.00	2.206	2.2	2.52	2.65
Control								
Student 1	1.75	2.25	2.57	2.101	1.26	1.79	1.86	2.05
Student 2	.75	1.87	2.04	1.77	.423	1.20	1.07	1.61
Student 3	1.62	1.5	2.15	2.09	.242	.217	1.34	1.27
Student 4	2.75	1.62	3.15	3.22	1.54	.62	2.48	1.82

Close analysis of the POS subscale Cognition indicated that two students in the intervention group (Student 1 and Student 4) improved their scores from 2.87 to 3.12 and from 2.25 to 2.75. One student's score remained almost the same from pre-test=2.25 and post-test=2.12 In the control condition, two students' scores, Student 1 and Student 3, showed a decline of .87 points (from 2.62 to 1.75) and 18 points (from 1.43 to 1.25), respectively. The Student 2 showed a minor increase of .12 points, from 1.5 to 1.62 from pre-to post-test. For the Emotion subscale, all students in the intervention group except

one (Student 1) increased their scores. All post-test scores of the intervention group exceeded 3.00, ranging in very high scores of 3.11 to 3.33. In the control group only one student, Student 1, showed a pre- to post-test increase from 2.22 to 2.56; while one student's score stayed stable. The results of the Behavior subscale of POS scale showed that all of the students in the intervention group experienced a decline in the Behavior scale from pre- to post-test. The declines in the scores from pre- to post-test were from 3.86 to 3.29, from 3.571 to 3, and from 3.71 to 3.43. Student 4's score remained almost the same. Perhaps initial higher ratings may have had some impact on this decrease because the reported scores were quite high in Behavior. In the control condition, two out of three students showed a similar pre-to post-test decline. Control group Student 1 and Student 2 demonstrated a decline from 2.86 to 2 and 2.86 to 2.57, respectively. The scores of Student 3 remained the same from pre- to post-test (See Table 4.6 POS Subscales Cognition, Emotion, and Behavior Results).

Table 4.6 POS Subscales Cognition, Emotion, and Behavior Results

	POS Subscale Scores					
Group	Cognition		Emotion		Behavior	
Intervention	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Student 1	2.87	3.12	3.78	3.33	3.86	3.29
Student 2	2.87	2.62	2.89	3.11	3.57	3.00
Student 3	2.25	2.12	2.87	3.33	3.71	3.43
Student 4	2.25	2.75	2.67	3.11	3.29	3.14
Control						
Student 1	2.62	1.75	2.22	2.56	2.86	2.00
Student 2	1.50	1.62	1.78	1.11	2.86	2.57
Student 3	1.43	1.25	2.44	2.44	2.57	2.57
Student 4	2.25	2.00	3.33	3.67	3.86	4.00
Excluded. (outlier student)						

POS=Problem Orientation Scale

Close analysis of PSSS subscales indicated that two out of four students in the intervention group increased their scores on Problem Identification at the post-test. The increase was observed in Student 1 and Student 2 from .5 to 2 and 1.29 to 2.71, respectively. However, the other students, Student 3 and Student 4, reported that their scores got lower from pre- to post-test, from 1.43 to 1 and 2.75 to 2, respectively. In the control group, only one student, Student 2 demonstrated an increase from .57 to 1.29. On the other hand, the Problem Identification post-test scores of 2 students, Student 1 (1.57) and Student 3 (.29) remained the same with their pre-test scores. On Alternative Generation subscale, three out of four students in the intervention group (Student 1, Student 2, Student 4) increased their scores compared to improvement of two out of three students in the control group. The remaining one student from each group showed a

stable score from pre- to post-test. On Consequence Prediction, three out of four students in the intervention group increased their scores. The increase was from 1 to 2.6 (Student 1), 1.2 to 2.4 (Student 2), and 2.4 to 2.6 (Student 4). At the same time the Consequence Prediction Score of one student in the intervention group, Student 3, was dropped from 1.4 to 1. In the control group, only one student showed a similar increase, while two out of three students' scores remained stable from pre-to post-test. In the Implementation scale, neither the intervention nor the control groups' scores demonstrated any change. Scores were stable and lower compared to that of the previous scale scores. For Evaluation, two students in the intervention group, Student 1 and Student 2, reported a noticeable increase, while Student 3 experienced a decline from pre-to post-test; the score of Student 4 remained the same. A similar pattern was observed in the control group, Student 1 and Student 2 increased their score while the remaining student's post-test Evaluation score remained the same as his/her pre-test score. It is also noticeable that Evaluation is the only category where the highest two scores in the control group exceeded those of the intervention group. For reorganization, only one student's (Student 2) score in the intervention group increased from pre to post-test, from 1.33 to 2.33. At the same time all three students in the control conditions demonstrated a pre- to post-test increase, Student 1, 2, and 3's scores showed improvement. Reorganization scale scores improved from 1.33 to 2.33, .16 to 1.5, and .2 to .4 for Student 1, Student 2 and Student 3, respectively. Yet the average scores were higher in the intervention group at both pre- and post-test (see table 4.7 PSSS Subscale Results).

Table 4.7 PSSS Subscale Results

	PSSS Subscales											
Group Assignment	PID		ALT		CON		IMP		EVL		REO	
Intervention	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Student 1	.50	2.00	2.00	2.33	1.00	2.60	0.00	0.00	.60	2.00	0.50	N/A
Student 2	1.29	2.71	1.50	2.83	1.20	2.40	1.67	1.67	1.60	2.20	1.33	2.33
Student 3	1.43	1.00	1.00	1.00	1.40	1.00	1.67	1.67	1.80	1.00	2.00	2.00
Student 4	2.75	2.00	1.83	2.33	2.40	2.60	1.67	1.67	2.60	2.60	2.17	2.00
Control												
Student 1	1.57	1.57	1.33	1.67	1.62	2.80	.67	.67	1.40	2.20	1.00	1.83
Student 2	0.57	1.29	0.00	1.00	0.80	.80	0.00	0.00	1.00	2.60	0.16	1.50
Student 3	0.29	0.29	0.17	0.17	0.40	.40	0.00	0.00	0.20	0.20	0.20	0.40
Student 4 (outlier student)	0.43	0.14	1.67	0.00	1.80	.80	1.33	1.33	2.20	0.60	1.83	0.83

Note: APS= Automatic Process Scale, POS=Problem Orientation Scale, COG=Cognition Scale, EMO=Emotion, BEH=Behavior, PSSS=Problem Solving Scale, PID=Problem Identification, ALT=Alternative Generation, CON=Consequence Prediction, IMP=Implementation, REO=Reorganization

In summary, the overall scores indicated that the score increase in both the intervention and the control group were based on the increase in almost all the scales. However, in the control group not as much increase was detected in the POS subscale Cognition, Emotion, SPSS scales Consequence Prediction. Neither the intervention nor

the control group showed improvement on the Implementation Scores. The highest scores attained in both the intervention and the control group was on the Problem Orientation Scale and especially in Behavior subscale. However, both the intervention (all students) and the control groups (two out of three students) experienced a decline in their scores from pre- to post-test. For the intervention group initial high ratings could be one reason for this decline. The Behavior Scores of the intervention group was ranging in from 3.29 to 3.89 during the pre-test while the students in the control condition rated themselves ranging from 2.57 to 2.86. Contrary to the reported decline, the intervention students' scores were high in the post-test as well, ranging 3 to 3.43 while the ratings of the control students were ranging 2 to 2.57.

When students in the intervention group were evaluated individually, the results showed that Student 1 consistently improved her/his scores overall and in almost all subtests of the SPSI-A. Specifically, Student 1's scores increased in APS (1.38 points), in POS (.25 points), PSSS (1.00 points), and SPSI-A Total scores (.70 points). Similarly, scores of the Student 1 increased in Cognition scale (.25 points), however they decreased in both the Emotion (.45 points) and the Behavior Scale (.57 points). When close analysis of PSSS scale was conducted, it was observable that the scores of Student 1 increased on four out of six PSSS subscales, namely on PID (1.5points), ALT (.33 points), CON (1.6 points), EVL (1.4 points). Student 1's score did not show any improvement on IMP and his/her scores was incalculable on the REO subscale.

Student 2 was another student who showed consistent increase in his/her scores across SPSI-A scales and subscales. Student 2's scores improved on APS (.45), PSSS (.87 points) and Total scores (.50 points). However, his/her POS scores showed a slight

decrease of .20 points. The origin of this decrease in POS was based on decrease in his/her scores in Cognition (.25 points) and Behavior (.57). On the contrary, Student 2's scores in Emotion increased .22 points from pre- post-test. The main area of improvement for Student 2 was observed on his/her PSSS scores. He/she had a dramatic increase in almost all subscales of PSSS except Problem Implementation.

In the intervention group, Student 3 was the only student whose scores decreased from pre- to post-test. Decline in the student's scores was observable across various scales and subscales of SPSI-A. Specifically, her/his scores declined on APS (.32 points), PSSS (.27), and Total SPSI-A scores (.21). At the same time, her/his score on POS remained stable from pre- to post-test. Closer examination of the POS scale showed that his/her score remained the same pre- to post-test on Cognition, though lower than his/ her peers in the intervention group. Student 3's scores showed a .46 points increase on Emotion from pre- to post-test. However, as the other 3 students in the intervention group, his/her Behavior score dropped (.28 point) from pre- to post-test. A close examination of PSSS scores of Student 3 indicated that the student's scores declined in PID (.43 points), CON (.40 points), and EVL (.80 points). The student's average scores were much lower than other students in the intervention group in these three PSSS subscales. Her/his scores remained as the same from pre to post-test on ALT, IMP, and REO and were similar to that of others in the intervention group.

Finally, Student 4 demonstrated a slight increase from pre- to post-test on APS (.13 points), POS (.27 points), and Total SPSI-A (.13 points) scores. His/her PSSS scores remained the same from pre- to post-test. When his/her scores on POS were further analyzed, it was observed that his/her scores on cognition (.50 points), Emotion (.44

points) increased from pre- to post-test. However, his/her scores on the Behavior scale showed a minor decrease of .15 from pre- to post-test. Close analysis of PSSS scores indicated that his/her scores remained the same from pre- to post-test on IMP and EVL, showed some decline on PID (.75 points) and REO (.17 points), and increased in two subscales ALT (1.00 points) and CON (.20 points) (see Tables 4.5, 4.6, and 4.7).

HYPOTHESIS 2

The hypothesis that "*the program will be evaluated by students, parents, and teachers who participated in the program as socially valid"* was tested only for students receiving the intervention utilizing two surveys: Pre- and Post Training Participant Assessment Survey and Participant Satisfaction Survey.

Pre-Post Test Participant Assessment Survey

The student self-evaluated progress was tested during pre- and post-test utilizing a five-point Likert scale survey developed by Hazel et al. 1995. Only students in the intervention group were provided with this assessment. The survey consisted of a five-point Likert scale with items ranging from *very good* to *very poor*. The results of the survey showed that following instructions improved for three students. Two students reported to improve from *fair* to *good* and one student reported to improve from *good* to *very good* in following instruction. One student reported improvement from *good* to *very good* in giving positive feedback, and one student reported improvement from *fair* to *good* in problem solving. However, for two students giving positive feedback was rated lower from pre- to post-test. Specifically, one student reported a decline from *good* to *fair*

and another student reported a decline from *very good* to *good*. Three out of four participations reported that they experienced improvement in at least one area of instruction (See Table 4.8 ASSET Pre- and Post test Training Participant Questionnaire).

Table 4.8 ASSET Pre- and Post test Training Participant Questionnaire

Student	Positive Feedback	Following Instruction	Problem Solving	Positive Feedback	Following Instruction	Problem Solving
Student 1	Very good	Good	Good	----------	Good	Good
Student 2	Good	Fair	Good	Fair	Good	Good
Student 3	Very good	Fair	Fair	Good	Good	Good
Student 4	Good	Good	Very Good	Very good	Very Good	Very Good

Participant Satisfaction Survey

Participant reactions to the program were tested utilizing a seven-point Likert scale assessment developed by Hazel et al. (1995). Student responses indicated that they did not find the program promising. Specifically two out of four students reported dissatisfaction with the effects of group training while the remaining two reported neither satisfaction nor dissatisfaction with the program. At the same time, two out of four students indicated that the program helped them to get along better with school officials, and teachers. One of these two students also indicated that the program helped him/her to improve his/her relationship with peers. No students reported improvement in their relationships with parents. Two out of four students found the skills they learned as

satisfactory for improving social skills, while the other two reported dissatisfaction in this area.

Most of the students reported that they found the group leader (3/4) and other group members (2/4) as pleasant to be around. In response to another question about the group leader, two students reported satisfaction in group leader's interest in their progress, one student indicated a slight dissatisfaction, and the other indicated neither satisfaction nor dissatisfaction. Student responses on whether they felt satisfied with the program compared to other existing programs showed a lot of variation, while two students responded as being neutral, one student showed satisfaction while the remaining one showed strong dissatisfaction. Similarly, the responses to whether the program helped them in solving their problems was mostly neutral (2/4), while the remaining two students demonstrated conflicting responses, that are satisfied and slightly dissatisfied.

When we look at each student's overall satisfaction, Student 1 seemed to be generally satisfied with the program, reported that she gained new skills, and evaluated the program favorably against the existing alternatives. The rating of Student 2 was difficult to interpret. This student indicated that the selected skills were important for improving social skills but reported a strong dissatisfaction when she evaluated the impact of the program and compared it with other programs. However, she reported a high level of satisfaction in terms of the effectiveness of the program in teaching how to give positive feedback. She found the leader and other group members highly pleasant to be around. However, she did not report any improvement in her relationships with parents, teachers, and peers. Student 3 reported not finding these three skills as important but presented a favorable impression of the group leader and other group members, and

reported that the program helped him improve his relationship with school officials. Student 4 rated the program highly unfavorably, reported he did not like it and wished to be in math class with his classmates instead of attending these group activities (See Table 4.9 Participant Satisfaction Questionnaire).

Table 4.9 Participant Satisfaction Questionnaire

Are you satisfied with:	Student 1	Student 2	Student 3	Student 4
The importance of learning three skills?	Completely satisfied	Completely satisfied	Slightly dissatisfied	Dissatisfied
the effect of group skills training program?	Neutral	Completely Dissatisfied	Neutral	Dissatisfied
the opportunities to express your ideas and ask questions during the group meetings?	Completely satisfied	Neutral	Neutral	Dissatisfied
the amount of concern the group leader has shown for you and your success in the program?	Satisfied	Neutral	Satisfied	Slightly dissatisfied
the effectiveness of the program in teaching you how to give positive feedback?	Completely satisfied	Completely satisfied	Neutral	Dissatisfied
the effectiveness of the program in teaching you problem solving skills?	Satisfied	Neutral	Neutral	----------

Note: The original response *neither satisfied nor dissatisfied* was replaced by *neutral*.

Table 4.9 Participant Satisfaction Questionnaire (continued)

Are you satisfied with:	Student 1	Student 2	Student 3	Student 4
the effectiveness of the program in teaching you how to follow instructions?	Completely satisfied	Neutral	-----	------
Are you satisfied that:				
the program has helped you get along better with your parents?	Neutral	Neutral	Neutral	Dissatisfied
the program has helped you get along better with your teachers and school officials?	Satisfied	Neutral	Satisfied	Dissatisfied
that the program has helped you get along better with your peers	Satisfied	Neutral	Neutral	Dissatisfied
the effectiveness of the program in teaching you how to follow instructions?	Completely satisfied	-----	Neutral	-------

Note: The original response *neither satisfied nor dissatisfied* was replaced by *neutral*.

Table 4.9 Participant Satisfaction Questionnaire (continued)

	Student 1	Student 2	Student 3	Student 4
Are you generally satisfied that this program is better than other programs that you have heard about?	Satisfied	Completely dissatisfied	Neutral	Neutral
Think about the reasons why you were in this program. Are you satisfied that the program has helped you solve these problems?	Satisfied	Neutral	Neutral	Slightly dissatisfied
Are you satisfied with the pleasantness of the group leader?	Satisfied	Completely satisfied	Satisfied	Neutral
Are you satisfied that the other participants in the program were pleasant to be around?	Satisfied	Completely satisfied	Satisfied	Neutral
Are you satisfied that the group was a good way to learn the skills that were taught during the program?	Satisfied	Neutral	Neutral	Neutral
Are you satisfied that the group was a good way to learn the skills that were taught during the program?	Satisfied	Neutral	Neutral	Neutral

Note: The original response *neither satisfied nor dissatisfied* was replaced by *neutral*.

Table 4.9 Participant Satisfaction Questionnaire (continued)

Open Ended Questions	Student 1	Student 2	Student 3	Student 4
Please tell us what you think of the program	-----	----------	-------	I do not like it
What did you like about the program?	-----	----------	--------	We can draw.
What did you dislike about the program?	-----	----------	-------	It is taking my enrichment for three weeks.
Are there any changes or improvements that you think we should make?	-----	----------	--------	Being Math.

Parent and Teacher Satisfaction Survey

Parents and teachers were given a survey adapted from ASSET program survey. The response rate for both parent and teacher surveys were low (50%), and this limited the interpretation of their responses. Regarding the responses of the two parents who completed the survey, both reported that they were satisfied with the program. However, one parent reported an improvement on her child's social skills, the other parent did not report any improvement.

The survey was given to four teachers in this school, and two teachers returned the survey. The teacher responses indicated that teachers did not find the program very influential and did not report any student improvement based on the program (See Table 4.10 Teacher and Parent Satisfaction Survey Results).

Table 4.10 Teacher and Parent Satisfaction Survey Results

	Teacher 1	Teacher 2	Parent 1	Parent 2
Do you believe your child showed any improvement in how he/she solves interpersonal problems as a result of this program? Please explain.	None	None	Yes	None
Do you believe your child showed any improvement in following instructions as a result of this program? Please explain.	None	None	Not sure	No
Do you believe your child showed any improvement in giving positive feedback? Please explain.	None	None	Not sure	No
Are you satisfied with the program in teaching social skills to teenagers?	Neutral	Neutral	Satisfied	Satisfied

Note: The original response *neither satisfied nor dissatisfied* was replaced by *neutral*.

Regarding SPSI-A scores, Student 1 consistently improved her/his scores overall and in almost all subtests of the SPSI-A. The student's scores increased in APS (1.38 points), POS (.25 points), PSSS (1.00 points), and SPSI-A Total scores (.70 points). The student reported that his/her skills in following instruction and giving positive feedback were improved from *good* to *very good* during post-test. The student reported high levels of satisfaction from the program. Similarly, the student's parent reported that her child improved his/her problem solving skills after the program. Student 1 attended all except one class, and contributed to the classroom discussions and applied the new skills during the role playing sessions. The student was absent in one session.

Student 2 also demonstrated consistent increase in his/her scores across SPSI-A scales and subscales. Mainly, the student's scores improved on APS (.45 points), PSSS (.87 points), and Total scores (.50 points). However, his/her POS scores showed a slight decrease of .20 points, which was based on decrease in his/her scores in Cognition (.25 points) and Behavior (.57 points) scales. On the contrary, Student 2's scores in Emotion increased from (.22 points). The main areas of improvement for Student 2 were observed on his/her PSSS scores. The student had a dramatic increase in almost all subscales of PSSS except Problem Implementation scale. His self-evaluation on the Pre- and Post-Training Participant Evaluation indicated that this student improved his/her scores on following instructions, from *fair* to *good*. Regarding the student's response to the Participant Satisfaction Survey, most of his/her responses indicated neither satisfaction nor dissatisfaction. However, the student indicated satisfaction to the extent to which the program has helped him/her in improving his/her relationship with school officials and teachers. Similarly, the student indicated to have a positive impression of the group

leader and other group members. However, he did not find the three skills as highly important. As observation, the student was highly active at first few sessions, successfully applied the target skills into hypothetical problem situations. Student 2 was the only one who missed two sessions in the middle. Perhaps he/she could have gained more if he/she attended all the sessions like other students.

Student 3 was the only student whose scores decreased from pre- to post-test in the intervention group. Decline in his/her scores was observable across various scales and subscales of the SPSI-A. Specifically, her/his scores declined on APS (.32 points), PSSS (.27), and Total SPSI-A scores (.21). At the same time, her/his scores on POS remained stable from pre- to post-test. Closer examination of the POS scale showed that his/her score remained the same on Cognition, though his/her score was lower than his/ her peers in the intervention group. Student 3's scores on showed .46 points increase on Emotion from pre- to post-test. However, as the other 3 students in the intervention group, his/her Behavior score dropped (.28 point) from pre- to post-test. A close examination of PSSS scores of Student 3 indicated that the student's scores declined in PID (.43 points), CON (.40 points), and EVL (.80 points). His/her average scores were much lower than other students in the intervention group in these three PSSS subscales. Her/his scores remained the same from pre- to post-test on ALT, IMP, and REO and were similar to that of others in the intervention group. The student reported no change in his/her Pre- and Post-Training Participant Evaluation Survey. Regarding Participant Satisfaction Survey, the student reported that he/she found the selected skills important, however he/she did not find the program beneficial to address those concerns. At the same time, the student indicated satisfaction with how giving positive feedback was taught and evaluated the

group leader and other group members strongly favorably. The student was highly active in the classroom activities and was the only one sharing more personal experiences relating his/her peer related problems compared to the other students. She was highly active during the first four lessons. Perhaps, her expectation from the program was higher than others; therefore the program might have not met her expectations. Yet, the small pre- to post-test decrease in her scores merit further attention to learn more about her experience.

Finally, Student 4 demonstrated a slight increase from pre- to post-test on APS (.13 points), POS (.27 points), and Total SPSI-A (.13 points) scores. When his/her scores on POS were further analyzed, it was observed that his/her scores on cognition (.50 points), Emotion (.44 points) increased from pre- to post-test. However, his/her scores on the Behavior scale showed a minor decrease of .15 from pre- to post-test. His/her PSSS scores remained exactly the same from pre- to post-test. Close analysis of PSSS scores indicated that his/her scores remained the same from pre- to post-test on IMP and EVL, showed some decline on PID (.75 points) and REO (.17 points), and increased in two subscales ALT (1.00 points) and CON (.20 points). His/her response to Pre- Post-Training Participant Evaluation indicated that he/she demonstrated improvement on two skills: problem-solving (from *fair* to *good*) and following instruction (from *fair* to *good*). However, his/her skill of giving positive feedback decreased from pre- to post-test from *very good* to *good*. Even though his/her responses indicated the existence of slight improvement for this student, the student reported a consistently high level of dissatisfaction in his/her response to Participant Satisfaction Questionnaire. In a response to this survey, the student reported not liking the training, and wished to be in class.

Similarly, this student also mentioned to the classroom teacher that he regretted missing interesting activities occurring in his enrichment class (science projects, science experiments or activities in mathematics) (See Table 4.11 Integrated Data for Each Intervention Group and Control Group Student).

Table 4.11 Integrated Data for Each Intervention Group and Control Group Student

Student	Pre-Test SPSI-A	Post-Test SPSI-A	Pre PPTPQ GPF, PS, FI	Post PPPTQ GPF, PS ,FI	PSQ	RSQ
Student 1	1.82	2.51	G, V, G	V, V, V	Satisfied	Satisfied
Student 2	2.22	2.71	G, G, F	F, G, G	Mixed, Satisfied	N/A
Student 3	2.46	2.25	V, G, G	N/A, G, G.	Mixed, Dissatisfied	N/A
Student 4	2.52	2.65	V, F, F	G, G, G	Dissatisfied	N/A

Note: SPSI-A=Social Problem Solving Inventory–Adolescents, PPTPQ=Pre- Post Training Participant Questionnaire, PSQ=Participant Satisfaction Questionnaire, RSQ=Referral Satisfaction Questionnaire, GPF=Giving Positive Feedback, PS=Problem Solving, FI=Following Instruction, V=Very Good, G=Good, F=Fair, N/A=No Answer

DISCUSSION

Chapter V

The present study investigated the impact of an SSI program focusing mainly on social problem solving skills. Utilizing a quasi-experimental study design, the study investigated two research questions:

1. (a) Will students' problem solving skills, as indicated by their scores on the SPSI-A (Franuenknecht & Black, 1995) show a significant increase at post-test when compared to their pre-test scores?

   (b) Will problem solving skills, as indicated by the SPSI-A scores show statistically significant difference between the students in the intervention and the comparison group during the post-test.

2. Will the program be evaluated positively by participating students, their parents, and teachers based on the Participant Satisfaction Questionnaire and the Pre- and Post-Training Participant Questionnaire and Referral Satisfaction Questionnaire by Hazel et al. (1995).

SPSI-A findings. The first question was answered by utilizing non-parametric test statistics (Wilcoxon signed-rank Test and Mann Whitney U). The Wilcoxon signed-rank Test was utilized to assess differences in pre-test and post-test scores for each group separately. The results of the Wilcoxon signed-rank test suggested neither the control (Z= 1.069, p> 0.05) nor the intervention group (Z=1.095, p > 0.05) demonstrated a significant

improvement from pre-test to post test (see Table 4.2 Wilcoxon Sign-rank Test Analyzing Within Group Differences). The Mann Whitney U test was used to assess whether the control and intervention groups came from similar populations. The Mann Whitney U test suggested the existence of the between group differences. The results suggested that even though no statistically significant differences were observed during the pre-test between the control and intervention groups' scores on the SPSI-A (Z=1.768, $p > 0.05$), during the post-test the intervention group significantly outperformed the control group (Z=2.121, $p < 0.05$) (See Table 4.3 Mann Whitney U Analyzing Between Group Differences).

The present study investigated the impact of an SSI program focusing mainly on problem solving skills. The existing literature (Agaliotis & Goudiras 2004; Bauminger et al., 2005; Carlson, 1987) suggests that students with LD demonstrate extensive difficulties in social skills, mainly in social problem solving skills, therefore, they may benefit from SSI with social problem solving skills. The previous SSI intervention literature suggested that the effect of SSI with students with LD is significant, but the expected improvement in students with LD would be small to moderate, such as an ES of .21 to .40 (Kavale & Forness, 1996b; Swanson, 2000). The impact of such a program was even smaller when higher order social skills were assessed and a norm-referenced assessment was utilized (Kavale & Forness, 1996b; Swanson, 2000).

In the present study, a norm-referenced SPSI-A (Franuenknecht & Black, 1995) was utilized. Rather than measuring specific context-specific responses, the main instrument of the study, the SPSI-A, measured students' ongoing, typical, genealizable responses. Given the nature of the test, previous literature, and the short-term nature of

the study, it was not surprising to find weak results for the study. Unfortunately, no previous study tested the effectiveness of SSI with students with LD utilizing SPSI-A or any other norm-referenced assessment devices measuring students' ongoing, typical, genealizable responses. The previous studies measured social problem solving skills based on students' responses to hypothetical situations (Conte et al., 1995) or items measuring social skills knowledge (Browning & Nave, 1993). The study by Conte et al. (1995) found a significant difference between treatment and control groups on responses in two hypothetical conditions "name calling" and "being laughed at by classmate," Chi-square (5, n = 27) = 49.11, $p < .01$. Even though these assessments were useful, there is a strong body of literature indicating that understanding of what should be done, that is the cognitive component of social skills, does not necessarily lead to socially skillful behavior (Selman & Schultz, 1998). In line with this, a study conducted by Mullet (2001) provided empirical evidence that students with LD demonstrate high variation in their answers to contrived versus real life situations. Additional studies using the SPSI-A or other social problem solving inventories that measure natural and generalizable behavioral styles of students with LD are highly recommended.

In this study an adapted, shorter version of the ASSET program was utilized. The ASSET program suggested utilization of 9 to 10 sessions of the program, each session lasting 1 to 1.5 hour. In this study six 40 minute sessions were utilized. Thus, while the suggested application of intervention was 10 hours and above, a total of 6 hours of training was utilized in this study. Perhaps a longer intervention would have increased the intervention effect.

The previous literature suggested that school-based or classroom-based application of SSI is always more effective than pull-out programs (Colvin, Sugai, Good, & Lee, 1997; Lewis, Sugai, & Colvin, 1998; McIntosh et al. 1991; McIntosh et al. 1995). In this study, the students in the program had to be pulled out of their classrooms to attend this program. The design was limited in providing opportunities to allow large-scale and generalizable impact since other classmates were not exposed to the same concepts. In addition, participating students missed the activities to which other students were exposed. One student mentioned that he preferred being in his own class, with his peers, doing math, rather than social skills.

The literature suggested that when students who had social skills problems were provided with training, the intervention was more effective (McIntosh et al., 1991). Unfortunately, the researcher observed that social skills and particularly social problem solving skills of the participating students were higher than their peers. Participating students' scores on the SPSI-A were also higher than their peers in the control group. Similarly, when participating students rated their social skills, they rated themselves relatively high in most of the skills during the pre-test (See Table 4.5 ASSET Pre- and Post test Training Participant Questionnaire). Perhaps random assignment to the testing condition or selecting students who scored lower on social problem solving skills would have shown greater effects.

Pre- Post-Test Training Participant Satisfaction Survey Findings. The second research question yielded highly controversial results. To answer this question, first The Pre- and Post-Training Participant Assessment Survey was utilized to assess students'

self-evaluation of their skills during pre- and post test. The survey consisted of a five-point Likert scale with items ranging from *very good* to *very poor*. Students evaluated their progress on three skills: giving positive feedback, following instruction, and problem solving. The results of the survey showed that following instructions improved for three students. Two students reported to improve from *fair* to *good* and one student reported to improve from *good* to *very good*. One student reported improvement from *good* to *very good* in giving positive feedback, and one student reported improvement from *fair* to *good* in problem solving. However, for two students giving positive feedback was rated lower from pre- to post-test. Specifically, one student reported a decline from *good* to *fair* and another reported a decline from *very good* to *good*. Three out of four participations reported that they experienced improvement in at least one area of instruction (See Table 4.5 ASSET Pre- and Post Training Participant Questionnaire). One possible reason for seeing a small amount of change and a decline on giving positive feedback could be that students did not have a complete understanding of the terms at the pre-test and were not fully aware of the steps and components that were involved in a skill. Thus, they may have rated themselves higher at the pretest. However, at the post – test, they may have been more familiar with concepts and terms, and thus, rated themselves lower.

Participant Program Satisfaction Questionnaire findings. Participant reactions to the program were tested utilizing a seven-point Likert scale assessment developed by Hazel et al. (1995), ranging in *completely satisfied* to *completely dissatisfied*. Student responses indicated that most of them did not find the program promising. Student 1

seemed to be generally satisfied with the program, reported that she gained new skills, and evaluated the program favorably against the existing alternatives. The rating of Student 2 was difficult to interpret. This student indicated that the selected skills were important for improving social skills but reported a strong dissatisfaction when she evaluated the impact of the program and compared it with other programs. However, she reported a high level of satisfaction in terms of the effectiveness of the program in teaching how to give positive feedback. She found the leader and other group members highly pleasant to be around. However, she did not report any improvement in her relationships with parents, teachers, and peers. Student 3 reported not finding these three skills as important but presented a favorable impression of the group leader and other group members, and reported that the program helped him improve his relationship with school officials. Student 4 rated the program highly unfavorably, reported he did not like it and wished to be in math class with his classmates instead of attending these group activities (See Table 4.6 Participant Satisfaction Questionnaire).

Students with different conditions may respond to the intervention differently (McIntosh et al., 1991). Thus, it is highly recommended to tailor social skills intervention according to the specific individual needs of the students (McIntosh et al., 1991). In this study, it was not possible to access confidential information in student folders, and therefore it was not possible to report the identification and diagnosis of the students (e.g., learning disabilities, and/or attention deficit hyperactivity disorders), any mental health possible condition (e.g. depression, anxiety), or level of environmental stress that they may face. In this study, student responses demonstrated extensive variation in terms

of their level of satisfaction from the program. Previous identification and/or mental health conditions could account for some variations. Similarly, the age of the students, 11 to 13, the pre-adolescent period, is a specific developmental, transitional period in which students may show great variation in terms of their physical, cognitive, and social maturation level, and, thus, their possible expectations from the program.

Cartledge and Milburn (1996) suggested that since SSI with cognitive approach (e.g., social problem solving) focuses heavily on language skills, students with language deficits may find the activities challenging due to the abstract nature of the activities. In this study, students easily understood the concepts presented in giving positive feedback, following instruction, and problem solving. They were also highly effective in applying their learning in role-playing activities as demonstrated by their responses to hypothetical social problems. However, they showed boredom and resistance to writing activities, as demonstrated by their verbal and nonverbal messages indicating their lack of interest, and their limited amount of writing on the work sheets. Students' reactions were positive when the material was initially presented by the video-based ASSET program. They started to show boredom when the intervention mode changed from watching a video and using short-checklists to writing short essays about their feelings and reactions to hypothetical problems without the initial video presentation. Perhaps combining two different modes and intervention modules using more transitional activities would have helped students adjust to changes in the mode of the intervention, and increase their level of satisfaction with the intervention.

Another aspect of the study that might have had an impact on student satisfaction is that the study was designed as a pull-out study. When intervention students were

attending to the social skills program, the control group students were attending project based activities in science and math. Participating students missed the activities other peers experienced due to the fact that they had to be pulled-out of their classrooms. Both control and intervention groups missed a field trip due to the post-test assessment schedule. The feeling that they were missing activities that their classmates had been offered (science experiments, additional supplemental courses) might have created resentment on the part of the students. Similarly, one student indicated to his teacher that he felt uncomfortable missing some exciting activities occurring in his class; this student shared his resentment in the assessment form as well.

In addition, the program required a great deal of writing exercises to promote self-assessment during the classroom sessions, and students' reactions to this were not positive. Moreover, the length of the assessment devices utilized created a lot of frustration for the students. The typical first reaction of the students to these surveys was to anxiously turn the pages to see how long it was.

Findings Related to the Referral Satisfaction Survey. The parent and teachers' level of satisfaction about the program was tested using a similar instrument. The scale ranged from *completely satisfied* to *completely dissatisfied*. Two parents and two teachers completed this survey. The reactions of parents and teachers were similarly conflicting. Although parents evaluated the program somewhat favorably as measures by Referral Satisfaction Survey (Hazel et al., 1995), teachers did not. While one parent mentioned observing her child use more proficient skills in problem solving skills, the other parent did not.

The literature suggested that high levels of parent involvement are highly critical for the success of social skills programs (Cartledge & Milburn 1996; Rivera & Rogers-Atkinson, 1997). In this study, students were given homework to complete with their parents but the homework assignments were not always returned by the students. Perhaps more parent involvement, stronger connections with parents, and/or providing parent training workshops involving similar content to that of students would yield better and more generalizable results (See Table 4.7 Teacher and Parent Satisfaction Survey Results).

In addition, the specific nature of the school might have had some impact on the study. The intervention setting was a very small, private school with highly caring and interested teachers who were anxious to provide comprehensive content, a variety of experimental activities, and improve students' reading skills through alternative activities, projects, and homework. In line with this, students were also highly motivated and somewhat anxious to close the gap due to dyslexia. Even though these are all highly positive characteristics for the school culture, it might have created too much competition between this program and the already the existing ones (science experiments, field trips etc).

LIMITATIONS

The study replicates results similar to previous findings (Kavale & Forness, 1996b; Swanson, 2000) that significant small group difference was detected between the

intervention and the control groups. However, these results should be evaluated with caution because there were several limitations to this study.

In this study, the assignment of the students to intervention and control groups was not random. Students were selected for the intervention and control groups according to their enrichment group assignment so as not to create disruption in their enrichment group schedules. Furthermore, the intervention group was an intact group so the possibility of a classroom effect was not easy to eliminate. One possibility is that the groups were somewhat different at the beginning or some confounding variables occurred during the intervention due to the classroom compositions. Supporting these concerns, even though pre-test difference between the two groups was not significant based on Mann Whitney U test, descriptive values indicated a difference in pre-test scores of the intervention and the control groups' means (See Table 4.4 Descriptive Values of the Intervention and Control Groups).

Small sample size was another limitation impacting group dynamics during the intervention, and created a lack of power during the analysis. In addition to this, as it was observed in the case of an outlier student, due to this small sample size, each individual student's score was highly influential on the overall results (See Table 4.4 Descriptive Values of the Intervention and Control Groups).

In this study, it was also not possible to get access to confidential student folders and therefore it was not possible to report identification and diagnosis of the students (e.g., learning disabilities, and/or attention deficit hyperactivity disorders), possible mental health conditions (e.g. depression, anxiety), or level of environmental stress.

Previous identification and/or mental health conditions could account for some variations in treatment effect and motivation for the intervention.

In this study, an adapted, shorter version of the ASSET program was utilized. The ASSET program suggested 9 to 10 session, 1 to 1.5 hour application of ASSET program. In this study, six 40 minute sessions were utilized. Thus, although the suggested application of the intervention was 10 hours and above, a total of 6 hours of training was utilized in this study. Perhaps a longer intervention would have increased the intervention effect.

Another limitation was that the evaluation was conducted only at the end of the study. Receiving brief, on-going feedback from the students during the intervention would have allowed some modification on the intervention.

Another limitation regarding the intervention was the fact that activities of the control group was not recorded, therefore, no detailed information was available on the enrichment hours of the students in the control group.

Another limitation of the study was that it was conducted at the very end of the semester when the students were already overwhelmed with the activities and requirements of their courses. The study was interpreted by the students and the parents as "one more thing to deal with." Similarly, students' friendship groups were established and social networks were settled. Perhaps the level of interest would have been different if the study had happened when students were starting a new calendar year and trying to establish their social networks.

Another limitation was that no follow-up study was conducted. It is well known that some intervention effect in socio-emotional development occurs after a gestational period rather than demonstrating an immediate effect after the intervention (Gillham, Reivich, Freres, Lascher et al., 2006). In this study descriptive data showed some improvement on the intervention group from pre- to post-test. Similarly, the descriptive data indicated a slight increase in the control group from pre- to post-test assessment as well (See Table 4.4 Descriptive Values of the Intervention and Control Groups). It is hard to predict what kind of progress trajectories might occur in the experimental and control group six months after the intervention with the present short term data.

RECOMMENDATION FOR FUTURE RESEARCH

The study could be considered as a preliminary attempt to understand the impact of social problem solving intervention on the social problem solving skills of students with LD utilizing a norm-referenced social problem solving instrument.

Future studies should provide extensive information on prior student conditions such as the identification and diagnosis of the students (e.g., learning disabilities, and/or attention deficit hyperactivity disorders), any possible mental health condition (e.g., depression, anxiety), or level of environmental stress. Because it was not possible to access confidential information in the student records, the results were not evaluated in light of the student's individual conditions. Future studies either should gather this information through the students' folders or utilize additional instruments that measure the socio-emotional state of the students (e.g., depression, behavioral checklist etc.) so as to be able to examine the results in light of this information.

Future studies with a large sample size and random group assignment are highly recommended to provide a better understanding about student gains. In this study the group size was four. For a similar participant population conducting an intervention study with a larger sized group (e.g., 5-7 students) might create better group dynamics.

Students with dyslexia are known to experience extensive challenges and some frustration in writing and reading (Riddick, Farmer, & Sterling, & Morgan, 1999). The heavy writing/reading component of the intervention and assessment created much frustration in the participating students. It is recommended that future studies use shorter assessment devices for similar groups of students (e.g. short version of the SPSI-A, a simple survey for assessing participant satisfaction). Additional studies using the SPSI-A or other social problem solving inventories that measure natural and generalizable behavioral styles of students with LD is highly recommended.

In this study, adapted, shorter version of the ASSET program was utilized due to the age and developmental needs of the students. Rather than a six hour training, longer interventions are highly recommended. Besides, students seemed to like initial video-based sessions more than self-reflected writing sessions of the training. It is highly recommended that these two important components be evenly divided across the intervention, rather than to be followed one after another. To further increase student motivation, video-taping role plays and using them as discussion material to increase student motivation is highly recommended for future studies. In addition, the utilization of more active, simulation-based activities is highly recommended.

In this study, participating students missed the activities other peers experienced due the fact that they had to be pulled-out of their classrooms. Rather than pull-out programs that have disadvantages such as lack of generalizability of the learned behavior

with students who did not participate, school or classroom-based social skills programs are highly recommended.

Parent participation is critical to the success of the intervention and should be part of the intervention. Providing two-session parent effectiveness training focusing on the same topics presented to students might have affected the results, as well as the survey response rate of parents.

A follow-up study is highly recommended to understand the kind of progress trajectories that might occur in the experimental and control groups six months after the intervention. In addition, systematic ways to assess the generalization of learned behaviors to students' natural environment is highly recommended.

CONCLUSION

In conclusion, this research partially supported the effectiveness of the SSI with students with LD. The main assumption is that the social skills of students with LD can be improved through systematic teaching of skills, planned practice, and generalization opportunities (Hazel et al. 1995). Student responses to surveys demonstrated some changes; however, since there was no observation of target behaviors in a natural environment, it is hard to say to what extent they had in fact generalized these skills into their new environments.

The present study provided a new approach by testing the social skills development of students with LD using the SPSI-A, and demonstrated that students benefited somewhat from the intervention. Future studies using SPSI-A with a larger sample and using random sampling may provide a better understanding of the effectiveness of SSI programs on social problem solving skills of students with LD.

APPENDICES

APPENDIX I

IRB Approval Letter

OFFICE OF RESEARCH SUPPORT

THE UNIVERSITY OF TEXAS AT AUSTIN

P.O. Box 7426, Austin, Texas 78713 (512) 471-8871 -FAX (512 471-8873)
North Office Building A, Suite 5.200 (Mail code A3200)

FWA # 00002030

Date: **03/23/09**

PI(s): **Guliz Kurt** Department & Mail Code: **SPECIAL EDUCATION**

Title: **The Impact of a Social Skills Intervention Program on Problem Solving Skills of Students with Learning Disabilities**

IRB APPROVAL – IRB Protocol # **2008-10-0052**

Dear: **Guliz Kurt**

In accordance with Federal Regulations for review of research protocols, the Institutional Review Board has reviewed the above referenced protocol and found that it met approval under an Expedited category for the following period of time: **03/23/2009** - **03/22/2010** · *(expires 12am [midnight] of this date.)*

Expedited category of approval:

☐ **(1)** Clinical studies of drugs and medical devices only when condition (a) or (b) is met. (a) Research on drugs for which an investigational new drug application (21 CFR Part 312) is not required. (Note: Research on marketed drugs that significantly increases the risks or decreases the acceptability of the risks associated with the use of the product is not eligible for expedited review). (b) Research on medical devices for which (i) an investigational device exemption application (21 CFR Part 812) is not required; or (ii) the medical device is cleared/approved for marketing and the medical device is being used in accordance with its cleared/approved labeling.

☐ **(2)** Collection of blood samples by finger stick, heel stick, ear stick, or venipuncture as follows: (a) from healthy, non-pregnant adults who weigh at least 110 pounds. For these subjects, the amounts drawn may not exceed 550 ml in an 8 week period and collection may not occur more frequently than 2 times per week; or (b) from other adults and children2, considering the age, weight, and health of the subjects, the collection procedure, the amount of blood to be collected, and the frequency with which it will be collected. For these subjects, the amount drawn may not exceed the lesser of 50 ml or 3 ml per kg in an 8 week period and collection may not occur more frequently than 2 times per week.

☐ **3)** Prospective collection of biological specimens for research purposes by Non-invasive means. Examples:

(a) hair and nail clippings in a non-disfiguring manner;
(b) deciduous teeth at time of exfoliation or if routine patient care indicates a need for extraction;
(c) permanent teeth if routine patient care indicates a need for extraction;
(d) excreta and external secretions (including sweat);
(e) uncannulated saliva collected either in an un-stimulated fashion or stimulated by chewing gumbase or wax or by applying a dilute citric solution to the tongue;
(f) placenta removed at delivery;
(g) amniotic fluid obtained at the time of rupture of the membrane prior to or during labor;

(h) supra- and subgingival dental plaque and calculus, provided the collection procedure is not more invasive than routine prophylactic scaling of the teeth and the Process is accomplished in accordance with accepted prophylactic techniques;
(i) mucosal and skin cells collected by buccal scraping or swab, skin swab, or mouth washings;
(j) sputum collected after saline mist nebulization.

☐ **(4)** Collection of data through noninvasive procedures (not involving general anesthesia or sedation) routinely employed in clinical practice, excluding procedures involving x-rays or microwaves. Where medical devices are employed, they must be cleared/approved for marketing. (Studies intended to evaluate the safety and effectiveness of the medical device are not generally eligible for expedited review, including studies of cleared medical devices for new indications). Examples:

(a) physical sensors that are applied either to the surface of the body or at a distance and do not involve input of significant amounts of energy into the subject or an invasion of the subject's privacy;
(b) weighing or testing sensory acuity;
(c) magnetic resonance imaging;
(d) electrocardiography, electroencephalography, thermography, detection of naturally occurring radioactivity, electroretinography, ultrasound, diagnostic infrared imaging, doppler blood flow, and echocardiography;
(e) moderate exercise, muscular strength testing, body composition assessment, and flexibility testing where appropriate given the age, weight, and health of the individual.

☐ **(5)** Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for non-research purposes (such as medical treatment or diagnosis). (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(4). This listing refers only to research that is not exempt).

☒ **(6)** Collection of data from voice, video, digital, or image recordings made for research purposes.

☒ **(7)** Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt).

☐ **Please use the attached approved informed consent**

☐ **You have been granted Waiver of Documentation of Consent**
According to 45 CFR 46.117, an IRB may waive the requirement for the investigator to obtain a signed consent form for some or all subjects if it finds either:

☐ The research presents no more than minimal risk
AND
☐ The research involves procedures that do not require written consent when performed outside of a research setting
<OR>
☐ The principal risks are those associated with a breach of confidentiality concerning the subject's participation in the research
AND
☐ The consent document is the only record linking the subject with the research
AND
☐ This study is not FDA regulated (45 CFR 46.117)
AND
☐ Each participant will be asked whether the participant wishes documentation linking the participant with the research, and the participants wishes will govern.

You have been granted Waiver of Informed Consent
According to 45 CFR 46.116(d), an IRB may waive or alter some or all of the requirements for Informed consent if:

☐ The research presents no more than minimal risk to subjects;
☐ The waiver will not adversely affect the rights and welfare of subjects;

☐ The research could not practicably be carried out without the waiver; and
☐ Whenever appropriate, the subjects will be provided with additional pertinent information they have participated in the study.
☐ This study is not FDA regulated (45 CFR 46.117)

RESPONSIBILITIES OF PRINCIPAL INVESTIGATOR FOR ONGOING PROTOCOLS:

(1) Report **immediately** to the IRB any unanticipated problems.

(2) Proposed changes in approved research during the period for which IRB approval cannot be initiated without IRB review and approval, except when necessary to eliminate apparent immediate hazards to the participant. Changes in approved research initiated without IRB review and approval initiated to eliminate apparent immediate hazards to the participant must be promptly reported to the IRB, and reviewed under the unanticipated problems policy to determine whether the change was consistent with ensuring the participants continued welfare.

(3) Report any significant findings that become known in the course of the research that might affect the willingness of subjects to continue to take part.

(4) Insure that only persons formally approved by the IRB enroll subjects.

(5) Use **only** a currently approved consent form (remember approval periods are for 12 months or less).

(6) **Protect the confidentiality of all persons and personally identifiable data, and train your staff and collaborators on policies and procedures for ensuring the privacy and confidentiality of participants and information.**

(7) Submit for review and approval by the IRB all modifications to the protocol or consent form(s) prior to the implementation of the change.

(8) Submit a **Continuing Review Report** for continuing review by the IRB. Federal regulations require **IRB review of on-going projects no less than once a year** (a Continuing Review Report form and a reminder letter will be sent to you 2 months before your expiration date). Please note however, that if you do not receive a reminder from this office about your upcoming continuing review, it is the primary responsibility of the PI not to exceed the expiration date in collection of any information. Finally, it is the responsibility of the PI to submit the Continuing Review Report before the expiration period.

(9) Notify the IRB when the study has been completed and complete the Final Report Form.

(10) Please help us help you by including the above protocol number on all future correspondence relating to this protocol.

Sincerely,

Jody L. Jensen, Ph.D.
Professor
Chair, Institutional Review Board

APPENDIX II

Consent Addenda

PARENTAL CONSENT FORM FOR THE PARTICIPATION OF CHILDREN

Title: The Effect of Social Skills Intervention on Problem Solving Skills of Adolescents with Learning Disabilities (LD)

IRB PROTOCOL # 2008-10-0052 Conducted By: Guliz Kurt (Principle Investigator), of The University of Texas at Austin, *Department :Special Education*

You are being asked to allow your child to participate in a research study. This form provides you with information about the study. The person in charge of this research will also describe this study to you and answer all of your questions. Please read the information below and ask any questions you might have before deciding whether or not to take part. Your participation is entirely voluntary. You can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You can stop your participation at any time and your refusal will not impact your current or future relationship with UT Austin or participating sites. To do so simply tell the researcher you wish to stop participation. The researcher will provide you with a copy of this consent for your records.

The purpose of this study is to evaluate the effects of (1) 8 hour video-based social skills intervention on social problem solving skills. There will be around 60 participants in this study. Student will be assigned into intervention and control classes. Students' participation to these two groups will be based on chance and you and your parents will be later informed about which group you will be assigned to. The students in the control classes will attend their regular scheduled enrichment groups rather than attending social skills training program and they will fill Demographic Questionnaire, Problem Solving Survey (Social Problem Solving Inventory for Adolescents). Filling survey will take maximum 2 Hours, including two sessions that will take place within six weeks. The students in the intervention class will participate in a social skills training program. The topic of this training involves communication, giving negative feedback, accepting negative feedback, and problem solving skills. To understand the impact of training your child will complete the surveys Demographic Questionnaire, Problem Solving Survey (Social Problem Solving Inventory for Adolescents), Pre and Post Test Participant Questionnaire, and Participant Satisfaction Survey. Filling survey will take maximum 2 Hours for your child, including two sessions that will take place before and after the training. In addition, you and your child's teachers will fill Referral Satisfaction Survey to evaluate the quality of this program. Filling this survey will take maximum 15 minutes.
If you agree to be in this study, your child will be asked to do the following things:

For students in the intervention classes:

- Sign this consent form.
- Listen to the required video recordings and join discussions related to these videos or related to social skills in general.
- Role play given scenarios to practice newly learned social skills.
- Fill out the required questionnaires.

Total estimated time to participate in study is 10 hours in five-six weeks.

For students in the control classes:

- Sign this consent form.
- Fill out the required questionnaires (Demographic Information Form and Social Problem Solving Inventory for Adolescents-SPSI-A). The SPSI-A will be filled twice in at the beginning and end of six week period.

Total estimated time to participate in study is maximum 2 hours that will occur in five-six weeks.

Risks of being in the study

- The risk associated with this study is no greater than everyday life.
- Yet the study may involve risks that are currently unforeseeable such as sharing personal information with classmates or being exposed to a response that can be emotionally overwhelming during the group discussions.
- Your child will be asked questions about his/her views regarding, and attitudes towards problem solving skills in social settings.
- If you wish to discuss the information above or any other risks you may experience, you may ask questions now or call the researchers listed above.
- If your child feels uncomfortable in any way during or after the process, he/she can talk to teachers.

Benefits of being in the study

- Your child will be learning new social skills that will help him/her get along better with his/her peers, teachers, and parents.
- These skills are also known to be helpful to be successful in occupational settings.
- You will be able to learn the results of the research your child is participating in.
- Your child will be contributing to research.

Confidentiality and Privacy Protections:

- The data resulting from your child's and your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate your child and you with it, or with his/her participation and yours in any study.

The **records** of this study will be stored securely and kept confidential. Authorized persons from The University of Texas at Austin, members of the Institutional Review Board, and (study sponsors, if any) have the legal right to review your child's research records and will protect the confidentiality of those records to the extent permitted by law. All publications will exclude any information that will make it possible to identify your child and you as a subject. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

- At no time will your child's and your answers to the questionnaires be associated with his/her personal identity as well as yours.
- His/her identity and as well as yours will not be provided to anyone.

Contacts and Questions:

If you have any questions about the study please ask now. If you have questions later, want additional information, or wish to withdraw your child's participation call the researchers conducting the study. Their names, phone numbers, and e-mail addresses are at the top of this

page. If you have questions about your child's rights as a research participant, complaints, concerns, or questions about the research please contact **The University of Texas at Austin Institutional Review Board for the** Protection of Human Subjects at (512) 232-2685 or the Office of Research Support at (512) 471-8871. or email: orsc@uts.cc.utexas.edu.

You may keep the copy of this consent form.

You are making a decision about allowing your child to participate in this study. Your signature below indicates that you have read the information provided above and have decided to allow him or her to participate in the study. If you later decide that you wish to withdraw your permission for your child to participate in the study, simply tell me. You may discontinue his or her participation at any time.

_____
Printed Name of child

_____ _____
Signature of Parent(s) or Legal Guardian Date

_____
_____Signature of Investigator Date

ASSENT FORM FOR CHILD BETWEEN THE AGES OF 7 AND 12.

Title: Social Skills Interventions with Adolescents

I agree to be in a study about Social Problem Solving Skills Intervention. This study was explained to my (mother/father/parents/guardian) and (she/he/they) said that I could be in it. The only people who will know about what I say and do in the study will be the people in charge of the study, my parents, and teachers.

In this study, I may listen to some short videos presented by the researcher on social skills and answer the questions about video. I will be asked questions about myself such as my age and grade or my parents' education and how I solve my social problems and if I find the social skill program useful. I will role play given scenarios after watching short videos. Or I may be not be watching the videos and asked only to fill out some questionnaires asking questions about myself such as my age and grade or my parents' education and how I solve my social problems.
Writing my name on this page means that the page was read (by me/to me) and that I agree to be in the study. I know what will happen to me. If I decide to quit the study, all I have to do is tell the person in charge.

_____	_____
Child's Signature	Date
_____	_____
Signature of Researcher	Date

TEACHER CONSENT FORM

Title: The Effect of Social Skills Intervention on Problem Solving Skills of Adolescents with Learning Disabilities (LD)

IRB PROTOCOL # 2008-10-0052 Conducted By: Guliz Kurt (Principle Investigator), of The University of Texas at Austin, *Department :Special Education*

You are being asked to participate in a research study. This form provides you with information about the study. The person in charge of this research will also describe this study to you and answer all of your questions. Please read the information below and ask any questions you might have before deciding whether or not to take part. Your participation is entirely voluntary. You can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You can stop your participation at any time and your refusal will not impact current for future relationships with UT Austin or participating sites. To do so simply tell the researcher you wish to stop participation. The researcher will provide you with a copy of this consent for your records.

The purpose of this study is to evaluate the effects of (1) 8 hour video-based social skills intervention on social problem solving skills. The topic of training involves communication, giving negative feedback, accepting negative feedback, and problem solving skills. There will be around 60 participants in this study. To understand the impact of training you will complete Referral Satisfaction Survey to evaluate the quality of this program at the end of the study. Filling this survey will take maximum 15 minutes.

If you agree to be in this study, we will do the following things:

- Sign this consent form.
- Fill out the required questionnaires at the end of the study.

Risks of being in the study

- The risk associated with this study is no greater than everyday life.
- Yet the study may involve risks that are currently unforeseeable.
- You will be asked questions about your students' improvement in social skills and about the quality of social skills program they have received.
- If you wish to discuss the information above or any other risks you may experience, you may ask questions now or call the researchers listed above.

Benefits of being in the study

- Your students will be learning new social skills that will help them get along better with their peers, teachers, and parents.
- These skills are also known to be helpful to be successful in occupational settings.
- You will be able to learn the results of the research your students is participating in.
- Your students will be contributing to research.

- Your input as a teacher will contribute a lot to the understanding of the effectiveness of the study.

Confidentiality and Privacy Protections:

- The data resulting from your students and your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate your students and you with it, or with their participation and yours in any study.

The **records** of this study will be stored securely and kept confidential. Authorized persons from The University of Texas at Austin, members of the Institutional Review Board, and (study sponsors, if any) have the legal right to review your research records and will protect the confidentiality of those records to the extent permitted by law. All publications will exclude any information that will make it possible to identify your students and you as a subject. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

- At no time will your students' and your answers to the questionnaires be associated with their personal identity as well as yours.
- Your students' identity and as well as yours will not be provided to anyone.

Contacts and Questions:
If you have any questions about the study please ask now. If you have questions later, want additional information, or wish to withdraw your participation call the researchers conducting the study. Their names, phone numbers, and e-mail addresses are at the top of this page. If you have questions about your rights as a research participant, complaints, concerns, or questions about the research please contact **The University of Texas at Austin Institutional Review Board for the** Protection of Human Subjects at (512) 232-2685 or the Office of Research Support at (512) 471-8871.or email: orsc@uts.cc.utexas.edu.

You may keep the copy of this consent form.

You are making a decision about to participate in this study. Your signature below indicates that you have read the information provided above and have decided to participate in the study. If you later decide that you wish to withdraw your permission to participate in the study, simply tell me. You may discontinue your participation at any time.

_____ _____
Signature of Teacher Date

_____
_____Signature of Investigator Date

APPENDIX III

Assessment Devices

DEMOGRAPHIC QUESTIONNAIRE

Please complete the information below:

School:_____

Birthday: Month and Year

Age:_____

Grade:_____

Gender (circle one): Female Male

	Yes	No
Special Education Eligibility (Please check the below either yes or no)		

Father's occupation:_____

Mother's occupation:_____

SOCIAL PROBLEM SOLVING INVENTORY FOR ADOLESCENTS (SPSI-A) LONG VERSION SAMPLE ITEMS

	Not at all True of me	Moderately True of me	Slightly True of me	Very True of me	Extremely True of me
1.When I'm faced with a problem, I think about how it will affect my well-being.	0	1	2	3	4
10. I often doubt that there is a good way solve problems that I have.	0	1	2	3	4
41. When I solve a problem, I think of a number of options and combine them to make a better solution.	0	1	2	3	4
64. When I successfully solve a problem, I decide what I did right.	0	1	2	3	4

Social Problem Solving for Adolescents ([SPSI-A]; Franuenknecht & Black, 1995)

THE ASSET PRE- POST TRAINING PARTICIPANT QUESTIONNAIRE

Name _____

Please rate your performance on the following skills.
Giving Positive Feedback. The skill of giving positive feedback includes the ability to thank someone and to give compliments. For example, if someone gives you a present, are you able to thank him/her and let him/her know that you appreciate it? Are you able to compliment your mother or father on a well-cooked meal?
My ability to give positive feedback appropriately is:
_____ very good _____ good _____ fair _____ poor ____ very poor

Problem Solving. Problem solving is the skill of deciding exactly what the problem is and arriving at and putting into practice good solutions. For example, if you are having a problem getting along with someone, are you able to determine a good solution to this problem and carry it out?
My ability to give positive feedback appropriately is:
_____ very good _____ good _____ fair _____ poor ____ very poor

Following Instructions. This skill requires that you listen to the instruction, ask for more explanation, if necessary, and follow the instruction. For example, if your parents instruct you to do some more chores, are you able to follow the instruction right away without arguing or complaining?
My ability to give positive feedback appropriately is:

_____ very good _____ good _____ fair _____ poor ____ very poor

Taken from the ASSET Program (Hazel et al. 1995)

PARTICIPANT SATISFACTION QUESTIONNAIRE, SAMPLE ITEMS

Are you satisfied with:

The importance of learning three skills?

___Completely satisfied
___ Satisfied
___ Slightly satisfied
___ Neither satisfied nor dissatisfied
___ Slightly dissatisfied
___ Dissatisfied
___ Completely dissatisfied

The effect of group skills training program?

___Completely satisfied
___ Satisfied
___ Slightly satisfied
___ Neither satisfied nor dissatisfied
___ Slightly dissatisfied
___ Dissatisfied
___ Completely dissatisfied

The opportunities to express your ideas and ask questions during the group meetings?

___Completely satisfied
___ Satisfied
___ Slightly satisfied
___ Neither satisfied nor dissatisfied
___ Slightly dissatisfied
___ Dissatisfied
___ Completely dissatisfied

The amount of concern the group leader has shown for you and your success in the program?

___Completely satisfied
___ Satisfied
___ Slightly satisfied
___ Neither satisfied nor dissatisfied
___ Slightly dissatisfied
___ Dissatisfied
___ Completely dissatisfied

Taken from the ASSET Program (Hazel et al. 1995)

The effectiveness of the program in teaching you how to give positive feedback?

___Completely satisfied
___ Satisfied
___ Slightly satisfied
___ Neither satisfied nor dissatisfied
___ Slightly dissatisfied
___ Dissatisfied
___ Completely dissatisfied

Taken from the ASSET Program (Hazel et al. 1995)

The effectiveness of the program in teaching you problem solving skills?

___Completely satisfied
___ Satisfied
___ Slightly satisfied
___ Neither satisfied nor dissatisfied
___ Slightly dissatisfied
___ Dissatisfied
___ Completely dissatisfied

Taken from the ASSET Program (Hazel et al. 1995)

REFERRAL SOURCE SATISFACTION QUESTIONNAIRE

Your students have successfully completed the social skills program that involves giving positive feedback, following instruction, and social problem solving. We hoped your students gained new skills by attending this program. We would appreciate it if you would complete and return this questionnaire to your child's classroom teacher.

Thank you very much for your support,

Sincereley,

Guliz Kurt

1. Do you believe your students showed any improvement in how they solve interpersonal problems as a result of this program? Please explain.

2. Do you believe your students showed any improvement in following instructions as a result of this program? Please explain.

3. Do you believe your students showed any improvement in giving positive feedback? Please explain.

Taken from the ASSET Program (Hazel et al. 1995)

4. Are you satisfied with the program in teaching social skills to teenagers?

___Completely satisfied
___ Satisfied
___ Slightly satisfied
___ Neither satisfied nor dissatisfied
___ Slightly dissatisfied
___ Dissatisfied
___ Completely dissatisfied

5. Any additional Comments, opinions, or suggestions concerning the staff or program would be greatly appreciated.

Note: Parents were also provided the same instrument with the exception that the statement “your students” was replaced by “your child”.

Taken from the ASSET Program (Hazel et al. 1995)

APPENDIX IV

Intervention

INTERVENTION DESCRIPTION

Session 0

The study was announced and parent consent and student assent forms were distributed at a time that all middle school students gathered inside the cafeteria. One volunteer middle school teacher worked as a liaison between the researcher and the school. The liaison teacher collected the forms and answered parent questions, provided a setting for the intervention. When the forms are collected, the enrichment group with the highest number of participating students is determined as the intervention group. After the group assignment, both the intervention and the control group students received the pre-test at the cafeteria. During the assessment the researcher read each test item and scales to the students item by item. The assessment took one classroom time, about 40 minutes.

Session I

The first session was the explanation of the program and self introduction. Students were paired and each student was introduced by his/her peers. Then the giving positive feedback session of the ASSET (Hazel et al. 1995) SSI program was introduced.

The steps of performing giving positive feedback was presented to the student using the ASSET program (Hazel et al. 1995) giving positive feedback module.

The ASSET Skill Sheet One Giving Positive Feedback (Hazel et al. 1995)

1. Face the person
2. Keep eye contact
3. Smile when you are talking
4. Use enthusiastic voice tone
5. Keep a relaxed posture
6. Give the person feedback. “Thanks for….” Or I “like…….”
7. Wait for the person to respond
8. If the person responds positively, you can use that response to lead into a conversation. “What do you think…?” if the person responds negatively, you can briefly restate the compliment or thanks and then change the subject. “Well, anyway, thanks for… Do you want to go…?”
9. Throughout, make sure that your positive feedback is sincere, not sarcastic or dishonest.

At the end of the session home notes about the techniques of giving positive feedback was provided to the student Students were asked to practice giving positive feedback with their parents between sessions and their parents’ feedback about their accuracy of performing the steps.

Session II

After a brief review of giving positive feedback, the ASSET (Hazel et al. 1995) following instructions video-based program was used for the second session. Students were asked to practice trying their best to practice skills in following instructions between sessions. Following instruction module of the ASSET program (Hazel et al. 1995) was followed. The steps of giving instruction was presented together with a checklist.

The ASSET Skill Sheet Seven Following Instruction (Hazel et al. 1995)

1. Face the person
2. Keep eye contact
3. Smile when you are talking
4. Use enthusiastic voice tone
5. Keep a relaxed posture
6. Listen closely to the instruction so that you will know what to do and remember to give feedback with your nods and by saying “mm-hmm” and “yeah”.
7. Acknowledge the instruction. “OK”
8. Ask for more information if you don’t understand the instruction. “But I don’t understand ……”
9. Say that you will follow the instruction, “I will do it..”
10. Follow the instruction.
11. Throughout, give polite, pleasant responses.

12. Do not argue with the person about the instruction; go ahead and follow it and you can talk to the person later about problems.

Following instructions was role played by a scenario (registration to a summer school camp activity adapted from the ASSET (Hazel et al. 1995) following instruction module, course selection episode. A volunteer student role-played registering in a summer drama camp. She was provided papers in five different colors each of which should be given to different school staff members. All other students acted as school registration staff. The student who was registering had to give a different colored paper and performed a different task at the desk of different registration staff member (getting a signature, checking if her name was listed a receipt). Home notes about the techniques of following instructions were provided to students to practice the skills with their parents three times until the next session.

Session III

At the third session, part of the ASSET (Hazel et al. 1995) problem solving module was used. The episode concerned a female adolescent who needed to decide whether to keep her current job as full-time summer job or to resign and look for a part time job. In making this decision, she had to consider how each decision would affect her goal of graduating early, what decision would be fair to herself and her boss. Her decision making process through self-talk was shared. The other episodes in problem-solving module were not shared with the students. Students were presented with skill steps. They first filled Problem solving Work Sheet to apply the skill steps to the given

problem solving examples. Later they role played the skill till they fully understood the skill steps using the checklist of the skills steps.

The ASSET Program Problem Solving Skills Steps (Hazel et al. 1995)

1. Try to remain calm.
2. First try to decide what exactly is the problem.
3. Try to think of at least three different solutions to the problem. If you can't think of enough solution, ask someone to help you.
4. Think the results of each solution-what will happen if you use it. In evaluating the results of each solution, consider: (how others will react. (b)the immediate good and bad results , and (c) the long-term good and bad results.
5. Decide on the most desirable results-the most good and the least bad results.
6. Chose the solution that leads to these results. You may need to combine solutions to get the results you want, so be ready to do this.
7. Figure out the steps for achieving this solution, the actual behavior you will follow.
8. If the first solution does not work, pick the second best solution and figure out the steps for achieving it.

Session IV

This session was designed to review the previously discussed problem solving skills and add some components that were not discussed in detail (such as the importance

of goals while solving our problems). Students were introduced to an alternative problem solving strategy, describe by the mnemonic, FIG TESPN (Elias & Butler, 2005). FIG TESPN (Elias & Butler, 2005) refers to F-Find feelings, I-Identify the problem, G-Guide yourself with the goal, T-Think of many possible solutions, E-Envision consequences, S-Select the best solution, Plan and prepare pitfalls, Notice what happened (Now what)? Students were provided with the framework to go over. Analysis of hypothetical problems (forgetting an important homework and not being invited to a party being new in the school and all the groups were established and you are alone; your friends are making fun of you what would you do) was discussed applying the FIG TESPN steps (Elias & Butler, 2005). Students were provided with a problem solving skills form (Elias & Butler, 2005) which requires students to imagining a social problem and writing down their feelings, problem, goal, thinking many solutions and envisioning the positive and negative consequences of each, selecting best solution, planning and being reading for pitfalls and noticing what happened. They filled the form based on the selected hypothetical problems.

Session V

The role of emotions while solving social problems and importance of being calm was discussed. The fact that situations trigger strong emotions and how they impact us (flight-or-fight response) were discussed (Elias & Butler, 2005). Students were provided with the Trigger Journal (Elias & Butler, 2005). Trigger journal is a form that student lists what happened, with whom, when/where describing their feelings, behaviors and outcome of the situation, evaluating their feelings before (how calm they were then),

things they liked about their behaviors and things they did not and visualizing what could be other possible behavior options under similar conditions. During the session, first, the group leader acted as a model to fill the Trigger Journal with one example from her own life, having a phone interview with a graduate school during the time her English skills were not very good. Later, students were asked to fill the form and strong emotional reactions and their impact on problem solving was discussed. Students were provided with the "Stay Calm" strategy (Elias & Butler, 2005). The strategy involved telling oneself to STOP, telling oneself to KEEP CALM, slow down one's breathing with two long, deep breaths and praising oneself for doing well. The importance of recognizing and dealing with emotions, triggering situations, and ways for calming down was discussed. The Problem Solving Strategy was reviewed with role plays, and a summary of the important skills discussed was provided to students. The facilitator highlighted the importance of perseverance and seeing problems as a path to growth rather than as something about which to be scared, and trying hard to solve them. Strategies that are not effective in dealing with problems (such as ignoring, procrastinating, or trying to solve problems impulsively without calming down and understanding them) were discussed. Also the importance of using self-evaluation strategies, reviewing and learning from our strategies so as to become more effective problem solvers was discussed.

Session VI

The problem solving method was reviewed with one exercise. Students were encouraged learn new strategies and use new strategies that were discussed and they

recognized as effective. The facilitator thanked the students for their participation and provided them with Pre-Post Self Assessment Questionnaire (See Appendix II (C) and Participant Satisfaction Survey Appendix II (D)]. Students were provided with Referral Satisfaction Survey Appendix II (E) to share with their parents.

Session VII

All participating students were administered SPSI-A (see Appendix II (B) together in a classroom. The researcher administered the test by reading the test to students item by item. The assessment took about 40 minutes.

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