TEACHERS' AND PEERS' PERCEPTIONS OF CHILDREN WITH LEARNING DISORDERS: CONSISTENCY AND CHANGE

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Abstract

This study examines consistency and change in teachers' and peers' perceptions and students' self-reports among children with learning disorders. Two groups of 7-9.75 years old were compared: 117 children with learning disorders who received remedial teaching in school-based learning centers and 123 average achievers. Teachers rated children's social skills, behaviour adjustment and academic achievements. In addition, positive and negative nominations of the participants' peers were obtained, and participants reported their personal perceptions of loneliness, coherence and quality of friendship. These assessments were performed twice - at the beginning and the end of the school year. We found that teachers and peers rated children with learning disorders as demonstrating lower social skills, more behavioural difficulties and lower peer acceptance. Self-perceptions of learning disabled children were characterized by lower coherence, and increased loneliness. Time comparison revealed some change in teacher and peer perceptions, yet findings supported the deficit model in explaining the social competence of children with learning disorders. Regression analyses revealed that students' learning and behaviour difficulties in addition to the personal experience of loneliness significantly added to the prediction of teachers' perceptions at the beginning and the end of the year. A systemic model in the form of a web of mental models is suggested both as explanatory construct based on the findings as well as a framework for guiding future research.

Teachers' and Peer's Perceptions of Children with Learning Disorders: Consistency and change

The DSM-IV (APA, 1994) identified children with learning disorders as children who are not functioning as expected in their age-related academic tasks. Their difficulties may stem from a wide variety of sources, and they may get clinically diagnosed as children with learning disabilities, dyslexia, mild emotional difficulties, attention deficit disorders with hyperactivity (ADHD), etc. These children, with their consistent learning difficulties, are also considered at risk for developing social difficulties and disruptive behaviour (Margalit & Efrati, 1996). Several hypotheses were proposed to account for the social experience of children with learning disabilities. One explanation viewed their difficulties as another expression of such children's basic cognitive processing difficulties, which also interfere with their academic achievements. Alternatively, environmental conditions may contribute to their difficulties in a reciprocal manner. Teachers' and peers' perceptions related to the children's academic failure may also affect their social life (Fisher, Allen & Kose, 1996; LaGreca & Stone, 1990).

Several studies have documented the social difficulties of children with learning disabilities (Bender & Smith, 1990; Bender & Wall, 1994; Bryan, 1994; Conderman, 1995; Tur-Kaspa & Bryan, 1994). Kavale and Forness (1996) in their comprehensive meta-analysis showed that 75% of students with learning disabilities manifested social skill deficits that distinguished them from comparison samples. Teachers viewed students with learning disabilities as more poorly adjusted, revealing increased levels of activity, distractibility and anxiety. Terry and Coie (1991) stated that much current interest in children's peer relations stems from the idea that childhood peer status is a significant predictor of disorders later in life.

Children's social acceptance by peers and the quality of their friendship relations have often been considered predictors for the experience of social isolation (Asher et al, 1990; Parker & Asher, 1993). For many children, rejection by peers is closely related to the experience of loneliness, while having a meaningful network of friends seems to mediate the rejection experience (Bryan & Lee, 1990; Luftig, 1988; Margalit, 1994). Learning-disabled children's perceptions of themselves in their social world has been defined as the children's sense of coherence (Antonovsky, 1987). The Sense of Coherence (SOC) is a construct representing the child's sense of confidence in the comprehensibility and predictability of his/her internal and external environments, and feeling that there is a high probability that life situations will work out as well as can be expected. In earlier studies, children with learning disorders revealed lower SOC and increased loneliness (Margalit, In press; Margalit & Efrati, 1996).

Social difficulties of students with learning disabilities have been documented for different age groups, from preschoolers to adolescents, but only few longitudinal studies have been attempted. One of these was a four-year longitudinal investigation (Vaughn et al, 1993) of three groups of students from kindergarten through third grade, comparing the social competence of children with learning disabilities both with average and with low achievers. The results showed that teachers viewed the learning-disabled students as demonstrating lower social skills and more behaviour problems than the average achievers, but they were not regarded as performing significantly differently in this regard from the low achievers. In addition, social skills as viewed by teachers were found to improve over time, due largely to an increase in cooperating/responding social behaviours from second to third grade, for all groups. This study, therefore, draws attention to critical social growth between the second and the third grade, yet due to the small size of the sample used further research in this direction is required.

To further clarify the interaction among teachers', peers' and self-perceptions of learning-disabled children and these children's social difficulties, this study examines consistency and change in teachers' and peers' perceptions and students' self-reports. The objectives of the current short-term longitudinal study were to compare teachers', peer's, and personal perceptions of Israeli students -with learning disorders as well as with average achievements- at the beginning and at the end of the academic year. It was hypothesized that children with learning disorders would gain lower scores of social competence as reflected by teachers, peers and self-perceptions. However, it was expected that at the end of the academic year, following remedial help and the resulting improved academic achievement, they would be viewed by teachers and peers as having increased social competence and personal coherence, and experiencing less loneliness.

Method

Sample

The sample consisted of second and third graders from 23 classes (in five schools) in central Israel. These students were divided into two groups: 117 students with learning difficulties (61 boys and 56 girls) aged between 7.00 and 9.75 years (mean age 8.14, SD = 0.64) and 123 control students (66 boys and 57 girls) aged between 7.00 and 9.50 years (mean age 8.06, SD=0.58). The first group was identified by their teachers as disclosing consistent learning difficulties, and was receiving remedial help in school-based learning centers. Their major areas of difficulty were reading and mathematics. To identify a child as being entitled to support from the learning center, the classroom teacher had to assess that the child's difficulties persisted for at least three months, and that regular classroom support was insufficient. These learning centers were developed in

Israel following in the wake of the special education law, to provide school-based remedial help for children with mild disabilities, in an attempt to prevent their referral to special-education placement. Within these learning centers, children received help both through pull-out and within-class arrangements, for 2-3 hours per week.

For the comparison group, teachers were asked to match each one of these children by age and sex with an average-achieving student from the same class. No significant differences were found between groups with regards to age and gender. The same teachers and peers evaluated both groups of children. Table 1 presents gender distribution in research and control groups in the different classes.

Insert Table 1 about here

Instruments

Teacher Ratings

Social Skills Rating System (SSRS). The Hebrew adaptation (Margalit, 1995) of the elementary-school SSRS teacher form (Gresham & Elliott, 1990) was used to assess teachers' ratings of their students' social skills and problem behaviours as manifested with both peers and adults at school. The SSRS was completed on a 3-point frequency dimension (Often true, Sometimes true, Never true). Three social skill areas were rated: Cooperation with adults and peers, including 10 items such as "The student will listen to classmates when they present their work" (Cronbach's alpha for the original scale = .92; for the Israeli sample = .88); Assertion, including 10 items such as "Initiates conversations with peers" (original alpha = .86; Israeli alpha = .81); and Self-control, including 10 items such as "Responds

appropriately to physical aggression from peers" (original alpha = .91; Israeli alpha = .82). In the current study a global score of social skills was used as combined score of the three skill areas (Alpha = .95).

Two problem behaviours were rated: (a) Externalizing, including 6 items such as "Threatens or bullies others" (alpha for both versions = .88); (b) Internalizing, including 6 items such as "Shows anxiety about being with a group of children" (original alpha = .78; Israeli alpha = .87).

Academic Competence was assesed by means of 9 items such as "Comparing with other students in my class, the overall academic performance of this child is" (alpha for our study = .86).

Peer Assessments

Two instruments served for collecting data on peer perceptions, i.e. the Peer Acceptance Scale and the Peer Rejection Scale.

Peer Acceptance Scale (Margalit & Efrati, 1996; Vaughn, McIntosh, & Hogan, 1990): as part of the peer assessment, children were asked to name their best friends in class. They were allowed to nominate up to three classmates. The scores received by each child were standardized by averaging the number ratings received from his/her classmates.

Peer Rejection Scale (Vaughn, McIntosh, & Hogan, 1990): children were asked to write the names of up to three children in their class who are not their friends. The scores received by each child were also standardized by averaging the number of ratings received from his/her classmates.

Self-reports

Data collection about self-perception was done using the Loneliness and Social Dissatisfaction Questionnaire, the Children's Sense of Coherence Scale, and the Friendship Quality Questionnaire.

Loneliness and Social Dissatisfaction Questionnaire (Asher et al, 1990): the Hebrew adaptation (Margalit, 1991) consisted of 16 primary items and 8 filler items on a 5-point Likert scale ranging from 1 (never) to 5 (always). Scores ranged from 16 to 80, with items such as "I have nobody to talk to in school," "I am lonely at school," and "I have lots of friends in my class." (alpha = .86). The fillers (e.g., "I like school") covered interest and activity areas and facilitated relaxation and easier disclosure of feelings.

The Children's Sense of Coherence Scale (CSOC) (Margalit, & Efrati, 1996) consisted of 16 primary items and 3 filler items on a 4-point Likert scale ranging from 1 (never) to 4 (always). Scores ranged from 16 to 64, with items describing the children's feeling of confidence in their world, as expressed in their Sense of Comprehensibility, i.e. their sense of understanding the environment (e.g., "I feel that I don't know what to do in class"), Sense of Manageability, their feelings of control and confidence that when help is needed it will be available (e.g., "When I want something I'm sure I'll get it"), and their sense of Meaningfulness - motivation and interest in investing efforts in different tasks (i.e., "I'm interested in lots of things") (alpha = .72).

Friendship Quality Questionnaire (FQQ) (Parker & Asher, 1993): The short version of the Hebrew adaptation of the FQQ consisted of 8 items dealing with companionship qualities such as spending time together, coping with conflicts, providing mutual support, on a 5-point Likert scale ranging from 0 (not at all true) to 4 (really true), and including items such as "My friend and I always help one another", "We always play together during school breaks" (alpha = .77). These

items were selected as the items that had the highest correlation with the total score in a large Israeli sample (N= 630).

Procedure

The instruments were adapted for use in Hebrew through a cross-translation procedure (translated from English to Hebrew by a psychologist with Hebrew as her mother tongue, followed by a separate translation from Hebrew to English by another psychologist whose mother tongue was English, and verification of the versions for accuracy by three judges who were qualified psychologists). Questionnaires were administered by graduate and undergraduate students of the School of Education, Tel-Aviv University, after obtaining parental consent and the Ministry of Education permission.

Results

Teachers' perceptions

A 2 X 2 X 2 (gender X grouping X class) MANOVA with repeated measures was performed with the following dependent measures: social skills, externalizing and internalizing maladjustment, and learning achievements, and with the time of the assessment (beginning/end of the year) as the repeated measure. This revealed significant main effects for student grouping (learning disorders / average achievers) ($F(4,229) = 43.82$, $p<.01$), for gender ($F(4,229) = 8.52$, $p<.01$), and for class ($F(4,229) = 2.99$, $p<.05$), but not for the time comparisons. Two interactions were found significant: time by grouping: $F(4,229) = 3.76$, $p<.01$), and time by class ($F(4,229) = 2.61$, $p<.05$). Table 2 presents means, standard deviations and F scores of the univariate analysis of grouping and gender. Children with learning disorders were viewed by their teachers as demonstrating

behavioural maladjustment and social skill deficit in addition to their academic failure. In addition, boys were rated as demonstrating better academic achievements and more behaviour difficulties. The univariate analysis of the teachers' reports did not reveal significant class effects.

Insert Table 2 about here

Three variables contributed to the interaction of time by grouping: social skills, externalizing and learning achievements. As can be seen in Table 2 there is a significant growth over time in the social skills, externalizing and learning achievements of the group of children with LD and not in the control group, yet the differences between the two groups remained significant. Only the social skills variable predicted the significant interaction of time and class, with significantly decreased skills from beginning to end of the year for the second grade and increased skills from beginning to end of the year for the third grade.

Peer assessments

A 2 X 2 X 2 (gender X grouping X class) MANOVA with repeated measures was performed with dependent measures being peer nominations and peer rejections, and time of assessment (beginning/end of the year) as the repeated measure. The analysis revealed a significant main effect for students' grouping (learning disorders / average achievers) ($F(2,231) = 9.01$, $p<.01$), for class main effect ($F(2,231) = 6.74$, $p<.01$), and for the time comparisons ($F(2,231) = 7.97$, $p<.01$). The only significant interaction was for time by sex ($F(2,231)= 4.77$, $p<.01$).

Table 3 presents means, standard differences and F scores of the univariate analysis of the grouping. Children with learning disorders were less accepted and

more rejected by peers, and the second graders were less accepted than the third graders. The time univariate comparisons revealed that only peer nominations contributed to the significant difference, and increased peer nominations were noticed at the end of the year. The univariate analysis of the time by gender interaction revealed that only the peer rejection variable contributed to the significant interaction. The time comparisons disclosed a clearly decreased rejection for boys but not for girls. The significant difference between boys and girls at the beginning of the year (boys rejection larger than girls rejection) was not significant at the end of the year.

Insert Table 3 about here

Self-reports

A 2 X 2 X 2 X 2 (gender X grouping X class) MANOVA with repeated measures was performed with self-report dependent measures loneliness, CSOC and companionship, and time of assessment (beginning/end of the year) as the repeated measure. The analysis revealed a significant main effect for students' grouping (learning disorders / average achievers) ($F(3,230) = 3.91$, $p<.01$), and for time main effect ($F(3,230) = 2.93$, $p<.05$), but neither for the grade or gender comparisons, nor for the interactions.

Table 4 presents means, standard deviations and F scores of the univariate analysis of the grouping. Two measures contributed to the grouping effect. Children with learning disorders rated themselves as feeling increased loneliness and lower levels of coherence. No significant differences were found in their companionship conceptualization. The time univariate comparisons were not significant for the three measures.

Insert Table 4 about here

Significant Pearson correlations were found between the different measures at the beginning and the end of the year, as can be seen in Table 5, with high correlation for learning achievements, social skills perceptions, and externalizing maladjustment.

Insert Table 5 about here

To further investigate factors predicting teachers' perceptions of children's social skills at the beginning and end of the year, two sets of step-wise multiple-regression analyses were conducted with teachers' ratings of children's social skills at the beginning and end of the year as the dependent variables, and the following independent variables: students' gender and grouping, learning achievements, externalizing and internalizing maladjustment, peer acceptance and rejection, and self-reported loneliness and coherence. Table 6 presents the resulting correlations, multiple correlations, final betas, T scores and F values. The first step-step-wise multiple regression was performed for teachers' rating of students' social skills at the beginning of the year. Students' learning achievements entered in the first step and predicted 48% of the variance. Externalizing maladjustment entered in the second step adding 8.2%. In the third step the gender variable entered and internalizing maladjustment entered as the fourth step, together adding 3.2% of the variance. In the fifth step the grouping belonging entered, thus reaching a high multiple correlation (77.5%) and explaining 60.1% of the variance.

Insert Table 6 about here

For the second step-wise multiple regression analysis, teachers' rating of students' social skills at the end of the year was the dependent variable. The first variable to enter was teachers' rating of social skills at the beginning of the year, reflecting their high persistency, and predicting 47.0% of the variance. Children's learning achievements at the end of the year entered in the second step, adding 9.1% to the prediction. Externalizing maladjustment measure at the end of the year entered in the third step, and the self-reported loneliness at the end of the year entered at the fourth step, reaching a high multiple correlation (76%) and adding 1.5% to the prediction. Table 7 presents correlations, multiple correlations, final betas, T scores and F values. The results indicated that learning achievements had a clear impact on teachers' perceptions of social skills at the end of the year in addition to teachers' perceptions of social skills at the beginning of the year. In addition, children's behaviour difficulties (both externalizing and internalizing maladjustment), group and gender contributed to the assessment of the social skills. At the beginning of the year the social skills of children who had difficulties in their studies, who were identified as suffering from learning disorders, who received remedial help and who demonstrated either type of behaviour maladjustment, were rated low by the teachers. In addition, girls were rated as having higher social skills than boys. At the end of the year a different picture emerged. In addition to the earlier assessment of social skills and current evaluation of learning achievements, only two other measures predicted teachers' perceptions, i.e., the students' current experience of loneliness and externalizing behaviours. Gender and grouping did not enter into the regression equation at this stage.

Insert Table 7 about here

Discussion

This study examined consistency and change in teachers' and peers' perception of learning-disabled students' social competence. Its findings can be interpreted at two levels: (a) as direct depiction of the observed and inferred state of mind of the participants at different points in time, and (b) as a more systemic interpretation in order to formulate, on the basis of the above depiction, theoretical and practical guidelines for planning teacher training as well as student support interventions. Let us start with the first, descriptive level.

It was anticipated that children with learning disorders, in line with earlier research, would be viewed by teachers and peers as revealing social difficulties. The results indeed supported the present hypothesis that teachers viewed these children as demonstrating lower social skills and revealing more externalizing and internalizing difficulties. Peer perceptions indicated that the children were less accepted and more rejected in their classes than the comparison group. The self-report measures revealed children's own processing of their difficulties. They experienced more loneliness and felt less coherent as individuals, regardless of the fact that their companionship qualities were not different from their peers.

The comparison of the two assessments, at the beginning and end of the school year, revealed a significant change in both teachers' and peers' perceptions. Children with learning disorders were viewed by their teachers at the end of the year as demonstrating better learning achievements, less internalizing difficulties, and higher levels of social skills. Following the remedial help provided to them in the school-based learning centres, they seemed to learn better and get higher academic achievements. They were also more accepted by peers, yet they did not feel less lonely nor more coherent.

These results drew attention to two important issues. The first of these is the persistency of difficulties. In spite of a clear and significant progress, the fact that school achievement and social skills of the group with learning disorders were still lower than those of the comparison group at the end of the year, should not be disregarded. In addition, special attention should be devoted to the increased average behaviour maladjustment (especially of the externalizing type) of the group of children with learning disorders. This increase could reflect the children's stress and frustrations about the level of their achievements, despite their learning efforts.

The factors that affect teachers' perceptions deserve further examination. Teachers' perceptions were predicted by the students' academic achievements, behaviour adjustment and loneliness experience. Group belonging (LD/non-LD) and gender had a clear impact on teachers' perceptions only at the beginning of the year, but not at the end of it. At the end of the year, students' self experience of loneliness added to the prediction of teachers' perceptions. Teachers' perceptions showed some changes over time (and some increased awareness to students' feelings of social distress) yet always within a stable set of perceptions.

From a more systemic perspective, our data may be interpreted in terms of the web of teacher's and peers' mental models regarding LD children. Internal models were suggested as a psychological construct by which people perceive, interpret and make decisions about persons (e.g., empathy model in Hoffman, 1993), objects and systems (e.g., mental models of control systems in Mioduser, Venezky, & Gong, 1996) or social events (e.g., social constructionism in Shaw, 1996). Teachers' mental models regarding their students' minds and learning capacities are assumed to affect instruction as well as teacher/student transactions (Strauss, 1993). Here we would like to refer not only to individual (teacher's, student's) internal models, but also to the relations among them. We will relate to this web of

models first as theoretical construct, then we will consider its practical implications for teacher training and student support.

The web of mental models held by teachers, peers and learning-disabled children can be represented as shown in Figure 1. We may assume a formal, external, referential model which may be considered as a socially-accepted or conventional construct (Skaalvik, & Rankin, 1995), and refer to it here as the normative model. In our case this model includes variables such as the expected level of achievements (A) or expected behaviours (B), and the rules governing the interactions among the variables (e.g., high learning achievements >>> few behaviour disorders).

It is expected that each participant in the social transaction (teacher, students) owns her/his own individual version of the normative model. Individuals therefore hold an actual model of the situation, event or person (in this case the LD child), which is an instantiation (or personal version) of the normative model for the specific situation. This personal model contains behaviour components (academic and social behaviour are of interest in this paper) to which the individual assigns a qualitative grade (qg). The qualitative grading process is a critical issue, and it could be defined according to two mechanisms: (a) judgment against the expected values in the normative model, and (b) implicit assumptions about defining links among components (e.g., lower achievement strongly links with behaviour disorders). Finally, a weight is assigned by the individual to each component. Differential weighting of components may have the result that these which get particular preference fulfil filtering functions (e.g., academic achievements by teachers or peers, loneliness by the LD child). These filters may affect the individual's perception of an event (e.g., paying excessive attention to selective aspects of a child's behaviour) as well as her/his attitudes, biases, or actions towards it.

Given this web of models, we can now try to locate conflictive transactions which may contribute to the planning of teacher training and remedial interventions. Let us consider a few examples. One source of interpersonal conflict results from the fact that individuals hold their own versions of both the normative model and the actual model of the event. If the degree of correspondence among the individuals' models sinks below a critical value, this could generate serious interpersonal dissonance.

Another source of conflict is the differential weighting of the model's variables. The dominance of a given variable results in selective filtering of event parameters through the modeling process, affecting the outcoming attitudes and actions. In this study we could see that loneliness strongly persisted as a key variable in the LD children's self-perception throughout the year, even if they experienced notable changes in other variables (e.g., achievements, companionship quality).

Turning to practical implications at the teacher training level, we can make several suggestions: training should promote awareness of the existence of individual models; it should promote the ability to recognize and analyze individual models (including the teacher's own), the differential weighting of variables within the models, and the filtering process; the ability to estimate the extent of difference among models and raise students' awareness of these different (legitimate) individual perspectives. Moreover, teacher training should also emphasize the need to expand the model's criteria encouraging a more refined perception of the child, and to make it more malleable in order to better adjust to the child's changes over time.

Remedial interventions should include (besides work on academic issues) elaboration on the LD child's personal model of the situation; on the differences between it and the perceived or expected behaviours and performance; on the need

to reconsider the weighting of the different variables; on the need to recognize substantial changes and evaluate them against the child's initial behaviour (what was achieved and accomplished) and not only against the expected outcomes (the still unachieved goals).

Conclusion

We suggested the web of models both as a research as well as an intervention planning framework. At the research level, more studies are needed with a focus on teachers' and peers' attitudes and perceptions about children with learning and behaviour difficulties, even about relatively mild cases. Detailed and frequent interviews may reveal the sources of the differential impact of the variables on teachers' and peers' perceptions.

At the intervention level, the current study demonstrates that regardless of improved learning achievements, more comprehensive interventions are needed that address social training aspects so as to promote children's social growth together with the remedial academic help. The found consistency in teachers' and peers' perceptions, regardless of LD students' academic improvement in the course of the school year, also highlighted the urgent need for experimenting different approaches for changing their perceptions and attitudes. It should be emphasized that inclusion of children with special needs in regular classes without proper preparation, such as training the regular teacher to work with LD students and promoting changes in perceptions, expectations, and behaviours, may have limited outcomes.

This study has a unique significance for countries and communities that are ready to experiment different methods of help for children with mild learning disorders within the regular school system. In Israel this has resulted in the

development of school-based support systems. School-based support, such as the learning centres described above, seems a promising alternative to special education placement. Such support should however aim at providing not only academic help, but also promote children's social growth, and attend to teachers' and peers' perceptions and bias. Only intensive and comprehensive help in addition to focused teachers' counseling may offer these children a better future.

References

Antonovsky, A. (1987). Unraveling the mystery of health. San Francisco: Jossey-Bass.

APA (1994). DSM-IV - Diagnostic and statistical manual of mental disorders. Fourth edition. Washington, DC: American Psychiatric Association.

Asher, S. R., Parkhurst, J. T., Hymel, S., & Williams, G. A. (1990). Peer rejection and loneliness in childhood. In S. R. Asher & J. D. Coie (Eds.), Peer rejection in childhood (pp. 253-273). New York: Cambridge University Press.

Bender, W. N., & Smith, J. K. (1990). Classroom behaviour of children and adolescents with learning disabilities. Journal of Learning disabilities, 23, 298-306.

Bender, W. N., & Wall, M. E. (1994). Social-emotional development of students with learning disabilities. Learning Disabilities Quarterly, 17, 323-341.

Bryan, T. (1994). The social competence of students with learning disabilities over time: A response to Vaughn and Hogan. Journal of Learning Disabilities, 27(5), 304-308.

Bryan, T., & Lee, J. (1990). Social skills training with learning disabled children and adolescents: The state of the art. In T. E. Scruggs, & B. Y. L. Wong (Eds.), Intervention Research in Learning Disabilities (pp. 263-278). New York: Springer-Verlag.

Conderman, G. (1995). Social status of sixth and seventh grade students with learning disabilities. Learning Disability Quarterly, 18(1), 13-24.

Fisher, B. L., Allen, R., & Kose, G. (1996). The relationship between anxiety and problem-solving skills in children with and without learning disabilities. Journal of Learning Disabilities, 29(4), 439-446.

Gresham, F. M., & Elliott, S. N. (1990). Social Skills Rating System (SSRS). Circle Pine, MN, American Guidance Service.

Hoffman, M. L. (1993). The contribution of empathy to justice and moral judgment. In A. G. Goldman (Ed.), Readings in philosophy and cognitive science (pp. 647-680). Cambridge, MA: MIT Press.

Kavale, K. A., & Forness, S. R. (1996). Social skill deficits and learning disabilities: A meta-analysis. Journal of Learning Disabilities, 29(3), 226-237.

LaGreca, A. M., & Stone, W. L. (1990). LD status and achievement: Confounding variables in the study of children's social status, self-esteem and behavioural functioning. Journal of Learning Disabilities, 23, 483-490.

Luftig, R. L. (1988). Assessment of the perceived school loneliness and isolation of mentally retarded and non retarded students. American Journal of Mental Retardation, 92, 472-475.

Margalit, M. (1991). Understanding loneliness among students with learning disabilities. Behaviour Change, 8(4), 167-173.

Margalit, M. (1994). Loneliness among children with special needs: Theory, research, coping and intervention. New York: Springer-Verlag.

Margalit, M. (1995). Social skills learning for students with learning disabilities and students with behaviour disorders. Educational Psychology, 15(4), 445-456.

Margalit, M. (In press). Sense of coherence, and loneliness experience among preschool children with learning disabilities. Journal of Learning Disabilities.

Margalit, M., & Efrati, M. (1996). Loneliness, coherence and companionship among children with learning disorders. Educational Psychology, 16(1), 69-81.

Mioduser, D., Venezky, R., & Gong, B. (1996). Students' perceptions and designs of simple control systems. Computers in Human Behaviour, 12(3), 363-388.

Parker, J. G., & Asher, S. R. (1993). Friendship and friendship quality in middle childhood. Developmental Psychology. 29(4), 611-621.

Shaw, A. (1996). Social constructionism and the inner city. In Y. Kafai & M. Resnick (Eds.), Constructionism in practice.(pp. 175-206). Mahwah, NJ: Erlbaum.

Skaalvick, E. M., and Rankin, R. J. (1995). A test of the internal/external frame of reference model at different levels of math and verbal self-perception. American Educational Research Journal, 32(1), 161-184.

Strauss, S. (1993). Teachers' pedagogical content knowledge about children's minds and learning: Implications for teacher education. Educational Psychologist, (28)3, 279-290.

Terry, R., & Coie, J. D., (1991). A comparison of methods for defining sociometric status among children. Developmental Psychology, 27, 867-880.

Tur-Kaspa, H., & Bryan, T. (1994). Social information-processing skills of students with learning disabilities. Learning Disabilities Research and Practice, 9(1), 12-23.

Unesco (1994). Salamanca statement on special needs education. Paris: Unesco.

Vaughn, S., McIntosh, R., & Hogan, A. (1990). Why social skills training doesn't work: An alternative model. In T. E. Scruggs, & B. Y. L. Wong (Eds.), Intervention research on learning disabilities (pp. 279-303). New York: Springer-Verlag

Vaughn, S., Zaragoza, N., Hogan, A., & Walker, J. (1993). A four-year longitudinal investigation of the social skills and behaviour problems of students with learning disabilities. Journal of Learning Disabilities, 26(6), 404-412.

Table 1: Gender distribution for LD and non-LD students

Grade	Boys LD	Girls LD	Boys NonLD	Girls NonLD	Total
Second Grade	30	24	33	25	112
Third Grade	31	32	33	32	128
Total	61	56	66	57	240

Table 2: Means, SDs and F Scores of Teacher Ratings for LD and non-LD students at the beginning and the end f the year

Variables		LD group	NonLD group	Grouping F(1,232)	Boys	Girls	Gender (1,232)	Class (1,232)
Social skills				96.89**			2.40	0.02
Before	M	27.96	42.68	Grouping	34.09	37.09		
	SD	11.46	11.28	x Time	13.62	13.31		
After	M	30.41	41.99	5.31*	35.81	36.95		
	SD	11.84	11.79		13.73	12.48		
Externalizing				10.33**			10.91**	3.63
Before	M	4.83	3.81	Grouping	4.87	3.67		
	SD	3.96	3.39	x time	3.38	3.96		
After	M	5.39	3.54	5.00*	5.11	3.68		
	SD	3.83	3.26		3.72	3.45		
Internalizing				59.48**			9.45**	0.37
Before	M	5.68	3.07	Grouping	3.84	4.91		
	SD	2.93	3.30	x time	3.13	3.57		
After	M	5.38	2.72	0.06	3.54	4.55		
	SD	3.18	2.64		3.09	3.24		
Learning				164.41**			4.89*	3.39
Before	M	20.24	31.55	Grouping	26.82	25.15		
	SD	6.61	6.56	x time	8.78	8.51		
After	M	21.02	30.94	5.58*	27.21	24.85		
	SD	7.10	7.01		8.66	8.42		

* $p<.05$ ** $p<.01$

Table 3: Means, SDs and F Scores of Peer Ratings for LD and non-LD students at the beginning and the end f the year

Variables		LD group	NonLD group	Grouping F(1,232)	Boys	Girls	Gender (1,232)	Class (1,232)
Positive nominations				14.47**			0.55	8.77*
Before	M	.07	.11		.10	.10		
	SD	.07	.09		.09	.08		
After	M	.11	.14		.10	.11		
	SD	.11	.09		.09	.11		
Time - F(1,232)=14.75**								
Negative nomination				7.81**			2.17	1.89
Before	M	.13	.10		.13	.10		
	SD	.12	.08		.11	.09		
After	M	.11	.09		.10	.11		
	SD	.11	.09		.09	.11		
Time - F(1,232)=2.56								

* p<.05 ** p<.01

Table 4: Means, SDs and F Scores of Self Reports for LD and non-LD students at the beginning and the end of the year

Variables		LD Group	NonLD Group	Grouping F(1,232)
Coherence				11.37**
Before	M	46.62	48.60	
	SD	5.14	4.87	
After	M	47.37	48.97	
	SD	5.47	5.37	
Loneliness				5.39*
Before	M	35.01	33.07	
	SD	10.53	11.36	
After	M	34.07	30.89	
	SD	11.96	12.68	
Friendship				2.23
Before	M	22.26	23.04	
	SD	6.35	5.52	
After	M	21.60	22.75	
	SD	6.36	6.52	

* $p<.05$ ** $p<.01$

Table 5: Pearson Correlation of Before/After Ratings

	Before/After
Loneliness	.38**
Coherence	.34**
Peer acceptance	.49**
Peer rejection	.33**
Social skills	.69**
Externalizing	.69**
Internalizing	.56**
Learning achievements	.87**

* $p<.05$ ** $p<.01$

Table 6: Multiple Regression for Teachers' Perceptions of Students' Social Skills at the Beginning of the Year

Step	Variable	Beta	T	R	R^2	Multiple R	Overall F
1	Learning	.54	9.43**	.70**	.48	.70	222.96**
2	Externalizing	-.24	-.5.57**	-.40**	.57	.75	154.09**
3	Gender	.14	3.32**	.11	.58	.76	109.47**
4	Internalizing	-.11	-2.27*	-.44**	.59	.77	85.73**
5	Grouping	.12	2.16*	.55**	.60	.78	70.58**

* $p<.05$ ** $p<.01$

Table 7: Multiple Regression for Teachers' Perceptions of Students' Social Skills at the End of the Year

Step	Variable	Beta	T	R	R^2	Multiple R	Overall F
1	Skills (b)	.33	5.21**	.69**	.47	-.69	211.02**
2	Learning (a)	.38	6.62**	.67**	.55	.74	145.23**
3	Externalizing (a)	-.15	-3.14**	-.31**	.57	.75	103.25**
4	Loneliness (a)	-.13	-2.90**	-.30**	.58	.76	81.98**

* $p<.05$ ** $p<.01$

Figure 1: Web of Teacher's, Peer's and Child's Mental Models