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Investigating the Effect of Social Problem-solving on Academic Achievement of the Students with Learning Disorders

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A B S T R A C T

The present study aimed to evaluate the effect of social problem-solving training on academic achievement of the students with learning disorders. This was an experimental study with pretest, posttest, experimental and control groups. The statistical population consisted of all 12 to 16 years old students with learning disorders in the first education district in Bandar Abbas in 2013-2014 academic years (35). The sample size consisted of 32 individuals who were randomly selected based on Cochran formula. The individuals were divided into two groups (an experimental group and a control group), each group consisting of sixteen individuals. The standard questionnaires of Social Problem-solving and Academic Achievement were used to collect the required data. The analysis of covariance statistical method was used to analyze the collected data. The results showed that social problem-solving had a significant effect on academic achievement and its components (self-efficacy, planning and motivation) in the students with learning disorders.

Keywords: Social Problem-Solving, Life Skills, Academic Performance, Student Learning Disorders.

INTRODUCTION

Nowadays, academic achievement is considered in all nations. A large amount of funds are annually spent on education of children and adolescents in every society. UNESCO figures show that total governmental expenditure for education has increased in developing countries. Academic achievement is one of the most objective and important criteria to evaluate the efficiency and effectiveness of education system among students. All national efforts are dedicated to realization of academic achievement[1].

The students with learning disorders have successively failed to achieve success in education. As a result, these people often have low self-esteem and do not establish proper social relations in school. Life skills training can effectively promote self-esteem in these children, particularly social problem-solving skills, which help the individuals to deal with conflict in their lives. These skills also help the individuals to interact positively and adaptively with other human beings,

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society, culture and environment. Social problem-solving exercises strengthen or change individual attitudes, values and behavior[2].

Hosseini (1999) believed that education is the most basic primary prevention. On the other hand, childhood and adolescence are the most important and effective period for preventive education. For this reason, experts in education have considered preventive education during childhood and adolescence. Social problem-solving skills training can be noted as an instance of preventive education, which is recently considered by many experts[3].

Problem-solving skills training is a series of steps, which guide

The youths to give adaptive responses to their peers in various social situations[4]. Social problem-solving helps the adolescents to realize that their problems are not uncontrollable and catastrophic. In addition, problem-solving approach encourages the adolescents to use various options and solutions in order to evaluate and solve their problems. In this approach, the adolescents describe and try to solve their problems at first. Then, they create and discriminate pros and cons of alternative solutions. They examine which solution would help them to accomplish their specified goal. Finally, the adolescent analyzes the result of his choices. Instead of persisting on a unique result, he tries to resolve his problem[5].

Certainly, children and adolescents are more susceptible to serious internal and social trauma due to inexperience and lack of knowledge on preventive and corrective facilitator skills. The students subdue their stress by learning effective skills in order to cope with stressful situations. As a result, they are prone to mental and affective disorders, anxiety, depression and anti-social behaviors. These students also have difficulty in their decision-making process. The schools have an important role in providing mental health of students; therefore, life skills training program provides an effective treatment to develop healthy personality and mental health of the students. If no opportunity has been provided for mental and emotional development of children during early childhood, learning opportunity is lost forever since early childhood is the decisive period of learning[2].

Children with learning disorders often have low self-esteem in school due to academic failure. Low self-esteem negatively affect their familial relationships, social interactions, academic success and even self-concept. Therefore, the areas where the child have positive self-concept should be stressed, so that the child would feel valuable[2].

Karami Pour[6] showed that problem-based learning is effective in development of creativity and academic achievement. Ahmadi et al [7] showed that social problem-solving can improve social adjustment and academic performance of shy students. Barker[8] found out a significant relationship between social problem-solving capability and academic achievement.

Based on the above-mentioned materials, social problem-solving can increase academic achievement in the students, especially the students with learning

disorders. The reports also showed that social problem-solving, academic achievement and their relationship and other relevant areas were not addressed and analyzed professionally and expertly in our country. On the other hand, the necessity and importance of this study lied in making the students with learning disorders familiar with life skills, which aims self-cognitive skills and interaction with others and society. These skills help the people not to underestimate themselves and to recognize their strengths when dealing with various problems. The effectiveness of this training (teaching social problem-solving) on academic achievement of the students is an effective step in rehabilitation and education of these students. The present study aimed to investigate the effect of social problem-solving training on academic achievement of the students with learning disorders to empower and increase their academic achievement in the first education district in Bandar Abbas. The authors wondered whether social problem-solving training affect academic achievement of the students with learning disabilities.

The following hypotheses were used for this study:

1- Social problem-solving training affects academic achievement of the students with learning disorders.

The social problem-solving training affect dimensions of academic achievement in the students with learning disorders.

METHODOLOGY

This was an experimental study with pretest, posttest, experimental and control groups. The experimental and control groups were selected randomly. The statistical population consisted of all 12 to 16 years old students with learning disorders in the first education district in Bandar Abbas during 2013-2014 academic years. The students were referred to the center of learning disorders to solve their problems. According to statistics in the center of learning disorders in the first education district in Bandar Abbas, 35 students were admitted to the center. In the present study, 35 individuals were examined at pretest. Then, a sample size consisting of 32 individuals were randomly selected among the individuals with low self-esteem and academic achievement scores based on Cochran formula. The selected individuals were divided into two groups (an experimental group and a control group), each consisting of 16 individuals. Two questionnaires were used to measure the research variables. The Social Problem-solving Inventory developed by Heppner and Petersen (1982) was used to measure the respondents' understanding of their problem-solving behavior. The inventory had 35 items, which were designed to measure individual response to their daily problems (2). Educational performance Test developed by Fam and Taylor (1999) with 48 items was used to measure academic achievement of the students. In this study, Cronbach's alpha was used to determine reliability of the questionnaire and content validity was used to examine validity of the questionnaire. Analysis of covariance was used to analyze the data.

RESULTS

Analysis of covariance was used to investigate the hypotheses in both experimental and control groups at pretest and posttest. The test prerequisite is equality of variance between the groups. F test was used to determine the equality of variance. The results are shown in the following table. If F-value was not significant ($p>0.05$), it can be concluded that there is no significant difference between variance of scores in the control and experimental groups. Then, the prerequisite was observed. Therefore, analysis of covariance can be used for statistical analysis of the hypothesis. If F-value was significant ($p<0.05$), it can be concluded that there is a significant difference between variance of scores in the control and experimental groups. Then, the prerequisite was not observed. Therefore, differential t-test was used for statistical analysis.

Table 1. Determining equality of variance of scores of academic achievement and relevant dimensions

Variable	F-value	The first degree of freedom	The second degree of freedom	Level of significance (p)
Total academic achievement	4.5	1	30	0.04
Self-efficacy	4.7	1	30	0.03
Emotional effects	5.5	1	30	0.02
Planning	0.43	1	30	0.5
Lack of control	4.8	1	30	0.03
Motivation	1.3	1	30	0.2

As it can be observed in the table, F-values of variables of total academic achievement, self-efficacy, emotional effects and lack of control were significant ($p<0.05$). Therefore, it can be concluded that there is a significant difference between variance of scores in the control and experimental groups. Then, the prerequisite was not observed. Then, the differential t-test can be used for statistical analysis. F-values were not significant in other variables (planning and motivation) ($p>0.05$). Therefore, it can be conclude that there is no significant difference between variance of scores in the experimental and control groups. The prerequisite was observed. Then, analysis of covariance can used for statistical analysis of other hypotheses.

The first hypothesis: social problem-solving training has a significant effect on academic achievement of the students with learning disorders.

As observed in Table 1, the prerequisite was not observed. Then, differential t-test can be used for statistical analysis of the hypothesis.

Table 2. Evaluating the difference between academic achievement scores in the experimental and control groups

Group	Number	The difference between means	Standard deviation	t	Degree of freedom	Level of significance (p)
Experimental	16	-44.06	10.9	-13.3	30	0.0001
Control	16	-1.5	6.3			

According to the above table and the level of significance, it can be found that t-value is equal to (-13.3) at 0.0001 level of significance. The t-value is less than 0.05 and significant. In other words, there is a significant difference between academic performance scores in the experimental and control groups.

The second hypothesis: social problem-solving training has a significant effect on academic achievement of the students with learning disorders.

Self-efficacy Component

As observed in Table 1, the prerequisite was not observed. Then, differential t-test can be used for statistical analysis of the hypothesis.

Table 3. Investigating the difference between self-efficacy scores in the control and experimental groups

Group	Number	The difference between means	Standard deviation	t-value	Degree of freedom	Level of significance (p)
Experimental	16	-12.3	8.4	-4.6	30	0.0001
Control	16	-0.18	6.1			

According to the above table and the level of significance, it can be found out that t-value is equal to (-4.6) at 0.0001 level of significance. The t-value is less than 0.05 and significant. In other words, there is a significant difference between self-efficacy scores in the two groups.

Emotional effects component

As observed in Table 1, the prerequisite was not observed. Then, differential t-test can be used for statistical analysis of the hypothesis.

Table 4. Investigating the difference between emotional effects variable in the control and experimental groups

Group	Number	The difference between means	Standard deviation	t-value	Degree of freedom	Level of significance (p)
Experimental	16	-11.1	7.7	-2.9	30	0.006
Control	16	-2.1	9.5			

According to the above table and level of significance, it can be found out that t-value is equal to (-2.9) at 0.006 level of significance. The t-value is less than 0.05 and significant. In other words, there is a significant difference between scores of emotional effects in the control and experimental groups.

Planning Component

As observed in Table 1, the prerequisite was observed. Therefore, analysis of covariance was used for statistical analysis of the hypothesis.

Table 5. Investigating the difference between planning scores at posttest

Source of variation	Sum of squares	Degree of freedom	Mean of squares	F-value	Level of significance
The effect of pretest	12.4	1	12.4	0.5	0.4
The effect of independent variable	270.103	1	270.103	11.04	0.002
Error	708.913	29	24.4		
Adjusted total	36110.00	30			

As observed in the second row, the f-value is equal to 11.04, which was significant at 0.002 level of significance (because it is less than 0.05 acceptable level). Therefore, it can be concluded that there is a significant difference between planning component scores at posttest after excluding the impact of pretest. This hypothesis was accepted. In other words, social problem-solving training has a significant effect on planning component of the students with learning disorders.

Table 6. Mean and standard deviation of planning component at posttest

Group	Number	Unadjusted mean	Standard deviation	Adjusted mean
Experimental	16	36.06	4.9	36.03
Control	16	33.13	4.8	30.21

As observed in the above table, mean scores of planning component were respectively as 36.03 and 30.21 in the experimental and control groups after excluding the impact of pretest planning. This reflects the impact of social problem-solving on planning component of the students with learning disorders in the experimental group.

Lack of control component

As observed Table 1, the prerequisite was not observed. Then, differential t-test can be used for statistical analysis of the hypothesis.

Table 7. Investigating the difference between scores of lack of control in control and experimental groups

Group	Number	The difference between means	Standard deviation	t-value	Degree of freedom	Level of significance
Experimental	16	-4.4	4.8	-2.6	30	0.01
Control	16	-0.68	3.07			

According to the above table and the level of significance, it can be found out that t-value is equal to (-2.6) at 0.01 level of significance. The t-value is less than 0.05 and significant. In other words, there was a significant difference between scores of lack of control in control and experimental groups.

Motivation Component

As observed in Table 1, the prerequisite was observed. Therefore, analysis of covariance can be used for statistical analysis of the hypothesis.

Table 8. Investigating the difference between scores of motivation component

Source of variation	Sum of squares	Degree of freedom	Mean of squares	F-value	Level of significance
The effect of pretest	25.4	1	25.4	1.2	0.2
The effect of independent variable	427.78	1	427.78	20.8	0.0001
Error	593.95	29	20.4		
Total adjusted	38791.00	30			

As observed in second row of the above table, F-value is equal to 20.8, which is significant at 0.0001 level of significance (because it less than 0.05 acceptable level). Therefore, it can be concluded that there is a significant difference between

motivation component scores at posttest after excluding the impact of pretest. Then, the hypothesis was accepted. In other words, social problem-solving training had a significant effect on motivation component of the students with learning disorders.

Table 9. Mean and standard deviation of motivation component at posttest

Group	Number	Unadjusted mean	Standard deviation	Adjusted mean
Experimental	16	38.00	5.1	38.00
Control	16	30.69	3.8	30.6

As observed in the above table, mean scores of motivation component were respectively as 38.00 and 30.6 in the experimental and control groups after excluding the impact of pretest. This reflects that social problem-solving training has a significant effect motivation component in the students with learning disorders.

CONCLUSION

The present study aimed to investigate the effect of social problem-solving training on academic achievement of the students with learning disorders in the first education district in Bandar Abbas. The results were as follows. Social problem-solving training had a significant effect on academic achievement and its components (self-efficacy, planning and motivation) in the students with learning disorders.

Since the students with learning disorders have lower than expected learning abilities, life skills and functioning, they would have lower academic achievement and difficulty in daily activities that require using these skills[9].

In explaining the effectiveness of social problem-solving training in promoting academic achievement of the students with learning disorders, it can be stated that every individual should deal with stressful situations in his life. This issue is highlighted in the students with learning disorders. According to Hans Selye Theory (general adaptation syndrome), the people enter resistance stage after experiencing the alarm stage in dealing with their problems. At this stage, physical mechanisms mobilize energy to cope with the stressors as a long as a stressor threatens the individual health. Lower energy is spent as the individual quickly deals with his problem. As a result, the possibility of entering the third step (exhaustion) is lower. Thereby, promoted physical and psychological health are guaranteed. Certainly, the people with high capability of social problem-solving can easily and quickly solve their problems. Consequently, negative and destructive effects of unsolved problem on bio-psycho-social dimensions are reduced. On the other hand, successful dealing with problems in life through a process of consolidation and the revised rule of Sirnedike Effect leads to increased individual self-esteem, self-confidence, self-efficacy and tolerance. Thus, it can be concluded that social problem-solving training can lead to increased academic achievement of

the students with learning disorder. In problem-solving model, the students will practice different problem-solving methods. They are given the opportunity to think. Hence, this model motivates the students to improve their academic achievement. In general, it can be concluded that social problem-solving training can improve psychological well-being of the students with learning disorder and increase their resiliency. Considering the relationship of psychological well-being and resiliency with many health-insurance variables, this training can lead to many positive changes in lives of the people with learning disorder and affect their academic achievement.

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