The effectiveness of life skill training on self-esteem and communication skills of students with dyscalculia

R. Kazemi\textsuperscript{a} *, S. Momeni\textsuperscript{a}, A. Abolghasemi\textsuperscript{b}

\textsuperscript{a} Department of Clinical Psychology, Ardabil Branch, Islamic Azad University, Ardabil, Iran
\textsuperscript{b} Department of Psychology, University of Mohaghegh Ardabili, Ardabil, Iran

Abstract

The purpose of the present research was to examine the effectiveness of life skill training on the self-esteem and communication skills of students with dyscalculia. This study is a quasi-experimental with pre-test/post-test and a control group. The sample of consisted of 40 students with dyscalculia that selected among primary school students with learning disabilities in Ardebil city, and assigned to two experimental (n=20) and waiting list groups (n=20). The 8 sessions (one hours) of life skills training were implemented for experimental group. To collect the data, Key-Math Mathematics Test, Self-Esteem Scale and Social Developmental Questionnaire were used. The MANCOVA results showed that life skills training were significantly on increasing of self-esteem and communication skills. On the other hand, students who were in experimental group had a significant increase in the self-esteem and communication skills, than students of control group. The results indicated that life skills training can positively increase the use of self-esteem and communication skills.

1. Introduction

The most experts believe in dyscalculia is not wholly surveyed in comparison with other learning disability. These failures are in related with disability. Dyscalculia means disability in performing calculation skills that in attention to intelligence capacity and instruction level, it’s anticipated student. The lack of anticipation ability in mathematics interferes with educational performance or daily activities and these problems are widespread than neural and sense defects. Moreover, students with dyscalculia have problems in linguistic, perceptual, cognitive and behavioral skills. The rate of prevalence has been estimated 1% (Sadock & Sadock, 2003) as if Hamid (2006) reported 3.6% in Tehran-Iran.

According to studies, students with learning disorder have defects in social problem-solving skills and interpersonal relations, so they’re lower than their healthy peers (Toro, Weisberg, Gu& Liebenstein, 1990). Huntington (1993) found out these students in old age were at risk of depression and suicide. Their low interpersonal relations are often associated with neglecting of peers. They aren’t accepted by peers, this would lead child’s pessimism to school,
withdrawal, loneliness and educational fall too (Hagger & Vaun, 1995). Schumacher and Ellet (1982) has propounded defect of problem-solving skill in these children as well. Students with learning disorders have serious problems in school dropping out (Ulman, 1957), delinquency and psychic troubles and disproportionate success in the occupation in comparison with peers (Cowen et al., 1973). Gresham (1981) presented which success in social term requires to social competence and children with poor social behaviors exposure troubles such as elimination of peers, behavioral problems and low academically success. It has been found out there is significant relation between social competence, sociable behaviors, relation to peers, suitable behavior in classroom and better adaptation in the school (McClelland & Morrison, 2003).

Life skills training of included psychic, social and interpersonal skills. These help student to have affective communication, cognitive and affective skills and they efficiently live. Research findings indicated that self-assertiveness skill Training and resistance against the peers pressure causes decrease in their vulnerability with regard to peers pressure, constancy and increase in inner control and self-esteem. Life-skills-training positively effects on problem-solving, effective communication (Forneries et al., 2007), and adjustment to stress (Jeffery, 2002) in students. Also applied training, token reinforcement and relaxation training significantly decreased mathematics learning disorders (Hamid, 2006). Other studies showed that training of life skills was effectiveness on generation and increase in skills such as decision, spontaneity, acceptance of responsibility, effective communication with others, problem-solving and self-regulation in students (e.g., Hazel et al., 1982; La Greca, 1981; Nabors et al., 2000). But some researches haven’t reported positive effect of life skills training on communication skills in students (Merz, 1985; Larsen & Greyer, 1978; Northcutt, 1987).

The most studies have examined effectiveness of life skills training in high school students. A few researches have been probed in order to examining it in atypical schools particularly mathematics learning disorder. The purpose of the present research was to examine the effectiveness of life skill training on the self-esteem and communication skills of students with dyscalculia.

2. Method
This research was experimental with pretest/posttest and a control group. Statistical population consisted last level of primary school students, all were of Ardabil-Iran origin in 2010. The sample of consisted of 40 students with dyscalculia that selected among primary school students with learning disabilities in Ardebil city, and assigned to two experimental (n=20) and waiting list groups (n=20). The 8 sessions (one hours) of life skills training were implemented for experimental group. In these sessions was utilized schedule of life skills training (included social, emotional, cognitive and self development) as it was proposed for primary school students. Having finished the training, both groups were analyzed in the posttest stage by t test.

The study measures were administrated in the following order:

2.1. Key-Math Mathematics Test (K-MM; Connely, 1998): The K-MMT with thirteen items was utilized in order to appointment student’s strength and weakness points in several sections of mathematics. The reliability coefficient of this test was 0.80.

2.2. Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965): The RSES is widely used 10-item global measure of self-esteem. Items are rated on a 5-point scale ranging from one (not very true of me) to 5 (very true of me; Sample 1 α = .89; Sample 2 α = .88

2.3. Vineland Social Maturity Scale (VSMS; Raggio & Massingale, 1990): The VSMS included the rate of ability in persons for meeting self functional requirement. There are eight items in considered age group. The retest reliability coefficient (after one month) of this scale has been reported 0.92.

4. Results
According to demographic results, the mean and standard deviation of age were 11.38 and 0.39 in participant. These were calculated 11.5 and 0.36 in experiment group and 11.80 and 10.41 in control group. So, parent’s educational levels were illiterate (8% fathers & 16% mothers), elementary (18% fathers & 10% mothers) and high school (6% fathers & 11% mothers). Participants were six boys & fourteen girls in experiment group and fifteen boys & five girls in control group.
The mean and standard deviation in scores of self-esteem and communication skills in the experiment and control groups (Table 1).

### Table 1
Mean and standard deviation of variables in the experiment and control groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Experiment group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X SD</td>
<td>X SD</td>
</tr>
<tr>
<td>Communication</td>
<td>Pre 13.35 1.84</td>
<td>3.88 2.37</td>
</tr>
<tr>
<td></td>
<td>post 13.78 1.70</td>
<td>3.20 1.90</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>Pre 5.55 1.47</td>
<td>4.70 1.56</td>
</tr>
<tr>
<td></td>
<td>post 14.11 1.29</td>
<td>7.55 3.09</td>
</tr>
</tbody>
</table>

As it is seen in table 2, significance test of MANOVA showed that there is a significant difference between in the experiment and control groups considering at least one of the dependent variables (Wilks' lambda=0.184, F=82.17, P<.001). Results of MANOVA test showed that the mean self-esteem and communication skills in experiment group is significantly more that to those in control group. In other words, life skills training were effective in producing incensement in self-esteem and communication skills in students with dyscalculia.

Eta-square indicates that life skills training led to an 82% incensement in self-esteem and communication skills of participants in experimental group relative to those in control group. 100% statistical power is also indicative of the high accuracy of the statistics of this test.

### Table 2
MAOVA of the mean self-esteem and communication skills in the experiment and control groups

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-esteem</td>
<td>330.63</td>
<td>1</td>
<td>330.63</td>
<td>51.88</td>
<td>.000</td>
</tr>
<tr>
<td>Communication</td>
<td>1020.10</td>
<td>1</td>
<td>1020.10</td>
<td>148.93</td>
<td>.000</td>
</tr>
</tbody>
</table>

5. Discussion and conclusion
The purpose of present research was to examine the effectiveness of life skills training on self-esteem and communication skills in students with mathematics learning disability. The results indicated that training of life skills has been positively affected on communication skills. These findings were in line with the outcomes of Huntington (1993) and Nabors et al., (2000), who reported improvement in communication skills such as increasing family relation and decreasing in conflict to peers and teachers. Therefore, training of life skills leads improvement in psychological status and communication skills in students with learning disorders.

The evidences point out life skills training effectively increased self-esteem of students. Findings of present research laid in some probing in students with learning disorders. The select of training method could increase purposive behaviours in small groups of students with learning disorders (Hazel et al., 1982). Nabors et al. (2000) found out training of life skills leads decrease in aggression, depression and increase in self-confidence skills and responsibility. La Greca et al. (1990) detected training to increase social skills in children with learning disorders. Also, findings of present research didn’t lay in other some probing, for example Larson & Gerber (1978) concluded training was ineffective in improvement of competent behaviours in comparison with lack of learning disorders groups. Merz (1985) & Northcut (1978) observed which training intervention didn’t significance effect on social skills in children with learning disorders. Taking into consideration the effectiveness of life skills training on improvement of communication skills and self efficacy status in students with mathematics learning disorder, these training provide them against the more psychological problems such as conflict to peers or appearing of environmental threats with the assumption of appropriate behaviour. Because of its necessity life skills training are presented as WHO proposed in primary teaching centres of learning disorders. These trainings should be conformed in culture and environmental structures like timing schedule and constant training.
The absence of a didactic schedule, standard contents in life skills training and lack follow up data were limitations of research. So, the utilizing this didactic method with other methods was suggested in future researches. With the assumption of follow up episode can be certainly conclude about results. Also, the findings of important implications are about training and counselling services in the students, as an important part on treatment.

References