

The comparison of Effect of cooperative and directive teaching on school achievement and adjustment of students with intellectual disability

Jahanshir Tavakolizadeh¹, Mojtaba Mahdavi², Alireza Atarodi*³,

¹ Associate Professor, Department of basic Sciences, and Social Development & Health promotion Research Center, Gonabad University of Medical Sciences, Gonabad, Iran

² Islamic Azad University, Qaenat

3 Faculty member, Department of Basic Sciences and Social Development & Health promotion Research Center, Gonabad University of Medical Sciences, Gonabad, Iran.

3Correspondence Author: Alireza Atarodi. Department of Basic Sciences and Social Development & Health promotion Research Center, Gonabad University of Medical Sciences, Gonabad, Iran. P.O. Box: 397. E-mail: aratarodi1387@yahoo.com

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Abstract

Introduction: In each education system especially education of children with intellectual disability, school achievement and social adjustment has a basic importance. It seems that group activities in their teaching programs can be affective on their school achievement and social adjustment. This study has been conducted to compare the effect of cooperative teaching and direct instruction methods on school achievement and social adjustment in the fourth grade primary school students with intellectual disability in Gonabad.

Method: In this semi-experimental study, 4 classes of mentally retarded students of the fourth grade in primary school students (28 students) and from exceptional education schools, 2 classes for case group and other 2 classes for control group were assigned randomly with post-test and pre-test and control group design. At first, the school achievement questionnaire and Vineland social maturity test were executed as a pre-test in both groups. Afterwards, each case and control groups were taught as cooperative method and direct instruction, respectively for 10-45minute sessions. After teaching a post-test using the questionnaires were taken from both groups. The collected data were analyzed using SPSS-16 software program and the independent T-test- for differences between the means.

Results: The results showed that there was a meaningful difference between means of school achievement ($P < 0.01$) and social adjustment ($P < 0.01$) in the experimental and control groups.

Discussion or Conclusion: According to the results, cooperative teaching method compared with direct instruction had a significant effect on school achievement and social adjustment of mentally retarded students. Thus, it is recommended to use cooperative teaching in educational programs of students with intellectual disability.

Keywords: Cooperative & directive teaching, Intellectual disability, Gonabad

Introduction

Duty of and the goal of every education system is to make students ready for future of the society and also to make them to be competent socially in coping with different life situations. In the other hands, development, achievement and social adjustment are main objectives of education systems especially education of intellectual disability. Adaptive behavior and social adjustment are an essential function in intellectual disability. Since significant limitations in adaptive behavior, along with significant limitations in intellectual functioning and the age of onset prior to age 18, define ID operationally (Tasse´ et al, 2012), it is clear that on base of this definition, the students with intellectual disability will have difficulties from the view of intellectual functioning such as learning, reasoning, and problem solving and adaptive behavior such as conceptual skills, social skills, social adjustment and practical skills. Then useful applicational teaching methods are essential for the students with intellectual disability.

Today, there are many of teaching methods which affects on teaching- learning process. Direct Instruction is a teaching approach that is skill-oriented, and teacher-directed. It emphasizes the use of small-group, face-to-face instruction by teachers and aids using carefully articulated lessons in which cognitive skills are broken down into small units, sequenced deliberately, and taught explicitly (Carnine, 2000, pp. 5-6; Traub, 1999). Cooperative learning is defined as the instructional use of small groups such that students work together to maximize their own and each other learning (e.g., Johnson, Johnson, and Smith 1991). Cooperative learning encompasses a variety of approaches that encourage students to work together in small groups to achieve success rather than compete for a grade. It encourages students to take responsibility for their own learning and provides a non-threatening environment in which they can receive help from their peers (Armstrong et al, 2007).

Using cooperative learning as a teaching tool is not new, and research comparing the effectiveness of this method with individual/competitive learning approaches has been carried

out since the 1800s (Armstrong et al, 2007). The studies have shown positive aspects cooperative method, compare with other methods especially lecturing such as improvement of social skill (Johnson, and Johnson 1990; Soltani, 2006), school achievement (Giraud, 1997; Armstrong et al, 2007; Talebi, 2005 ; Tajik, 2004) and achievement motivation and self-respect (Najafi, 2006) on normal students. A sizeable body of research has been accumulated which indicates that cooperating method can yield significant effects on social acceptance of children with sensory, physical or learning disabilities by their non-disabled classmates (e.g. Lloyd et al. 1988; Margolis & Freund 1991; as quoted by Jacques, 1998). Also, Gillies and Ashman (2000) have shown significant effect on structured groups than unstructured groups on performance of comprehension and involvement in group activities in children with learning difficulties. Some studies also, have noticed the role of cooperative learning on Increase of reading comprehension skills (Nurhan, 2007), enhancing the social acceptance (Jacques, 1998) social adjustment (Bagheri and Shahsovari, 2008) on mentally retarded students.

Jacques et al (1998) performed a study on a sample of 24 children with mild intellectual disability in the 9±11-year. The results confirmed the usefulness of cooperative learning strategies for enhancing the social acceptance of children with mild intellectual disability.

Johnson and Johnson (1982) indicated that cooperative learning, compared with individualistic ones, promote more cross-handicapped interaction during instruction, more interpersonal attraction between handicapped and non-handicapped students, and higher achievement on the part of both handicapped and non-handicapped students. According to the mentioned studies there are no studies to show the comparative effects of cooperative and direct instruction methods on school achievement and so on social adjustment on intellectual disability. Thus, the purpose of this study was to compare the effectiveness of cooperative teaching and direct instruction on students with mild mental retardation in Gonabad city. The present research has examined the following hypotheses in order to reach the following objectives:

1. The cooperative teaching method effects on mental retarded students' school achievement
2. The cooperative teaching method effects on mental retarded students' social adjustment

Method

Subjects

This research is a semi-experimental study with a case and control in double group with a pre- and post-test research design. The population consisted of all the mildly mental retarded in the fourth grade primary students, (28 students) in exceptional classroom In Gonabad who were educating in 2011-2012. From the four classes in the fourth grades, 2 classes (14 students) were assigned randomly as case group and 2 other classes (14 students) as control group. It is necessary to be stated that at this research the means of mildly mental retarded students IQ was attained 50-70 by using of Leyter, Wechsler and Goodenough tests.

Measures

Measurement tools in this study were the school achievement questionnaire and Vineland social maturity test. The Vineland Social Maturity Scale is designed to help in the assessment of social competence. It was developed by Edgar Arnold Doll in 1986. The Vineland Social maturity Scale measure social competence, self – help skills, and adaptive behavior are from infancy to adulthood. It is used in planning for therapy and individualised instruction for persons with mental retardation or emotional disorders. The Vineland scale, which can be used from birth up to the age of 30, consists of a 117- item interview with a parent or other primary care giver (Pedrini, 1973).

Personal and social skills are evaluated in different areas such as daily living skills, communication, motor skills, socialization, occupational skills, and self-direction. The test is untimed and takes 20-30 minutes. Raw scores are converted to an age equivalent score (expressed as social age) and a social quotient (Pedrini, 1973).

This scale has been validated in Iran on 620 people from birth up to the age of 30 years and its reliability coefficient was determined .092 with test-retest method. (as quoted by Cina research institute of behavioral sciences). In this study reliability coefficient was determined 0.73 by using Cronbach's alpha coefficient.

School achievement questionnaire was consist of 20 questions (multiple-choice, fill in the blanks and extended response) in pre-test and post-test. The questions have been designed based on the objectives of empirical and health sciences books of the fourth grade of primary school in mildly mental retarded students. 20 questions have been given to 4 teachers in the fourth grade of mild intellectual disability and 2 people from their educational team to evaluate questionnaire's validity. All the people believed that the designed questions in pre-test and post-test covered school achievement index in the mentioned books. This questionnaire has been delivered to the teachers of the sample to give to students that have been taught up to page of 45 of an empirical science book. A reliability coefficient of this questionnaire was determined 0.75 and 0.73 respectively by using Cronbach's alpha coefficient.

The procedure of research was such that after randomly assignment of case and control groups, pre-tests were performed on both groups. Then the case group was taught in 10 sessions (each session's duration was 45 minutes) on 4 lessons from an experimental science book with cooperating of teaching method. Also, control group was taught in lecturing method.

The data was analysed by SPSS-16 software and t-test of differences between means.

Results

The outcomes related to the study hypotheses are shown in tables 1-2

Table 1: independent t-test outcome in school achievement of case and control groups

Groups	N	Difference of Means	Standard deviation	Standard error	T	Df	significance
Case	14	1.57	1.08	0.28	3.47	26	0.002
Control	14	0.28	0.80	0.214			

According to table 1, the mean of school achievement score in case groups was significantly more than controls ($p < 0.01$), hence, the first hypothesis of study was confirmed with 99% confidence.

Table 2: independent t-test outcome in social adjustment of case and control groups

Groups	N	Difference of Means	Standard deviation	Standard error	T	Df	significance
Case	14	9.21	2.88	0.77	5.89	26	0.001
Control	14	3.21	.2.49	0.66			

According to table 2, the mean of social adjustment score of case group was significantly more than that of control group ($p < 0.01$), so the second hypothesis of the study is confirmed with 99% confidence.

Discussion or Conclusions

The results showed that cooperating teaching compared with directive teaching lead to school achievement in case group. These findings are compatible with Gillies and Ashman (2000), Armestroug et al (2007), Nurhan et al (2007), Johnson and Johnson (1982), Vaughn, S et al. (2001), Tajik et al. (2004), Giraud, 1997, Gillies and Ashman (2000) Tajrobekar (2002), Talebi (2005), and Johnson and Johnson (1982) studies. These results show that the students to achieve better feelings with cooperative teachings and increase positive feeling as him/herself as others. Probably, they acquire more self-esteem and self-respect that can result in school achievement. Moreover, it seems in this method that teachers confront to useful situations for attending individual differences. Hence, they also can encourage emerged abilities individually. According to view of Ralph most cooperating teachers prefer using a high supportive/low directive style in which they use encouragement, positive reinforcement, and emotional support, but do not give guidance and advice. The other main characteristic of this method is more and closer interaction between teacher and students. It seems that teachers by using the cooperative method in comparison with direct instruction have more opportunities for students to ask more questions and the teachers receive more feedback from

their performances. Then, it is possible that such these characteristics help students to achieve more frm.

The present study also indicated that cooperative teaching compared with lecturing increased social adjustment significantly in mentally retarded students, so the second hypothesis of the study was confirmed with 99% confidence. This finding is consistent with Johnson, and Johnson (1990), Jacques et al (1998), Bagheri and Shahsavari (2008), Tajrobekar, (2002) and Soltani (2006) studies. Clearly, cooperating teaching have benefits for students with mental retardation in terms of social adjustment and self-esteem, this subject is essential especially for students with intellectual disabilities that have a main problem is social maladjustment. Many researchers believe that social and communication skills are necessary for all students and are often significant needs for those with severe disabilities, they may not be sufficient for access and participation in the general education curriculum. Social relationships and communication between students with and without disabilities are of undeniable importance (Bogdan & Taylor, 1989; Salzberg, Agran, & Lignugaris -Kraft, 1986; Nietupski, Hamre-Nietupski, Curtin, & Shrikanth, 1997 as quoted by Argan and Alper, 2002).

In conclusion, the findings of this study indicate that the cooperative learning in compared with directive teaching is more effective on school achievement and social adjustment in students with intellectual disability. Then, it is recommended using cooperative teaching in educational programs of mentally retarded students.

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