

## THE EFFECT OF THE ACTIVITIES OF MULTIPLE INTELLIGENCES ON SOCIAL, MOTOR COMPETENCES AND THE QUALITY OF LIFE FOR EDUCABLE INTELLECTUAL DISABLED STUDENTS

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### Abstract

*Aim.* This study aims to design a program for activities of multiple intelligences for the intellectual disabled students who are able to learn and to know its effect on both the social, motor competences and the quality of life.

*Methods.* This study was applied to 16 students (girls) in El-Tarbya El-Fekraya School in Dammam, the Eastern Province in Saudi Arabia. It contains the activities of multiple intelligences represented in (motor, social, musical and visual intelligences) for 8 weeks by 24 training modules. The researcher used the experimental approach for the experimental group (pre- and post-measurements) because of its suitability for the nature of the research. Pre- and post-measurements helped in finding social, motor competences and the quality of life for the intellectual disabled students. The data was collected by using SPSS program.

*Conclusion.* The activities of multiple intelligences have a positive effect on the social, motor competences and the quality of life for the intellectual disabled students

*Results.* The most important results show significant statistically differences between the pre- and post-measurements in social, motor competences and in the quality of life for the educable intellectual disabled students.

*Keywords:* Multiple Intelligences - Social Competence - Motor Competence - Quality Of Life - Educable Intellectual Disabled Students.

### Introduction

Modern societies are currently subjected to many aspects of development. One of these aspects is caring about persons with special needs with different types of physical, psychological, mental and health needs. It is because they look at life with a different view of others. Their view depends on the type of disability and the support provided by others, whether by the family or the society. Based on the above, the scientific progress of the societies is measured by their interest in these groups. The international community (United Nations General Assembly) recognized their rights by issuing a law for the rights of the disabled persons in 1975 (Mustafa, 1991) (Fatouh, 1998).

Disability in general has a set of reactions on the disabled person. These reactions cause some problems, behavioral and emotional disorders on the disabled person, which may make it difficult to interact psychologically and socially with the surrounding environment. These behavioral and emotional disorders are divided into external behavioral disorders including hyperactivity, attention deficit and communication disorder, and internal behavioral disorders including

anxiety, withdrawal, neurological, mental disorders, and aggressive behavior (Abdel-Sameea, 2001).

This is consistent with what found by Hoff (2002) that disability and the surrounding conditions may affect the quality of life and that was assured by Good (1994) where he mentioned that disabled persons share a strong desire to engage in their community and to live independently and willingly. They also have a desire to be considered and treated as adults. In addition to the desire to build relationships with others. All these determine their awareness of the quality of life. Quality of life is an important indicator of the services' quality provided to them.

Hunt & Marshall (1995) emphasized that the quality of life for the disabled persons is characterized through a high level of social skills, including participation in conversation, using of the appropriate tone of voice, questioning in order to clarify and claim rights in a polite manner, negotiating gently, praising the behavior of others, encouraging, caring and following up the instructions and guidance. Disabled persons often suffer from the weakness of the ability to

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utter greetings, courtesy and the use of thanks and apology statements.

Farhan & Ibrahim (1998) believes that doing of sports activities contributes in improving the lives of the physically and intellectual disabled persons, and the development of cognitive sensory abilities of the child is related to motor activity. Also, motor activity contributes in the development of the child's sensory perception which plays an important role in its mental growth and emotional development as well as establishing social relations between children. This leads to the restoration of psychological balance, increasing self-confidence, developing the team spirit, reducing their activity and helping in integrating within the community in where they live so as not to feel isolated and lonely (Ibrahim F. , 1998) (Gratty, 1998) (Gratty, 1998).

Al-Khouly ; Abd Fattah (1990) & Al-Sadiq ; Elsherbeny (1987) also agreed that participation in motor activity helps intellectual disabled children to have fun and enable them to acquire motor skills as well as providing children with the skills to deal with the community. It also improves sensory perception of the child that enables him to direct his movements and then limit the random movements, and impulse actions.

Aweys (2006) indicated that the mental abilities of intellectual disabled children are very limited and these disabilities do not allow disabled children to benefit from educational activities in a normal way, but they require special care and education in their family and in institutions established for this purpose. So, it was important to use modern biological methods such as multiple intelligences activities, which have changed the ways of education for the normal children and for the disabled persons with special needs, and these

#### Methods

The experimental approach is used because of its suitability to the nature of this research using experimental design with experimental group (pre-& post-measurements).

- The research community was chosen in a purposive manner from the educable intellectual disabled children (girls) at El-Tarbya El-Fekraya School in Dammam. The sample is 16 girl students. The research's sample is chosen through a comprehensive manner from all children. The research's community is 26 girl students aged between 12-15 years, and their intelligence is from 50-70 on Stanford scale. They must not have

methods opened to all children at different levels of intelligence the doors of learning in non-traditional ways and this makes every child, regardless of the proportion of his feelings, feels his importance and abilities so as to accept the new experiences. Then he can find the role that makes him a useful member in the community and he feels the quality of life and then he will have a psychological consensus.

Gardner (1993) & Greg (1998) say that everyone has all eight intelligences types, but they vary in proportion, and some type of intelligence can be used to promote another type.

Hussain (2010) indicated that multiple intelligence activities help intellectual disabled children in treating their social performance deficits as they become able to adapt to the environment where they live.

The problem of the research appears in the low level of physical fitness and motor ability compared with their normal peers, the inability of the intellectual disabled persons to achieve their basic personal and human needs and to interact with the community. This raises the pain and compassion of the parents and increases the family's sense of anxiety about their children due to the obvious lack of educational and social modern institutions that have programs for the care of these children. The modern trends of education point to the need to integrate this group into the society and help them to live a normal life as much as possible and raise their level of compatibility with the conditions of life. This leads to reduce their burdens; leading to satisfaction and happiness.

This research aims to design a program of multiple intelligence activities for the educable intellectual disabled students and to know its effect on the social, motor competences and the quality of life.

suffered from speech and pronunciation disorders that hinder them from responding to the current study.

- They were divided into main sample (16) girls and a pilot sample of (10) girls. Skewness is calculated to determine the extent of the moderation of the research's sample in the variables of growth (age, height, weight, level of intelligence), measurement of social competence, measurement of basic motor skills and quality of life for the disabled girls. Table shows the mean  $\pm$  SD for Age (years) for height (cm), for body Weight (kg) and Intellectual Age (years) with their Skew co-efficient (homogeneity of study sample).

**Table (1) Homogeneity of study sample**

Variables	Mean $\pm$ SD	Skew co-efficient
Age (years)	14.86 $\pm$ 1.08	0.74
Height (cm)	140.81 $\pm$ 8.39	0.83
Weight (kg)	45 $\pm$ 7.18	0.64
Intellectual Age	7.75 $\pm$ 1	0.34
level of intelligence	61 $\pm$ 4.38	0.06

## Study design

### • Data collection tools:

- The Social Competence Scale for Educable Intellectual Disabled, prepared by Abdel-Fattah, S. (2010).

The social competence scale consists of four dimensions: the first dimension is the skills of academic knowledge (eleven situations), the second dimension is the emotional skills (two situations), the third dimension is the skills of social awareness (fifteen situations), and the fourth dimension is the ability to solve simple social problems (three situations with close ended questionnaire), Triple Scale. The researcher calculates the validity of the scale through the validity of the arbitrators and the stability of the scale by re-applying the scale to the pilot sample

### • Measurement of Basic Motor Skills

The Motor Physical Test of the Physical Education and Health Education-Shape America was applied on moderate mental disabled persons. It consisted of several tests: Attaching the arms flex test to measure the muscular endurance of the arms and ligament, Sit-Ups test during 30 sec. to measure the muscular endurance of the abdomen, Long Jump test from stability to measure the muscular endurance of the two legs, throwing a soft ball for a distance to measure the muscular capacity of the arms, running for 45 m for measuring speed, walking for 270 m for measuring the endurance of the Cardiorespiratory Endurance, Sit and Reach Test for measuring flexibility, Single Leg Hop Test is one of the basic motor skills, Proficiency Skills test for measuring compatibility, and On Target shooting test for measuring accuracy.

- Quality of Life Scale for Educable Intellectual Disabled persons, prepared by Kandil, E. (2009)

The quality of life scale for educable intellectual disabled persons included 38 statements distributed in five dimensions: First Dimension is Family Relations (Eight statements), The Second Dimension is The Best Active Presence (Seven Statements), The Third Dimension is The Best Physical Presence (six statements), Fourth Dimension is Leisure Time (Seven Statements), and Fifth Dimension is Community Integration (Nine Statements). The response system and the degrees were determined according to the participant's response to the phrase on a binary measurement scale. The researcher reads them the phrase, so that if the participant had a difficulty in understanding the phrase, the researcher redrafted it again.

The researcher calculates the validity of the scale through the validity of the arbitrators and the stability of the scale by re-applying the scale to the pilot sample.

**Pre-measurements:** applying the pre-measurement after getting assure from the scientific tools of measurements.

**Application of the main experiment:** The program of the activities of multiple intelligences was applied to the experimental group after finishing the pre-measurements. The experiment took (8) weeks, three days a week, thus the number of units was (24) training units.

### Program Components:

- Visual intelligence is the ability to understand through images, and also it is the ability to understand the visual world accurately and reshape it visually and spatially in mind or on paper. They tend to see what the teacher say through visualization, so they enjoy learning through illustrations, charts, pictures and activities like: drawing- coloring - visual symbols - shapes - distinctive models - performance movements in all directions - distinguish shapes.
- Motor intelligence is the ability to use the body skillfully to express oneself towards a specific goal, or a place, or it is the ability to develop physical motor skills. Motor intelligence activities: participation in motor sports activities - participation in sports' groups.
- Musical intelligence and its activities: singing - good listening - sound discrimination - presenting models of excellence.
- Social intelligence is the ability to recognize and understand others, their modes, tastes and desires, also it's the ability to communicate and establish relationships. They learn through collaboration with groups or with partners. They are accused with chatter. Social intelligence activities: Leadership role-cooperation learning- teamwork games- leading a group.

The lesson was divided into three parts:

The elementary part (warm-up): this part aims to prepare the body and its parts to accept efforts. It includes movements of simple and varied exercises such as walking, running and the imitation of birds and animals. This part takes 5 min.

The main part: it contains the activities of multiple intelligences aimed for achieving the main objective of the unit. This is done using different and creative tools with the musical accompaniment. This part takes 35 min.

The final part: This section includes some activities of relaxation and breathing that help to return the body organs to a normal state. This part takes 5 min.

**Post-Measurements:** After the basic experiment of the proposed program was applied to the experimental group, the telemetry measurements were carried out for the same tribal measurements under the same conditions and under the same conditions.

### - Statistical treatments:

Data were examined using a computerized statistical package (SPSS). mean - standard deviation - Skewness

coefficient - kurtosis coefficient - T test) , Significance was accepted at the  $p < 0.05$  level

**Results:**

**Table (2) Significance differences between pre- and post-measurements of social competence variables**

**n = 16**

Variables	Pre	Post	T
	M± SD	M± SD	
Cognitive Skills	12.9 ± 1.05	24.63 ± 2.45	18.38*
Emotional Skills	2.88 ± 0.72	5.56 ± 0.51	10.59*
Awareness Skills	21 ± 3.03	36.75 ± 2.93	14.56*
Simple Problem Solving Skills	4.44 ± 1.15	7.50 ± 1.03	9.14*
<b>Total Mark</b>	40.50 ± 4.49	73.81 ± 4.32	17.50*

**Value of (T) at the level of 0.05 = 2.131.**

It is clear from Table (2) that there is a statistical significance between the pre- and post-measurements in all the skills of social competence in favor of post-measurements

**Table (3) Significance differences between pre- and post-measurements of motor competence**  
**n = 16**

Variables	Pre	Post	T
	M± SD	M± SD	
Attaching the arms flex	2.73 ± 0.76	5.06 ± 1.34	5.81*
Sit-Ups test during 30 sec	3.94 ± 2.11	6.81 ± 1.11	6.73*
Long Jump test	0.71 ± 0.19	1.49 ± 0.38	6.06*
Throwing a soft ball test	4.86 ± 2.17	7.15 ± 1.55	5.2*
Running of 45m	58 ± 18.81	37.31 ± 9.84	4.37*
270 m walking and running test	197.99 ± 9.72	143.40 ± 16.78	10.87*
Hop test	1.13 ± 0.62	2.56 ± 0.51	7.06*
Sit and reach Test	1.50 ± 3.76	5.81 ± 6.39	2.93*
Proficiency Skills test	2.06 ± 1.29	4.50 ± 0.89	8.91*
On Target shooting test	1.25 ± 0.77	2.88 ± 0.89	13*

It is clear from Table (3) that there is a statistical significance between the pre- and post-measurements in all the variables of motor competence in favor of post-measurements

**Table (4) Significance differences between pre- and post-measurements of the quality of life for educable intellectual disabled students** **n = 16**

Variables	Pre	Post	T
	M± SD	M± SD	
Family Relations	9.38 ± 1.59	13.32 ± 1.01	9.53*
The best active presence	7.94 ± 0.77	11.19 ± 0.91	10.07*
The best physical presence	7.06 ± 0.77	10.6 ± 0.77	13.42*
Leisure Time	7.56 ± 0.73	11.88 ± 0.72	13.80*
Community Integration	10.06 ± 0.77	14.31 ± 1.40	11.13*

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Total score	42±2.42	10.75±1.29	27.82*
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**Value of (T) at the level of 0.05 = 2.131.**

It is clear from Table (4) that there is a statistical significance between the pre- and post-measurements in all the dimensions of quality of life for educable intellectual disabled persons

### Discussion

Table (2) indicates that there is a statistical significance between the pre- and post-measurements in all the skills of social competence in favor of post-measurements. The arrangement of skills according to results are: cognitive skills, social awareness skills, emotional skills, and simple problem solving skills.

The researcher refers that the improvement in all skills of social competence is due to the impact of the program's activities of multiple intelligences and this is according to the study of (Saber, 2011) where she says that the use of teaching strategies of multiple intelligence patterns helps the students to increase their motivation towards learning and self-confidence as a result of working in small groups.

This result is in line with what Hussein, S. (2009), El-Sawy & Hathout (2008) and Ismail et al. (2006) have shown that the use of various tools such as colors, paintings, lines, and symbols helps directly to improve visual awareness skills.

Abdel-Hamid (2003) states that the activities of visual spatial intelligence improve an individual's ability to sense shape, space, color, direction and distance.

This is in line with what Al-Sherbiny (2010) said that the activities of multiple intelligences represented in the method of presentation, discussion and brainstorming help to find solutions for some psychological problems in some students such as fear of participation, and also it develops self-confidence that the student freely says his views without fear of criticism, and it improves also teamwork.

It is also in line with Abdel-Hamid (2003) that the use of multiple intelligence activities increases the level of performance during learning process and that activities stimulate the mind of the student.

It is also in line with Saleh (2010) that the educational programs that rely on multiple intelligences increase their motivation to learn in their own way.

It is also in line with Armstrong (2009) that multiple intelligence activities are effective in learning process.

Table (3) indicates that there is a statistical significance between the pre- and post-measurements in all the tests of motor competence in favor of post-measurements, where the arrangement of tests are as following: test of On Target shooting - 270 m walking and running test - Proficiency Skills test-Hop Test- Sit-Ups test during 30 sec. - the Long Jump test - Attaching the arms flex Test- Throwing a soft ball test to a distance of 45m - Sit and Reach test.

The researcher refers this improvement in all motor competences tests to the effect of the program of multiple intelligences activities which includes motor intelligence improved by the exercise of motor

activities. This is consistent with what Ibrahim & Farhat (1998) indicate that intellectual disabled children are often unable to perform their basic needs, and thus it weakens their sensory, motor competences and their ability to social adaption. Also the practice of various aspects of motor activities helps greatly to integrate them with the community and interact with it.

In addition to that, Yahya (2003) & Lotfi (2002), Morsi; Attar (2000) noted that if intellectual disabled children practice motor activities, it will improve and develop physical fitness and also it will increase motor competence.

Obaid (2000) emphasized that motor activities give the child an opportunity to train for good behaviors through different situations of motor activities and recreational games.

This is also consistent with what Al-Khuli & Annan (1990), Al-Sadiq & Al-Sherbiny (1987) noted that toys of special purposes encourage children to participate in motor activities, which enable intellectual disabled children to participate in motor activity and allow them to acquire motor abilities in addition to providing children with the skills of dealing with the community and respect for and appreciation for others as well as developing sensory perception of the child that made him able to direct his movements and limiting his random movements and impulse actions.

Zahran (2005) confirmed that the use of senses in the learning process has a main rule because what the child learns with his senses by a tangible physical thing lasts longer in the brain.

Table (4) indicates that there is a statistical significance between the pre- and post-measurements in all axes of life quality's scale for educable intellectual disabled students in favor of post-measurements. The researcher refers that improvement to the effect of the program of multiple intelligences activities. Regularly playing games and doing exercises can help in developing their cognitive skills, which are considered as the most important prerequisites for a healthy and happy life. Popular and recreational motor activities that played in groups in addition to the motor tools have had a positive impact on increasing self-confidence with the elimination of nervous and tension moods. All these activities help the intellectual disabled children to increase the sense of success in doing that sports activities, to develop motor skills by increasing the ability of controlling various muscles of the body, to repair the stature anomalies, to gain skills of doing sports activities, to deal with peers, to develop healthy habits, to increase the activity of disabled students, and to try to satisfy the child with his basic needs with the

group surrounding him. All that led to the experiences of success and failure and also it led to an increase of the sense of social acceptance. All that showed the

### Conclusion

The activities of multiple intelligences have a positive effect on the social, motor competences and the quality of life for the intellectual disabled students.

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