# Caricatures and their Role in Developing the Body Textures Awareness of Deaf and Hearing-Impaired Students in some Cities of Eastern Libya.

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#### ABSTRACT

This research study focuses on the participation of caricatures in developing body textures awareness for students of deaf and hearingimpaired categories in some cities in eastern Libya. The education sports and signal language teachers were represented as a community and sample of the research in the target cities which number is (35) teachers, and the researcher chose a random sample and consisted of (26) teachers. for data collection, 15 statements were used by the researcher expressing the extent of caricatures' contribution to the development of body textures awareness. The search data was processed according to relative frequency, Importance level and arithmetic mean. The results of the research confirmed that the percentage of teachers' approval of the questionnaire's statements ranged from 61% to 100%. The most important recommendations are the necessity of holding awareness sessions for teachers about the importance of body textures awareness and spreading its culture among students, work to give them good habits and behavior and urge educational authorities to allocate lessons to discuss problems of body textures and means of prevention.

Keywords: Caricatures, body textures awareness, deaf and hearing-impaired students

#### INTRODUCTION

Human health and maintaining the general balance of their body have become the focus of attention of many bodies and organizations supporting health education in the modern era. Work in the field of sports health sciences requires the dissemination body textures awareness among members of the community and the integrated care of the employees of pedagogical and educational institutions, providing the best health services, guidance and constructive scientific guidance that contributes to the creation of a generation capable



of giving. Therefore, it is necessary to develop the content of physical education programs in Libyan schools, especially those offered to students with disabilities from the deaf and hear impaired category, as this segment of society has not received adequate care over the past years. In the framework of promoting the educational process and keeping abreast of educational developments, those concerned with this category of teachers and researchers must work on the design of educational and awareness programs that are based on the use of modern methods in the delivery of information, knowledge, and skills to these learners, which in turn help to acquire values and healthy habits. Also, it ensures the safety and continuity of maintaining the proper body in order to achieve the overall balanced growth of the individual.

In view of the importance ofbody-control, many studies have been conducted around it that dealt with

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the strength of schoolchildren. The results of these studies have shown a high incidence of body control deviations among schoolchildren. These studies also recommended the need to detect these deviations early and develop the necessary programs to treat them before they turn into deviations difficult to treat in advanced stages. Therefore, it is clear the importance of the preventive role of physical education programs and activities in providing students with the necessary knowledge and concepts and helping them to acquire skills and functional experiences related to their life and daily behaviour, whether at home or school, to the extent that they avoid the dangers that they may be exposed to and benefit their health, especially what may affect the safety of their bodily structure.

While the preventive role of sports education is important for the safety of physical strength for ordinary schoolchildren, because of the risks to their bodily structure because of prolonged sitting in the classrooms, this role is growing and is of particular importance for disabled students in general and for deaf and hearing-impaired in particular. This is due to the negative effects of hearing impairment on the body control of the individual.

Concern for the safety of bodily structure is a major goal that should be taken care of in all educational institutions, as it is one of the signs of health, and an indicator of the extent of society's interest in the health of its children if it wants to rise and progress at the hands of healthy citizens who are not hampered by diseases to perform their duty in the advancement and advancement of their nation. Proper posture enhances the functional capacity of vital body systems and reduces physical stress on muscles, joints, and ligaments. Many diseases associated with the muscular, nervous and bone systems of the body are often caused by defects and deviations of the body, and this reflects negatively on the mechanics of the body and the good performance of its daily tasks, as well as the negative effects of deviations of the body on the psychological and social aspects of the individual (5:12). It is clear the importance of the active role those educational institutions should play to help individuals and guide them to act correctly in the face of health risks, especially since many of the health problems faced by the individual are often based on his lack of knowledge of healthy behaviour that avoids exposure to these risks and ensures that he can prevent them for the sake of his safety.

Due to the complexity of Health and social problems, the family may not be able to provide effective health education to students, and thus the school is in a better and more positive position to provide health education to learners (76:1).

Healthy posture is one of the most important factors that help the proper movement, as well as the development of motor skills in the child by facilitating the performance of these skills without hampering bodily structure, at the same time movement through motor programs contributes to the development of sound posture and overcome the problems of bodily structure for children with special needs, because the childhood period is the main period for the emergence of bodily structure deviations (719:2). Also, healthy body is not limited to the shape of the body and the specifications of its external limits, but in addition to that is the correct mechanical relationship between the different systems of the body, bone, muscle, nervous and vital, and the better this relationship is the healthy body and the better the mechanics of the body (27:13).

The human body is challenged by the gravity of the Earth, and strength is the result of this challenge, and the constant gravitational pull of the Earth is one of the reasons why it is such a form, whether it is poor or good (17:9).

The individual maintains his strength from the influence of gravity of the Earth's centre of gravity, which is located vertically in the direction of the centre, and that the proper strength of his most important qualities prevail muscles, bones, ligaments, and nerves on the gravity of the earth (9:7). The healthy body of an individual depends on the strength of the muscles of the body that make it in a mechanically balanced position in the face of gravity. These muscles work constantly and require enough strength and energy to keep the body straight and balanced by what is known as muscle tone, and that the phraseological deviations arise mostly as a result of the weakening of the muscle tone of the body (71:5). With the exception of genetic bodily structure deviations and deviations resulting from injury or disease, they begin as minor functional deviations, and usually occur as a result of incorrect orthogonal habits in stillness and movement, which lead to the unbalanced use of the muscles responsible for the integrity and maintenance of the body, and then fall prey to the constant influence of the gravitational forces of the Earth, which leads to its deformation and deviation from the Normal Form (33:12). Incorrect bodily habits are the most prominent causes of the spread of bodily deviations among schoolchildren. In school, the student's environment changes and their lifestyle changes. Instead of his complete freedom of movement, they have to sit for long periods in a certain position that requires stressful tension in the muscles. school seats, study rooms, school building, lighting, ventilation, and facilities have a great impact on the growth of the pupil and the possibility of being exposed to many bodily deviations. in this case, the pupil needs to have all the health conditions that guarantee his safety (287:17).

The early detection of body deviations makes it easy to rehabilitate them using therapeutic exercises, and whenever they are delayed, the condition progresses and turns into deviations that are difficult to get rid of by such exercises, which requires regular physical examinations of schoolchildren to detect bodily deviations that they may be exposed to, and the development of therapeutic programs for these deviations in the initial stages before they reach advanced stages that are difficult to treat (22:13).

In light of this, it is imperative for us as specialists in the field of physical education and motor rehabilitation to develop rehabilitative educational programs that include programs of sound health culture and therapeutic rehabilitation exercises using the latest methods and systems to overcome the grammatical distortions resulting from the wrong daily habits and accompanying hearing disability among students of the deaf and hard of hearing category and provide them with sound body control. The Department of Health Sciences and rehabilitation is one of the most important departments in the faculties of physical education and sports sciences, because it has specialties that address many of the problems related to human health through the daily practices carried out by him, whether in currency or status or through the practice of his motor activity in general. During these daily practices, the individual may experience some common mistakes in dealing with such things as poor nutrition and food selection. As well as the bodily deformities that occur to him during the processes of standing, sitting, and lying down when relaxing or sleeping, hence the role of physiotherapy for bodily deformities using the latest available devices. Therefore, it is necessary to highlight the groups benefiting from bodily education and body textures awareness programs through modern technological means, as they have an effective role

in attracting the attention of members of society in general and children and adolescents, whether they are healthy or have special abilities, and they help to acquire proper bodily habits for the benefit of these groups that are most susceptible to bodily distortions. Among such modern means are cartoons that are presented using modern technological educational technologies in pedagogical institutions at different educational stages. Caricatures are characterized by addressing the sense of sight, through which information and knowledge are delivered to the human mind quickly, as the picture or drawing is worth a thousand words translated into a desirable cognitive and motor behaviour that contributes to the development of the body textures awareness and the acquisition of a healthy body, and thus save the time and effort exerted by physical education teachers Which contribute to the guidance and guidance of pupils to take the correct and sound physical postures.

# PROBLEM AND SIGNIFICANCE OF THE RESEARCH

The researcher reached the problem of this research through his experience in cooperation and dealing with people with special abilities from the deaf and hard of hearing category through his currency and supervision of various sports activities for this category.

Hence, the researcher found that there is a decrease in the degree of body textures awareness and identify the different manifestations of growth have, as well as by observing the researcher found that there are obvious body distortions for these students and this researcher thought of trying to raise the level of bodytextures awareness for these students. The researcher has previous experience during the preparation of the master's thesis, in which he dealt with the deaf and hear impairing and those who had body control abnormalities and did a therapeutic rehabilitation program for these abnormalities, but the researcher found after a while that there must be programs accompanying the qualifying exercises and be awareness programs that help these students to maintain the sound strength that they gained after the rehabilitation program so that these abnormalities do not return to them and hence the researcher thought of an awareness program that raises the efficiency of their body control awareness.

Hence, the idea of the caricature program, and by looking at the scientific references and previous studies related to the subject of the research, the researcher found that there is no study that touched on the use of caricatures as far as the researcher knows with this particular educational stage of this category. From this, the idea came to the researcher to identify the role that caricatures may play in the development of body textures awareness of deaf and hard of hearing students as a scientific attempt to help teachers achieve the objectives of physical education at this important stage of the life of this category of students and to promote the educational and educational process for them, and to invest the idea of this research in the researcher's doctoral project.

## **RESEARCH AIM**

This research aims to learn about the role of cartoons in developing body textures awareness for deaf and hard of hearing pupils. Research Question

This research tries to answer the following question: -

- What is the role of cartoons in the development of body textures awareness of deaf and hard of hearing-impaired pupils.

### **RESEARCH TERMINOLOGY**

#### Cartoons

It is one of the prominent educational means of communication, characterized by its ability to attract attention and influence behaviour and trends (Nadia Hussein Younis al-Afon) 2012.

#### **Textures Awareness**

It is one of the methods used successfully in the Prevention of malformations and it is also an effective element to get rid of malformations, especially malformations that have not reached the compositional stage (Magdy Al-Afifi 1990).

#### **Healthy Body**

The presence of each part of the body in a natural position consistent with the other part recognized anatomically so that the muscles exert the least effort possible based on their muscle tone to retain the correct posture (Abbas Ramli, Zainab Khalifa, Ali Zaki)1994.

#### Deaf

They are students who suffer from a hearing deficit to a degree that prevents their dependence on the sense of hearing in understanding speech, whether using stethoscopes or without where the hearing loss reaches (90) decibels and more (Ahmed Effat qarshem) 2004.

#### **Hearing Impairment**

They are the students who suffer from hearing impairment, but their remaining hearing ability qualifies them to acquire linguistic information through the sense of hearing, whether using stethoscopes or without, where the amount of hearing loss is less than (90) DCB (Ahmed Saleh, Salwa Mohammed) 2009.

#### **Previous Studies**

1. Study: Brevan Abdullah Mufti (2013) which is entitled: "the impact of the method of motor games in the development of basic motor skills for children with hearing disabilities in the primary stage",

The study targeted the category of children with hearing disabilities in the primary stage and the impact of the curriculum of motor games in the development of basic motor skills. The researcher has used the experimental method to fill the nature of the study and the research community was selected and sampled from the students of the second-grade primary in the Institute of Hiway hearing in the centre of Erbil governorate and the ages between (8:7) years in the academic year 2012-2013 and the number of students reach (12). Six of them are hearing impaired while the other six are deaf. After using the approach prepared for the study, the researcher reached the following results: - achieving the method of motor games excellence in the development of basic motor skills for children with hearing disabilities in the primary stage-the superiority of hearing-impaired children over deaf children in the development of basic motor skills. The researcher recommends the use of the curriculum of motor games on the students of the second grade in the Institutes of hearing disabilities because of its positive and effective impact in the development of basic motor skills as well as conducting other studies for other education curricula and the extent of their contribution and the development of basic motor skills for this group and compare the results of the current study.

2. Study: Adel Ahmed Abdelhafiz (2012): has studied "the impact of a proposed rehabilitation program on some of the grammatical deviations for the deaf and hard of hearing category from (12-14) years in Libya",

The study aimed to build a rehabilitation program for students of the deaf and hard of the hearing category at the age of (12-14) years in the state of Libya, and to know its impact on the following: (deflection of lateral inclination of the head, deflection of increased convexity of the back, deflection of increased roundness of the shoulders) in the pupils research sample. The researcher used two approaches: the descriptive approach (survey studies): to identify the common grammatical deviations among the students of Al-Amal Centre for education and rehabilitation of the deaf and hearing impaired in Misrata, Libya and the prevalence rates among these students. Experimental curriculum: to identify the impact of the proposed rehabilitation program on improving some of the grammatical deviations among the deaf and hearing-impaired students at the age of (12-14) years at Al-Amal Centre for education and rehabilitation of the deaf andhearingimpaired in Misrata, Libya. The experimental design of the research was based on a single group, using the method of pre-and post-measurement for body control assessment tests, and one of the most important data collection tools were body control assessment tests, documents, and records. One of the most important results was the high incidence of body control deviations among the students of Al-Amal Centre for education and rehabilitation of the deaf and hearing-impaired at the age of (12-14) years in Misrata, where the incidence of these deviations (58.65%) of the total number of these students. Furthermore, the proposed rehabilitation program for some of the common body control deviations in the students of the research sample, which were: the lateral tilt of the head – increased dorsal convexity-increased rotation of the shoulders, improved the degree of these deviations in the students of the research group to whom this program was applied.

3. Mohammed Fathi Hussein study (2008): "the impact of a motor education program on some physical, skill and cognitive variables for hearing impaired students in volleyball"

The study aimed to identify the impact of the proposed Motor education program on the physical variables of volleyball for students of the fourth grade of primary hearing-impaired and associated with the variables of research skill and scheduled at that stage in addition to cognitive achievement in mini volleyball. The researcher used the experimental method with two experimental and control groups and the descriptive method in the preparation and codification of cognitive testing. The size of the research sample was (20) students and students from Al-Amal schools for the deaf and hearing-impaired in Zagazig which was divided into two equal groups where they were selected in a random way. The most important results were that the proposed program has a positive impact statistically significant on all the research variables. The researcher recommends the use of the motor education program in teaching the volleyball curriculum at the primary level in Al-Amal schools for the deaf and hard of hearing, as well as the use of the illustrated cognitive test when measuring the cognitive achievement of students of that stage.

4. Magda Akl Mohamed study (2005): has studied "a proposed educational unit for the game of handball and its impact on some aspects of learning for fifth-grade learners with special hearing needs in Alexandria governorate".

The study aimed to build a proposed educational unit in the game of handball for fifth-grade students with special needs and hearing impaired in Alexandria governorate, and to identify its impact on the following aspects of learning: (physical - skills-cognitive). The study used the experimental method, and the number of members of the study sample (16) learners, the total of learners in the two semesters of the fifth-grade primary classes. Tests of physical abilities most related to handball skills were used, under study-tests of motor skills under the study-cognitive test of the game of handball-the proposed unit of the game of handball. The most important results were the development of physical abilities of the proposed educational unit, improvement of motor skills on the skill side and the acquisition of knowledge and information of the cognitive side of the proposed educational unit.

5. Mohammed Fathi Hussein study (2004): "the impact of a motor education program on the performance of some special motor skills for deaf and dumb from (6-9) years"

The study aimed to identify the impact of a proposed motor education program on the performance of some special motor skills for the deaf and dumb from (6-9) years. The researcher used the experimental method by designing two groups, one of which is a control and the other experimental, each of them (13) students among the students of the second grade of Primary School of hope for the deaf and hearing-impaired in Zagazig city. The most important results were the improvement of the experimental group in the performance of special motor skills (under research) compared to the control group. The researcher recommended the need to use motor education for deaf and dumb students in the stage of (6-9) years, because of its importance in the development of physical, motor, and mental abilities.

6. Mohammed Abdulla Khalil study (2003): "the impact of some individual and group activities through swimming on some personality traits of pupils with special needs (hearing impairment) from the age of 8-12 years

The study aimed to develop some individual and group activities through swimming for pupils with special needs (hearing disability) - knowledge of individual and group activities through swimming on some personality traits of pupils with special needs (hearing disability). The researcher used the experimental method, the sample size was (12) students of deaf and dumb ranging in age from (8-12) years and the sample was divided into two groups the first Control Number (4) pupils and the second experimental number (8) pupils. The researcher used the Leila Sawan scale to measure behavioural disorders. The most important results were that the program of individual and group activities through swimming has a positive effect on the modification of the personality traits of pupils with special needs (hearing impairment) for the age period (8-12 years). The program of individual and group activities through swimming has an effective effect in improving the trait of aggressiveness and anxiety, children with auditory needs have excess energy that must be exploited in prolonged continuous sports activities. The program of individual and group activities through swimming has an effective effect in improving the trait of aggressiveness and anxiety, children with auditory needs have extra energy that must be exploited in continuous sports activities for long periods.

#### THE BENEFIT OF PREVIOUS STUDIES

The researcher benefited from previous studies in the selection of the research topic, the research community, the research sample, and the research tools, as well as the statistical method appropriate to the nature of this research.

#### **RESEARCH PLAN AND PROCEDURES**

In view of the research objective, the researcher followed the following actions:

#### **Research Methodology**

The researcher used the descriptive survey method to suit the nature of this research.

#### **Community and Sample Research**

The research community was represented by physical education teachers and sign language teachers in institutes for the deaf and hearing-impaired in some cities of eastern Libya, which numbered (35) teachers. The researcher chose the research sample in a random way which consisted of (26) teachers from the research community.

#### **Data Collection Tools**

In collecting the data for this research, the researcher used the questionnaire to identify the role of cartoons in the development of body textures awarenessof deaf and hearing-impaired pupils.

#### **Statistical Treatment Methods**

The researcher used the statistical processing data for his research: -

- 1. relative frequency.
- 2. relative importance.
- 3-arithmetic mean.

#### RESULTS

It is clear from the results of (Table 1) that the percentages that reflect the responses of the research sample on the special questionnaire phrases of (15) words, and the responses of the research sample were limited to the balance of the triple rating: the field of approval between (61%, 100%), the field of approval to some extent between (35%, 00%), and the field of disapproval between (04%, 00%).

#### **RESULTS AND DISCUSSION**

In view of the results of the research, the researcher will discuss them as follows:

- It is clear from the results of (Table 1) that the approval scores of the respondents according to their point of view on the statements related to

Table 1: Relative frequency, relative importance, and arithmetic mean of the questionnaire according to the
responses of the research sample

No	Statement	<b>Relative Frequency%</b>			Arithmetic	Importance	n	decision
		Agree	neutral	disagree	mean	level		
1	Helps to gain healthy bodily strength.	77	19	04	2.31	high	26	Agree
2	Helps in the identification of the correct body position in the standing processes within the institute.	88	12	00	2.64	high	26	Agree
3	Helps to identify the right body position for sitting in the classroom.	96	04	00	2.88	high	26	Agree
4	Help to recognize the right body conditions when eating.	96	04	00	2.88	high	26	Agree
5	Helps recognize carrying the school bag in the right way.	88	12	00	2.64	high	26	Agree
6	Contribute to taking the right position of the body while watching the teacher when explaining.	92	04	04	2.76	high	26	Agree
7	Contributes to the pupils' cognition development by addressing the sense of sight.	100	00	00	3	high	26	Agree
8	Contribute to taking the right leverage position while relaxing and resting.	73	19	08	2.19	medium	26	neutral
9	Contributes to maintaining a healthy body position while using a mobile phone	61	35	04	1.83	medium	26	neutral
10	Contribute to taking the right position of the body while using the computer.	69	31	00	2.07	medium	26	neutral
11	Contributes to the cognitive development and promptness of the student's intuition.	92	08	00	2.76	high	26	Agree
12	Help the pupil to focus.	92	08	00	2.76	high	26	Agree
13	Steering the pupil toward the right incisive directions.	85	15	00	2.55	high	26	Agree
14	Developing the child's cognitive abilities related to stature	81	19	00	2.43	high	26	Agree
15	Contribute to improving the overall health status of the child	69	27	04	2.07	medium	26	neutral
The	The total degree of investigation			2.334		high	26	Agree

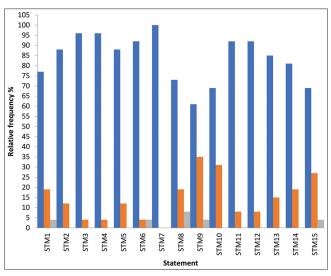


Figure 1: Statements and their relative frequency %

"What role do cartoons play in developing body textures awareness for deaf and hearing-impaired pupils as the following: - - That most of the phrases were the middle of the arithmetic larger than the middle of the hypothesis  $2=\mu$  which is the level of neutrality and that indicates that the sample members answered them with approval according to their point of view. Also, the results show that most of the views of individuals indicate that there is an approval of most of the phrases which confirm that cartoons have a role and importance in the development of body textures awareness for deaf and hearing-impaired students and they were as follows:

- The phrase or paragraph (7) in the table, which "contributes to the development of perception in the student by addressing the sense of sight" shows that the computational medium came outside the scope of the hypothetical Medium (2) with a computational medium of value (3), which is the degree of full approval at a high level of importance. This means that the respondents agree with the view that this shows that cartoons help to develop the body textures awareness of deaf and hard of hearing students significantly.- Through the results of the whole axis " and given the average calculation of the total score of the axis was (2.334) high level, which was greater than the hypothetical mean  $(2=\mu)$ . Thus, it is possible to reach the conclusion that there is a " role of cartoons in the development, improvement, and acquisition of body textures awareness of deaf and hearingimpaired students according to the point of view of the individuals of the sample, who are teachers and trainers of this group.

#### CONCLUSIONS

- 1. It helps to recognize the carrying of the school bag in the right way.
- 2. They contribute to taking the correct position of the body while watching the teacher when explaining.
- 3. It helps to identify the correct body positions for sitting on the school bench.
- 4. It helps to recognize the correct body positions in the processes of standing inside the Institute.
- 5. Contribute to the development of perception in the pupil by addressing the sense of sight.
- 6. It helps the student to concentrate.
- 7. It helps to gain a healthy body shape.
- 8. They help recognize the correct body positions when eating.
- 9. It works to develop the child's cognitive abilities related to strength.

This is consistent with some scientific references and the results of some reference studies.

#### RECOMMENDATIONS

In view of the conclusions of the research, the researcher recommends:

- 1. The need to hold awareness courses and seminars and educate teachers and parents about the importance of textures awareness.
- 2. Spreading the body textures awareness among students and working to give them the habits and behaviours of correct textures.
- 3. Urging the educational authorities to allocate some lessons to discuss the problems of textures and methods of prevention.

- 4. Attention to proper and proper health habits and compensating with therapeutic exercises
- 5. The need for further scientific research in this field.

#### REFERENCES

- 1. Ahmed Abdel Khalek Allam, Esmat Mohamed Abdel Maqsoud (1981): health behaviour and health teaching, Dar Al maaref, Cairo.
- 2. Ahmed Abdel Salam Atito (2009): the effectiveness of a therapeutic exercise program for some spinal deviations for computer users of children, the fourth international scientific conference, modern trends of sports science, in light of the requirements of the labourmarket, part I, Faculty of physical education, Assiut University.
- 3. Ahmed Osman Saleh, Salwa Ali Mohamed (2009): deaf communication, Anglo-Egyptian library, Cairo.
- Ahmed Effat qurshem (2004): teaching skills for teachers with Special Needs – theory and practice, Al-Kitab publishing Center, Cairo.
- 5. Amin Anwar al-Khouli, Osama Kamel Rateb (1998): motor education for children, I 4, Dar Al-Fikr Al-Arabi, Cairo.
- 6. Brevan Abdullah Al-Mufti (2013): Journal of the Faculty of physical education Issue (2) University of Baghdad.
- 7. Hayat Ayad Raphael, Safa al-Din al-kharbotli (1995): qammi fitness and sports massage, maaref facility, Alexandria.
- 8. Adel Ahmed Abdelhafiz(2012): the impact of a proposed rehabilitation program on some grammatical deviations for the deaf and hard of hearing category from (12-14) years in Libya, master's thesis, Faculty of Physical Education, South Valley University.
- 9. Abbas Abdel Fattah Al-Ramli, Zainab Khalifa, Ali Zaki (1994): strength education, Dar Al-Fikr Al-Arabi, Cairo.
- 10. Magda Akl Mohammed Saber (2005): a proposed educational unit for the game of handball and its impact on some aspects of learning for fifth-grade learners with special hearing needs in Alexandria governorate, Assiut magazine for the sciences and arts of physical education, twentieth issue, Part II, Faculty of physical education, Assiut University
- 11. Majdi al-Afifi 1990): textures, without a publishing house, without a publishing place, p.33.
- 12. Mohamed Subhi Hassanein, Mohamed Abdel Salam Ragheb (2003): sound for all, Dar Al-Fikr Al-Arabi, Cairo.
- 13. Mohamed Subhi Hassanein (2001): measurement and evaluation in physical education and sports, C.1, I. 4, Dar Al-Fikr Al-Arabi, Cairo.
- 14. Mohammed Abdullah Khalil (2003): the impact of some individual and group activities during swimming on some personal characteristics of students with special needs (hearing impairment) age from (8-12) years, PhD thesis, Faculty of physical education for boys, Alexandria University.
- 15. Mohammed Fathi Hussein (2004): the impact of a motor education program on the performance of some special motor skills for deaf and dumb from (6-9) years, Master's thesis, Faculty of physical education for boys, Mansoura University.
- 16. Mohamed Fathi Hussein (2008) the impact of a motor education program on some physical, skill and cognitive variables for hearing impaired students in volleyball, PhD thesis, Faculty of physical education for boys, Mansoura University.
- 17. Mahmoud Fathi Okasha, Hamdi Arqoub (2002): psychology of people with special needs, modern republic company, Cairo.
- 18. Nadia Hussein Younis al-afoun (2012): modern trends in teaching developing thinking, Dar Al-Safa, Amman.